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Gender Roles, Personality Traits and Expectations of Women and Men Towards Marriage

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Abstract

In this study, it was aimed to determine whether gender roles, self-esteem and personality predict the expectations of men and women’ attitudes about marriage. The sample of the study consists 491 people, 345 women and 146 men. All cases are single and has college degreee. In this research, Gender Formation Scale, Rosenberg Self-Esteem Scale, Attitudes About Romance and Mate Selection Scale and Sociotropy-Autonomy Scale were used. In this study the marriage expectations of women and men was evaluated by using the “Multiple Regression Analysis (Stepwise Method)” method. All variables are included in the analysis for both women and men. The results of the multiple regression analysis sociotropy, autonomy and traditional gender roles variables were found to be significant predictors of the marriage expectations of women. As a result of the multiple regression analysis performed to predict the marriage expectations of men, it was seen that sociotropy variable was significant predictor. According to the results, as the sociotropy scores of men increases the positive expectations towards marriage also increase. According to the findings, it was seen that the variables that predicts the marriage expectations of women and men are different from each other.

Keywords: Gender Roles, Marriage Expectations, Sociotropy, Autonomy

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Introduction

Humans are the creatures that need to stay together, cannot live alone, and are motivated to establish intimate relationships. There are several types of relationship styles in our lives, and probably one of the most important one among them is marriage. Marriage and expectations from marriage can be seen as a contractual obligation designed to gain social, cultural and financial gains, as well as a personal choice designed to strengthen the bond between two people dominated by romantic intimacy. Many studies show that the problems in relationships in marriages affect the psychological health of individuals, and the conflicts and problems of marriage are closely associated with depression (Nho et al., 2017; Whitton & Whisman, 2010; Bookwala & Jacobs, 2004) and anxiety disorders (Hafner & Spence, 1988). Therefore, beliefs towards marriage and personal expectations related to marriage are significant.

Marriage can be experienced as a developmental task and occupies the individual's mind with whom and how to do it at different age periods of life. This mental occupation is not only affected by the characteristics of the individual such as personality, but also by the cultural structure and traditions of the society, starting from the family and expanding further (Kazemi-pour, 2009). Gender can be defined through how the society regards women and men rather than their biological differences (Waite & Gallagher, 2001; Kaufman, 2005). Gender reflects as a number of differences in vocational, social and educational parts of lives of women and men (Buss, 1995; Yılmaz et.al., 2009). Gender roles shape the responsibilities of being a woman and a man. In traditional marriage perception, men earn money and support the house; and women assuming the duty of being a mother and being responsible for housework. Although there are changes in traditional gender roles with the participation of women in business life (Eagly et al.,2020), the equivalence in the sharing of domestic duties could not be achieved and still the woman works both at home and at work. On the other hand, it is observed that man generally has power (Bianchi & Milkie, 2010). The journey of the woman in this process is being a mother, giving birth to a son, and taking part in business life (Zheng, 2016). This distribution of tasks also determines what is expected from marriage. While evaluating the marriage expectation within the framework of gender roles, differences other than similarities stand out. Because these differences in gender roles determine the hierarchy and disadvantages in the marriage process (Thompson, 1993).

It is seen that expectations about marriage differs depending on the gender, and women have a more optimistic attitude towards marriage when compared to men (Alqashan & Alkandari, 2010; Bruce et al., 2004). Gender roles contributes to the difference between women and men. When gender comes into question, personality traits, roles and responsibilities of women and men that are predetermined by the society also step in. These differences reveal themselves as determiners in designating expectations and roles related to how women and men behave and how they think.
depending on the culture they live in. In brief, gender roles determine the traits which structure women and men socially with their behaviors and thoughts (Hiller & Philliber, 1986).

The differences of women and men in expectations towards marriage roles also draw attention. The gender roles can come into play in these differences, and the fact that the individuals do not want to leave these roles becomes effective. The perception of expectation of an individual affects the role of their partners. Waller & McLanahan (2005), states that the expectation of a man has a powerful impact in moving the relationship towards marriage whereas the expectation of a woman determines whether the parties will continue their relationship or not (Amato & Booth, 1995).

Women show a less tendency towards traditional roles when compared to men (Faulkner et al., 2005). On the contrary, marriage satisfaction levels of the men who have a more tendency towards traditional gender roles reveal a lesser decrease over time (Losrocco & Spitze, 2007). While women look for a more egalitarian attitude in marriage, men play the part of service provider (Balık, 2017). Expectations from marriage also differ according to age, education level and socio-economic level. As the level of education and income increases, and young couples can turn into more egalitarian gender roles where individuals support each other (Davis & Greenstein, 2009). Expectations towards marriage bring about disagreements and generating solutions to these disagreements. Personality traits of individuals has a determining quality in frequency of conflicts and generating solutions (Doğan, 2010; Spotts, Lichtenstein, Pedersen et.al., 2005). In marriage, the personality of a spouse affects how the other spouse will interact (Gaunt, 2006). Personality also reveals itself as a factor in similarities of couples. Similar personality traits increase the satisfaction in marriage (Ozer & Benet-Martinez,2006).

Perspectives on personality which has a significant place in psychology also differ (Beck, 1983). Beck classified personality as sociotropy and autonomy in terms of cognitive theory. Sociotropy, which is placed in this classification, is defined as the investment of a person in the positive communication with other people (Özdemir, 2016). People with sociotropic personality trait need social support and the thoughts of others more in order to feel better about themselves. Autonomy, which is also placed in this personality classification, investments of the people in order to protect and increase their independency, freedom of movement and individual right become prominent. People with higher autonomy traits like directing their own activities and achieving goals that are important to them, and they obtain satisfaction from these (Murray et al., 2006). While sociotropic individuals are sensitive about situations such as weakening social bonds, termination of relationships and rejections, autonomous individuals have a tendency to reject being controlled by others, and to give importance to success and independency. In addition, it is accepted that the self-esteem of individuals is a significant factor in determining the quality of their relationships. It is reported that the individuals with high self-esteem evaluate their intimate relationships more positively when compared to the individuals with lower self-esteem (Zeigler-Hill et al., 2015).
Therefore, it is predicted that positive or negative perceptions of individuals towards their own selves affect their evaluation about romantic partners and how their relationships proceed. When studies are reviewed, it is obvious that most of them reflect the Western culture, and no studies examining expectations towards marriage from the perspective of women and men in Turkey was found. In terms of preventive mental health, it is important that individuals have rational expectations from marriage and their personality traits are defined since marriages with irrational expectations can become the source of several psychiatric and psychological problems. Moreover, understating the cultural factors that affect the psychological health contributes to a more effective mental health service. Thus, in the current study, the aim is to examine the marriage expectations of women and men in terms gender roles and personality traits, and self-esteem which were not studied before. It is thought that the study will contribute to structuring of mental health services by revealing these relationships in terms of Turkish culture.

Method

Sample

The sample of the current study consists of 491 participants, 345 females and 146 males, who are university graduates between 18-53 years of age. The participants are all single. The convenient sampling method was used in the formation of the sample group.

Research Model

In the study, relational screening model was used in order to determine in what level gender roles and personality traits predict the expectations of women and men towards marriage. Relational screening model aims to determine the existence and/or level of changing together of two or more variables (Karasar, 2000).

Data Collection Tools

In the current study, Socialization of Gender Norms Scale, Rosenberg Self-Esteem Scale, Attitudes About Romance and Mate Selection Scale and Sociotropy-Autonomy Scale were used.

Attitudes About Romance and Mate Selection Scale-ARMSS: ARMSS was developed by Cobb et.al (2003) in order to measure limiting beliefs about mate selection. The scale is in 7-point likert type and has 32 items. In order to determine the construct validity of ARMSS, principle component analysis was made, and a seven-factor construct was defined. At the same time, the scale provides a total score. For the internal consistency, Cronbach Alpha coefficient was calculated as α=.88, and the Cronbach Alpha coefficients of seven subscales were between .64-.98. The test-retest reliability which was conducted in a two-week interval was found .90, and correlation coefficients were obtained between .59-.92 for seven subscales (Cobb et al., 2003).
Rosenberg Self-Esteem Sub-Scale: Rosenberg Self-Esteem Scale was developed by Rosenberg (1965). The scale which is formed by multiple choice questions has 63 items and 12 subscales (Korkmaz, 1996). In the current study, a ten-item short version of self-esteem scale was used. Self-esteem scale includes five positive and five negative statements and is in four-point Likert type. The Turkish validity and reliability study of the scale was conducted by Çuhadaroğlu, 1986. The validity coefficient was found .71 in the validity study. The test-retest reliability coefficient was found .75 for self-esteem scale.

Socialization of Gender Norms Scale (SGNS): The scale was developed by Epstein (2008) and aims to determine the gender role messages received from the environment in the socialization process of the individuals. The original scale consisted of five subscales, which are traditional gender roles, egalitarian gender roles, being big and strong (enduring), being well and nice, and body awareness, and 23 items. The scale was adapted in Turkish language by Arıcı (2011). The Turkish version consisted of two subscales and 19 items. The first subscale was named as “traditional gender roles”, and the second subscale was named as “egalitarian gender roles”. In the first subscale, there are five items whereas there are 4 items in the second subscale. The scale is in four-point Likert type answered by choosing one of the options ranging from “never” “little” “a little” and “very”. Each item is graded between 0-3, and 15 points for egalitarian messages and 42 points for traditional messages can be obtain at most (Arıcı, 2011).

Sociotropy-Autonomy Scale: The scale was developed by Beck et.al. (1983). The scale was formed to measure two different personality traits (Bieling, Olshan, Beck & Brown, 1998). There are 60 questions that measure sociotropic personality trait that values relationships with people and autonomous personality trait that values success, independency and freedom. 30 of the questions belongs to the sociotropy subscale whereas the other 30 questions belong to autonomy subscale. There are three dimensions under the sociotropy subscale. These are concern about disapproval, concern over separation and pleasing others. There are three dimensions under the autonomy, and these are individual achievement, freedom from control and preference for solitude (Şahin et al., 1993; Savaşır & Şahin, 1997).

The high scores obtained from sociotropy subscale implies higher sociotropic personality trait whereas the high scores obtained from autonomy subscale implies higher autonomous personality trait. The Turkish adaptation of the scale was carried out by Şahin et.al (1993). The internal consistency Cronbach Alpha coefficients of the scale were found for sociotropy and autonomy .70 and .81 respectively. The Cronbach Alpha coefficients of the student sample were respectively found .83 and .81 (Savaşır & Şahin, 1997).
**Demographic Information Form:** Information related to the participants’ age, gender and education levels were obtained using the demographic information form prepared by the researcher.

**Analysis**

Before the analysis of the data, the data were assessed in terms of incorrect or incomplete answers. In the next step, the kurtosis and skewness values of the variables were assessed in order to examine the regression analysis assumptions. In this context, it was seen that the kurtosis and skewness coefficients are in the limits of ±1, and this finding was evaluated as the proof of the existence of the normal distribution (Tabachnick et al., 2007). In the next step, in order to determine whether there is a multicollinearity, variance inflation factors (VIF) were assessed, and no VIF values greater than 5 was found. The standard z values of the variables were calculated, and Mahalonobis distance test was conducted. In terms of all variables, five data were excluded which was determined as the univariate extreme value. If the variables predict the marriage expectations of women and men was determined using “Multiple Regression Analysis (Stepwise Method)”. All the variables were analyzed both for women and for men. The significance value in the study was accepted as p<.05. the obtained data were analyzed using SPSS 21 package program.

**Results**

In the study, the dependent variable is marriage expectation, the independent variables are self-esteem, egalitarian gender roles, traditional gender roles, sociotropy and autonomy. Regression analysis was conducted separately for women and men. The descriptive statistics of variables for women and men are given separately in Table 1.

**Table 1. Descriptive Statistics**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Women (N=319)</th>
<th>Men (N=141)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.d.</td>
</tr>
<tr>
<td>Marriage expectation</td>
<td>86.83</td>
<td>9.62</td>
</tr>
<tr>
<td>Egalitarian gender roles</td>
<td>17.5</td>
<td>3.47</td>
</tr>
<tr>
<td>Traditional gender roles</td>
<td>35.47</td>
<td>8.01</td>
</tr>
<tr>
<td>Sociotropy</td>
<td>89.23</td>
<td>18.08</td>
</tr>
<tr>
<td>Autonomy</td>
<td>104.92</td>
<td>16.54</td>
</tr>
</tbody>
</table>

In order to conduct Regression analysis, the relationship between variables were examined in the study. The results are given in Table 2. As seen in the table, it was found that there is a positive significant correlation between egalitarian gender roles and self-esteem (r=.16); there is a positive significant correlation between traditional gender roles and marriage expectation (r=.23); there is a positive significant correlation between sociotropy and marriage expectation (r=.31); there is a positive significant correlation between sociotropy and traditional gender roles(r=.34); there is a
positive significant correlation between autonomy and marriage expectation (r= .16), self-esteem (r= .12), traditional gender roles (r= .18) and sociotropy (r= .18).

**Table 2. Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Marriage expectation</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Self esteem</td>
<td>.080</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Egalitarian gender roles</td>
<td>.056</td>
<td>.160*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Traditional gender roles</td>
<td>.229*</td>
<td>-.086</td>
<td>-.089</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Sociotropy</td>
<td>.311*</td>
<td>-.017</td>
<td>.074</td>
<td>.345*</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>6. Autonomy</td>
<td>.165*</td>
<td>.123*</td>
<td>.042</td>
<td>.179*</td>
<td>.182*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*p< 0.05

The results of the multiple regression analysis conducted to predict marriage expectations of the women revealed that sociotropy, autonomy and traditional gender roles are significant predictors (R=.394, R²=.15, F(3,315)=19.32, p<.05). When the t values related to the significance of regression coefficients are examined, it is seen that the biggest contributions to the prediction of women’s marriage expectations are respectively sociotropy, autonomy and traditional gender roles variables.

According to the findings, the women with high sociotropy, autonomy and traditional gender role acceptance can be said to have high marriage expectations. As a result, as seen in the Table 3, the model explains 15% of the variance related to marriage expectations of women. Self-esteem and egalitarian gender roles variables do not predict the marriage expectations of women significantly.

**Table 3. Stepwise Multiple Regression Analysis Results of The Prediction of Women’s Marriage Expectations**

<table>
<thead>
<tr>
<th>N: 319</th>
<th>B</th>
<th>Std. Error</th>
<th>β</th>
<th>t</th>
<th>F</th>
<th>R</th>
<th>R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1st Step)</td>
<td>(Constant)</td>
<td>70,854</td>
<td>2,563</td>
<td>27,643</td>
<td>40,456</td>
<td>.336</td>
<td>.110</td>
<td>.113</td>
</tr>
<tr>
<td>Sociotropy</td>
<td>.179</td>
<td>.028</td>
<td>.336</td>
<td>6,360</td>
<td>.336</td>
<td>.110</td>
<td>.113</td>
<td></td>
</tr>
<tr>
<td>(2nd Step)</td>
<td>(Constant)</td>
<td>62,062</td>
<td>3,804</td>
<td>16,313</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociotropy</td>
<td>.166</td>
<td>.028</td>
<td>.312</td>
<td>5,903</td>
<td>25,560</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td>.095</td>
<td>.031</td>
<td>.163</td>
<td>3.094</td>
<td>.373</td>
<td>.134</td>
<td>.026</td>
<td></td>
</tr>
<tr>
<td>(3rd Step)</td>
<td>(Constant)</td>
<td>59,213</td>
<td>3,949</td>
<td>14,992</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociotropy</td>
<td>.147</td>
<td>.029</td>
<td>.275</td>
<td>5.060</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td>.084</td>
<td>.031</td>
<td>.145</td>
<td>2.733</td>
<td>19,315</td>
<td>.394</td>
<td>.155</td>
<td>.160</td>
</tr>
<tr>
<td>Traditional gender roles</td>
<td>.161</td>
<td>.066</td>
<td>.134</td>
<td>2.452</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As a result of the multiple regression analysis of the prediction of men’s marriage expectation, it is seen that sociotropy variable is a significant predictor ($R = .244$, $R^2 = .053$, $F_{(1,139)} = 8.81$, $p < .05$). When the results are examined, when men’s sociotropy score which is a sub-dimension of personality trait and focusing on establishing an intimate relationship or wishing to be loved and accepted by others increase, their positive expectations towards marriage also increases. Autonomy, self-esteem and gender roles variables do not predict the marriage expectations of men significantly.

Table 4. Stepwise Multiple Regression Analysis Results of The Prediction of Men’s Marriage Expectations

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>$\beta$</th>
<th>t</th>
<th>$F$</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asama)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>74.124</td>
<td>4.759</td>
<td>15.576</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.813</td>
</tr>
<tr>
<td>Sociotropy</td>
<td>.179</td>
<td>.050</td>
<td>.244</td>
<td>2.969</td>
<td></td>
<td></td>
<td>.244</td>
<td>.053</td>
</tr>
</tbody>
</table>

Discussion, Conclusion and Recommendations

According to the findings obtained from the study, the variables predicting marriage expectations of women and men are different. According to the results, the expectations and attitudes of women towards marriage are affected by their personality traits and traditional gender roles. On the other hand, the expectations of men are affected by sociotropic personality trait which is linked to establishing intimate relationships and valuing the feeling of trust in the relationships. People with sociotropic personality traits focus on establishing intimate relationships and want to be loved and accepted by others. In the regression model of women, that sociotropy is the strongest predictor stems from the communitarian/collectivist cultural features of Turkish society. Also, that sociotropy personality trait is the highest and the only variable related to the positive expectations towards marriage can be linked to the beliefs about men’s being supposed to satisfy the expectations of the society. Moreover, consistent with the current study’s findings, the studies show that the men in Western countries become more compassionate and start to value human relationships in time (Diekman & Eagly, 2000; Twenge, 1997; Pleck, 1975), and women define themselves in the context of their relationships (Acitelli et al., 1999). In the literature, it is stated that women tend to have more sociotropic personality trait whereas men tend to have more autonomous personality trait (Sato & McCann, 1998; McBride et al., 2005; Newman et al., 2009; Raeisei et al., 2015). In the current study, that sociotropy was found as the strongest predictor for both genders can be related to the fact that Turkish society has the characteristics of both individualist and collectivist cultural features although collectivist cultural features are more dominant. It can be thought that this structure can contribute to sociotropy which values the opinions of others and needs approval in behaviors. The reason why autonomous personality trait, which was defined as “the investment that sustain and increase the
independency and individual rights” by Beck, was another predictor in women can stem from the fact that the participants have higher degrees of education. When the social likeability factor of women steps in, it can be said that the women gave answers that are more approved or preferred by the society in the data collection process even though they have different attitudes or opinions about the matter.

In the Turkish society, families are more involved in the process, and the family structure is also a criterion in marriage and partner choice; that is, the expectations and roles brought by the gender roles reflect in the process more (Uçar, 2017). As a consequence, the individual is a part of a wider relationship system (Karandashev, 2015). Inside these wide relationship web, it can be observed that inevitably traditional gender roles become more prominent in an atmosphere where it is affirmed that correct steps are taken with the multiple relationship approvals such as of family, friends and relatives (Mickelson et al., 2006). This can be the reason why traditional gender roles become prominent in women as a predictor. That some study results emphasize that having the attitude of traditional gender roles makes positive contributions to the relationship in marriage proves that the results of the current study is in line with the literature (Davis & Greenstein, 2004; Xu & Lai, 2004).

When it is considered that the majority of the participants are in their emerging adulthood period, it should not be forgotten that there is not an exactly clear picture, and it is seen as a life task that has the possibility to happen among the future goals (Arnett, 2000).

The study was conducted with the participants of emerging, early and mid-adulthood periods. The number of mid-adulthood period participants are few. For the future researches, adolescents and late adulthood can be added in terms of having a more inclusive study. Since the aforementioned periods will differ in terms of being affected by the society’s expectations, adopting gender roles, self-esteem and personality formation processes, cross-sectional studies can be conducted, and more inclusive results can be obtained. Since the cultural texture of Turkey display differences, the future descriptive research with homogenous groups can be conducted with different variables which include religion, ethnicity, family, living with partner, sexual experiences, single-parent family, nuclear family and extended family as well as education and socio-economic status of the participants by considering these differences.

Through the current study which support the importance of marriage expectation, it can be seen that the mental education studies about partner choice and romantic relationship experiences that raise premarital individual awareness are needed. The marriage of a couple and weddings do not necessarily mean that the standard required by marriage are satisfied. It draws the attention that there is a need for informing individuals before marriage instead of raising awareness about marriage after the individuals get married. The number of early adults that do not get married has risen in the last
years. In the future research, their attitudes towards marriage and romantic relationship experiences can be unraveled. As a result, the current study shows that it is important for individuals to know themselves, to realize the formation of gender roles, to improve themselves in accordance with their necessities, and to make them understand their personality traits in marriage expectation. When structuring mental health services, considering gender roles, personalities and beliefs about marriage of the individuals will help them to receive help with a more totalitarian perspective. In addition, it is thought that it is important to discuss the premarital expectations and personality traits of individuals in couple therapies.

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Comparison of the Republic Period First Inspector Training Program and Modern-day Inspector Training Program

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Abstract

To be able to talk about the existence of a successful education system, it is important to inspect all stages as much as the inputs, processes, and outputs of the system. To reach the distant goals of education smoothly, the close goals need to be checked, problems should be detected and corrected in a right time and in a suitable way, necessary changes should be done before it is too late. The training of inspectors, which is important at all levels of education system is very important. In this study, texts written about the contents of first practice regarding the training of inspectors in the first years of Republic will be examined. It is aimed to present the criteria of inspector training through the curriculum courses opened in that period and to compare with today’s applications. In addition, the list of teachers who attended the courses opened in Ankara and Sivas will be included. Thus, expectations from the inspectors of the period will be revealed and contribute to the interpretation of today's inspection understanding. This study was carried out using document analysis method which is a qualitative research approach. The First Educational Inspector Courses, curriculum and the texts including list of the teachers’ names who attended courses in Ankara and Sivas were translated into modern-day Turkish. The findings of this study consist of the content of the training given in the first educational courses, professional sufficiency and the education methods providing that sufficiency, training duration of the courses organized in Ankara and Sivas, lists of teachers names attended courses. In training inspection in first years of Republic, it has been found that the aims of principles of education were prioritized.

Keywords: Inspection, Inspector, Inspection of Education, Elementary, History of Turkish Education.

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Introduction

Education is a process of systematic activities carried out for providing intentionally people behavioral change (Akyüz, 2015; Duman, 2003; Mialaret, 1999). To be able to be reached the goals supposed with education, it should be pointed out the importance of process and function of educational organizations, which these organizations are formed differently in each society (Özkan&Çelikten, 2017). The fact that the inclusion of education in life and directly impact from changes and developments in the world necessitates shaping functions of educational organizations in the form providing to keep up with those changes and developments. Additionally, specification of general and specific goals to be achieved requires control of every initiative which education organizations have done to reach those goals (Kayıkçı&Şarlak, 2013). Considering these two situations together, necessity and importance of concept of education control is understood. Due to this importance, it is also getting important to examine the changes that the practices have undergone in the historical process. Durnalı and Limon clarified the educational inspection "a tool that prepares an environment for achieving the achievement of the goals of education effectively" (2018).

The principles and functions of inspectors designated for the purposes of inspection in education within the framework of the control of planned and executed activities, evaluation of the teaching-learning process and take measures for the development of all the activities is considered as the provider of the necessary arrangements (Yurdakul, 2003). Inspection in education; inspection principles and functions in accordance with the specified goals are considered as activities within the framework (Yurdakul, 2003). It is expected that inspections conducted by the authorities will affect decisions to be made at the point of addressing errors and deficiencies observed in the results of the education system, and, if necessary, make changes to previous decisions (Atay, 1996). The purposes of the educational inspection are listed as follows by Cengiz (1992);

- Improving the educational process,
- Ensuring unity in general in educational practices,
- Make education effective as a means for the continuity of the state, national unity and integrity,
- To provide sufficient information about the plans and programs of the senior management to all relevant people in the field,
- Being a coordinator in all educational activities,
- To be active in improving the efficiency and quality in education,
To lead in the organization of educational programs,

To take part in the operation of incentive reward and deterrent penalty,

To take constructive roles in training educational administrators, teachers and staff of all degrees at work, accelerating positive changes in their behavior, and consequently preparing and constructing the appropriate education-training environment (cited in Yurdakul, 2003).

As in education systems, every society has developed a system suitable for itself in education inspection. Although the understanding of educational inspection is affected by the changes in society, it can also be reshaped in the society (Atay, 1996).

Taking into consideration history of Turkish education, it is seen that inspection has an important place in our education system in every period. The concept of inspection began to be used with the regulations made with the opening of Rushtiye schools during the Ottoman Empire. After the Tanzimat period, new regulations and changes were made related to the principles of inspection and the competencies of the inspectors with the regulations issued on education (URL 1). II. During the constitutional period, other rules were made on how to conduct inspections of Secondary Education and institutions associated with the Ministry, as well as rules for conducting inspections of primary schools by first inspectors. It is understood that two different dimensions in the inspection system were formed before the Republican period along with these regulations (Gül, 2017).

A large number of laws and regulations related to teachers' personal rights and inspection system were prepared along with the Republic period. It is possible to list the first attempts in this regard as follows;

- The Secondary Education Teachers Law dated 1924,
- Instruction on the Educational Eminliks and its Tasks dated August 1926,
- Instruction for First Education Inspectors dated January 31, 1927 (Akyüz, 2012; Arabacı, 1999)

It is understood that very important initiatives were made in the field of personal rights, appointment and training of teachers and inspection (Akyüz, 2012) in the first years of the Republic, especially during the Ministry of Education of Mustafa Necati (1925-1929) (Akyüz, 2015). In this paper, it is considered the conditions of the period, it is seen that Mustafa Necati has a positive effect on eliminating the difficulties experienced by the teachers, improving the working conditions, both training teachers and providing appropriate arrangements for the era in in-service training. The texts examined in this study were considered critical in terms of understanding the inspection of that period.
and perceiving what was expected from education in relation to the practices carried out during Mustafa Necati's ministry.

The most important factor in achieving the purpose of educational inspection is the qualifications of the officers who will carry out the inspection. The qualifications and competences that officials called education inspectors should have to be appointed to these positions are determined by the Ministry. As a result of developments in education and changes in society, changes were made in these criteria period by period (URL-1).

**The Purpose and Importance of Study**

In order to achieve the purpose of the inspection system, which is one of the most important elements of the education system, it will be useful to consider the regulations made in this regard from the past to the present. A re-examination of the subject in accordance with first-hand sources is important both in terms of understanding past practices and in terms of basing today's practices. In this study, the programs of the First Education Inspectors Courses that were first applied in our country in 1927 and the conditions required for those who will attend the course and the texts containing the lists of those who participated in the courses organized in Ankara and Sivas were examined. By examining the mentioned texts, the understanding of inspection and the content of inspector training programs that were implemented in the first years of the Republic will be revealed. In this way it will be possible to identify and compare the ongoing and/or changing situations from that period to the present. It is also believed that providing a list of the names and places of duty of the teachers who attended the courses opened in Ankara and Sivas in the appendix part of the study will also contribute to researchers studying local history.

**Research Problem and Sub-Problems**

The main research problem of this study is the following: “What are the qualifications of the First Education Inspector Courses, which is one of the practices regarding educational inspection in the first years of the Republic?”. Based on the above-mentioned problem, the following sub-problems have been examined during this study;

1. Which conditions were sought for the trainees of First Education Inspectors?
2. How long is the training period of First Education Inspector Courses?
3. What are the contents of the curriculum of First Education Inspectors Courses?
Method

Research Model

This study has been organized by qualitative research approach conducted by the document analysis technique based on the examination of the contents of the First Education Inspectors Courses, which was applied for the first time in the field of educational inspection in the Republican Period, and the texts with the list of participants with the conditions of participation in these courses. Bowen has referred to document review as a systematic process for examining or evaluating both printed and electronic materials (cited Özkan, 2019) In the document review, written materials containing information about the facts and events that need to be investigated are analyzed. Documents can constitute the main data of the study according to the research question as well as the supporting element of the research as auxiliary data (Güler, Halicioğlu, & Taşkıncı, 2013) The texts used in the study have been determined in accordance with the stages of the document review method. During document review, the stages of accessing documents, checking their authenticity, understanding documents, analyzing data and using data have been followed (Yıldırım & Şimşek 2013).

The course curriculum examined in this study have been found to be suitable for use as a data source in Document Analysis. To determine the originality of the examined documents, the documents have been reviewed in line with the questions stated by Merriam (2013).

Collecting Data and Analysis

The texts examined in the study were published in the Journal of Ministry Education in 1928. Right to the relevant number of Journal of Ministry Education from the collection of Hakkı Tarkı Us digitally was accessed. The First Educational Inspector Courses, curriculum and the texts including list of the teachers’ names who attended courses in Ankara and Sivas were translated into modern-day Turkish. The translation text has also been studied by experts and provided the reliability of the translation. Data in the studied texts has been made meaningful through content analysis. In content analysis, the goal is to put together data that is similar to each other around specific concepts and themes and interpreting by organizing them in a way that reader can understand (Yıldırım & Şimşek, 2013). Content analysis was done by using QSR NVIVO 9 program. During content analysis, reduction of data, presentation of data, and formatting of results were implemented in accordance with Miles and Huberman method (Baltacı, 2017). Encodings have been done in line the sub-problems identified during the reduction of data. The expressions contained in the texts have been simplified to facilitate understanding. While simplifying, some words that are not used today without distorting the meaning of the text were given as current equivalents of word groups (anasir-element, delegation-iazasi-delegation member, riyaset-presidency, etc.). The lists of trainees were given in the appendix section in the same way. Validity in qualitative research is expressed is the control of researcher for
accuracy of findings through certain processes. Qualitative reliability is accepted as consistency of the researcher's approach in terms of different projects and different researchers (Creswell, 2013). On the other hand, Merriam (2013) stated that the concepts of reliability, transportability, verifiability and credibility stand out in qualitative research.

As this study is carried out through document review method, it is ensured the control of originality of documents investigated for providing reliability and expert approval has been obtained for study of transcription. For reliability, encodings in the texts were evaluated by different field experts again and it was formed as a result of expert ideas.

Comparing the findings reached in the examined text with the current situation, the laws and regulations of the Ministry of Education on this issue were taken as the basis. A comparison of the main themes identified in the studied texts with explanations in the relevant laws and regulations today is given in the results section. This comparison has also been supported by the relevant literature.

Results

Purpose of First Education Inspector Courses and Course Participation Conditions

The First Education Inspectors Courses, held in the summer of 1927, are important in terms of being the first practice in this regard. The following statements about the purposes and importance of these courses are included in the Journal of Ministry Education;

This initiative, which was carried out for the first time in our country, equipped the guides of our first school education elements with new information and yielded more ambitious results than the point-of-view. In these courses, which last for two months, young inspectors and inspector candidates, under the presidency of Mehmet EminBey, Head of the Education Committee in Ankara, with members of the delegation İhsan, Ali Haydar, İbrahim Alaeddin, Chief of the Ministry of Education Sanitation Branch Director Mr. Dr. Cela, members of the Education and Discipline Committee Mr. RıdvanNafız, Kadri and Mr. ReşitŞemsettin from the Ministry of Education and ReşitŞemsettin, and Mr. İsmail Hakkı, the director of the Ministry of Education School Museum and with their education currents, they have returned to their duties by taking the necessary information and experience about the duty activities expected by the country from the inspection and the inspector in the first education. We found it useful to find out here the information about the conditions for the establishment of the courses, the programs they followed, and those who attended the courses in order to constitute a document in our education and training history about these courses, which constituted one of the positive steps taken in the development of our education in the Republican era.
As can be understood from the above statements, the purpose of publishing this practice, which breaks new ground in our educational history, in the Journal of Ministry Education, is to contribute to the educators of the future. A circular was sent by the Minister of Education, Mustafa Necati Bey on June 19, 1927, to the education assurance of the period regarding the purpose of the courses and the conditions required by those who will attend the course. The points that come to the fore in the circular are shown in Figure 1.

![Diagram showing the course instructions](image)

**Figure 1.** Course Instructions

Regarding to prominent titles in Figure 1, the following explanations are included in the circular.

1. **Ministry Education:** will open two inspector courses, one of them in Ankara and other one is Sivas, on purpose of increasing the knowledge of first Education inspectors and educate candidates of inspector in 1927.

2. **The training period of these courses is two months.** These courses will begin on fifteen, July and end on fifteen, September.

3. **Courses are accepted with the following requirements:**
   a) To graduate from school of teaching.
   b) To be first inspector of education and benefits long service or being teacher or head of teacher despite of his level and to be delivered to perform the duty by Eminliks.

4. **They should distinguish those who have qualifications, especially who are first inspector of education when selecting within of the conditions.**
5) Feeding and housing costs of those who attend the course will supply by budget of ministry.

6) Expenses of inspectors and teachers who will come to the course will be supplied by private budgets of education associations, if they dissatisfy, these costs will be provided and paid with budget of Ministry.

7) 6 from Ankara, 8 from Istanbul, 8 from Izmir, 5 from Konya, 4 from Antalya, 4 from Adana, and 4 from Gaziantep will attend to Ankara course and 8 from Trabzon, 8 from Sivas, 6 from Erzurum, 5 from Elazig, and 5 from Van inspectors or teachers will be appointed or sent.

8) Inspectors and teachers who will attend will be distinguished by taking into needs of provinces by education associations

9) Inspectors or teachers who attend the course will be definitely present in the centers of Sivas and Ankara on fifteen of July.

10) Some of limited inspectors and teachers, including their expenses who demand to attend the course are accepted to courses, but they should be qualified with conditions in the circular (Journal of Ministry Education, 1928).

As can be seen from the above circular, it is also possible for those who have the conditions set for participation in the course and want to participate voluntarily in the course, except for the quotas set. In addition, the most notable point in this circular is that these courses are not only an in-service training for those who currently work as inspectors, but also carry out the purpose of preparing training for the training of new inspectors.

When the education inspection system applied in our country since the Republican period is examined, it is seen that changes and updates were made in different time intervals with regulations, laws, and decree laws. 14 September 2011, No. 652 “On Organization and Duties of Ministry of National Education Decree”, published in the Official Newspaper No. 6528 on the date of 14 March 2014 “Some Laws and Decrees with Law on National Education Basic Law”, published in the Official Newspaper No. 29009 on the date of 24 May 2014 of the “Ministry of National Education Inspectors with the Department of Education for Guidance and Control of the President of Regulation”, published in Official Newspaper No. 29655 on the date of 16 March 2016 “Guidance and Control of the Ministry of National Education Inspectors with the Department of Education Implementing Regulation Amending Regulation on the President”, and published in the Official Newspaper No. 6764 on the date of 9 December 2016 “Organization and Duties of Ministry of National Education Decree Law on Changes to Some Laws and Decrees with the law” constitutes the legal basis of today's education inspection system in recent years (Durnalı and Limon, 2018).
Currently, the Ministry of Education Inspection Board Regulation published in the Official Newspaper dated 20 August 2017 and numbered 30160 and the directive on the Duties, Authorities, Responsibilities, and Working Principles of the Ministry of National Education Inspection Board prepared by the Ministry of Education constitute the basis for conducting activities related to educational inspection. With these regulations and directives, the necessary conditions for the inspectorate and the expectations from the inspection are determined in modern-day.

When the Ministry of Education Inspection Board Regulation is examined, it is seen that the inspectors are employed in two different ways as the Ministry's Education Inspector and the Ministry's Deputy Education Inspector. It is necessary to pass the "competition exam" for the Ministry's Deputy Education Inspector and the "proficiency exam" for the Ministry's Education Inspectorate. It is stated in the 22nd article of the regulation that the assistant inspectors who were appointed after being successful in these exams were subjected to a three-year training period. In this three-year period, on-the-job training was taken as a basis with an inspector (Official Newspaper, 2017).

The qualifications required for candidates who will participate in the competition exam are stated in the 13th article of the regulation. The most outstanding point in this article is *schools of law, political sciences, economics and administrative sciences, economics and business administration or their equivalence to these, or to be currently working in the Ministry staff or at least four years of undergraduate education, provided that they have a service of eight years or more, including candidacy and contract teaching period which is the expression* as being graduated from higher education institutions abroad accepted by the Higher Education Council. As can be seen from this statement, besides teachers, graduates of departments not related to education have been given the opportunity to become Deputy Inspector of Ministry Education (Official Newspaper, 2017).

The curriculum of these courses opened in Ankara and Sivas are given separately in the texts examined.

**First Education Inspectors of Ankara Course Curriculum**

When the curriculum of the course held in Ankara is examined, the prominent subject distribution in the course content is shown in Figure 2.
The statements in the documents examined regarding the subject headings in Figure 2 are as follows;

a) General introduction to the course (why the course was opened. The importance of the first of Education Inspectorate, the phases of the first of Education Inspectorate in Turkey, the information which is needed for a good first Education inspector the activities which are expected from the hometown Education Inspector.)

b) Training aspect of the course:
   1. Purpose of decency
   2. Ways to evoke of National, Patriotic Decency, Republic conversation
   3. Examining children in primary schools, examining the organic and spiritual environment
   4. Discipline in primary schools. General ideas and application problems
   5. Predicting the causes of child failures in schools, the issue of laziness, the reasoning of schools at this point.
   6. Information about the issue of children who remain after and are not natural, their separation through intelligence experiences
   7. The issue of oral language in the first schools. It’s like a matter of habits that should avoid and win when talks.
   8. How are school and family relations ensured?
   9. Activities of primary schools on children socialization
   10. Emotional education in our first schools. The school was thought to be in charge of intellectual education, its duties in this regard are general remedies to raise children, modest, righteous, self-sacrificing, altruistic.
   11. Youth education in schools, briefly precaution of individualized education
12. How should social life information procedures be provided through schools? Street decency, decency in general places. It's the pleasure to influence the parent through children.

c) Teaching aspect of the course:
1. Purpose of teaching
2. Available tools to the teacher for achieving the goal of teaching.
3. Taking advantage of children’s instincts in teaching.
4. Relevance
5. Classroom technique: question-answer, suggestion, experience, exercise, use of the book, social aspect of the lesson, collective education, precaution to be taken against students who do not match each other.
6. Lesson plans.
7. Examination of the curriculum.
8. Procedures of various courses, the importance of crafts course in new education.
9. Administration of a classroom containing an offensive class.

d) Aspect of Inspection
1. Introduction: The duty of First Education Inspectors, administration, education.
2. Teaching tasks.
3. How to inspect a lesson.
4. How to criticize.
5. How to enlighten the teacher.
6. How is a school inspected by general members?
7. The main points seen in our schools (Education, sanitary, educational ...)
8. Duty of head of teacher, how to enlighten head of teacher. (Rather from administrative and educational points)
9. The current position of teachers of the first school in Turkey is the duty of teachers who have previously graduate the teacher's school or have not left the teacher's school.
10. How to train foreign teachers in the profession?

11. Instead of Environmental duty First Education Inspector – First Education Inspector in villages, towns, and cities what legal duties are they responsible for. How to apply the first education obligation. To popularize the education, to contact the public, to collect the information and to report it to the authority. Education depends on other social affairs.

    e) Our history of education and our educational organization. Comparison with a few country organizations.

f) Various new school and innovations

g) Practice
1. To teach well.
2. Criticizing the lesson.
3. To illuminate.
4. Inspecting a school.
5. Going to a village or town, studying the education there
6. Report related to them

**First Education Inspectors of Sivas Curriculum**

Topics that draw attention when investigating the curriculum of the course opened in Sivas was shown in Figure 3.

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**Figure 3. Sivas Course Curriculum**

**Education:** Principles and duty, importance, elements and types; degree of power, boundaries and validity, roles of environmental impact in education

Pedagogy problems

Changes of goals of manner according to time and place

Educational goals of the Middle Ages of Christianity

Educational goals of Western societies after Renaissance and Reformation

Character of the period following the French Revolution and desirable educational goals of this period in nationalist, liberal and democratic society

Until the end of the 18th century, the goal of education in Turkish society, clear characteristics of educational methods and their institutions

The goal of educational methods and institutions in Turkish society until the last revolution from the beginning of the 19th century

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The educational goals of current Turkey

The nature, importance, and duty of teaching as an educational tool

The first schools, their development history, duties, and importance

Recommended innovations to practice educational goals of modern society

Active schools, business schools

General decency in current schools

Health and physical education, games, sport, and gymnastics

Moral education

Patriotic education

Aesthetics education

Discipline in school

Duties of the school except for the school

Practical pedagogy issues

Research and procedures on children

Educational tests

Organizations which is responsible for protecting the child and their activities

Organizations, responsible for protecting the child and their activities

Children's literature and films

Knowledge about nursery, active World, girls' education dormitories

Institutions for the training and education of Arthur Miller

This curriculum will be completed in 32 hours.

**Inspection:**

1. Importance of inspection, expected benefits from inspections, first education inspection officers and authorities

2. History about the first education inspection, legal status of first education inspectors, the subjects, and institutions that they have authority to inspect

3. Conditions stipulated appointment to the first education inspectorate and spiritual and professional qualifications which first educational inspector should carry to be successful on his duty

4. Authority and duties of first education inspector about schools and (to investigate the financial and administrative situation, inspection of education and educational life)
5. Activities expected from the first education inspectors except for school and examination between environment and school and investigation possible effects, contact with their families, regulation of general conferences, giving information to parents and authorities about issues that attract attention as a result of the inspection.

6. The relationship of the inspector with the teachers, the Essentials that inspectors must comply with. The form criticism and determining the deficiencies and giving information to head masters and teachers, professional conversations, sample lectures, etc.

7. Reports (What should the reports include, which points should be considered in editing the report. Explanation and interpretation of articles related to reports)

8. Comparing the institutions of inspection of several countries to ours

Teaching methods

1. Purpose of education and training

2. Course materials suitable for the purpose of teaching

3. Curriculum program

   a. The scope and limits of the curriculum program. Curriculum theories

   b. Types of curriculum

4. Weekly course schedules (spiritual and sanitary principles on which the curriculum is based)

5. Child's personality

6. Teacher's personality

7. Teaching methods (types and scope)

8. The role of tools and equipment in teaching

9. Provision of course tools and ways of construction by the teacher

10. Lesson plans

11. Course preparation, teaching (examples, recipes, experiences)

12. Teaching methods: 1 - giving lessons by making an example, 2 - giving lessons by showing an example, 3 - giving lessons by telling, 4 - giving lessons by question and answer, 5 - collective education, 6 - giving lessons based on business principles. teaching with projection and cinema.

13. Course duties and correcting the duties

14. Teaching methods of various courses and giving sample courses
15. Administration of a classroom consisting of various classes

16. Course practice (criticism and discussion)

**Education Talks:**

1. Characteristics of the new circuit and the duty of the school

2. Exams

3. Relations of principals with teachers, teachers with principals

4. Pressure and penalties

5. Qualifications that must be present of the teacher

6. A necessary revolution in methods

7. Moral teaching

8. Female teacher in the village

9. Relations with local authorities, villagers and student families

10. Strangeness and dangers that the teacher should avoid

11. The role of female teachers outside the school

12. How can a teacher be happy in his professional life?

13. How should the teacher work?

14. How will the teacher be understood and listened to?

15. Teacher in the face of the big issues of the century

16. Duties of the teacher as a human being

17. Respect

18. Self-Management

19. Mixed Education

20. School and family

When the course curriculum given above were examined, although there are differences in Ankara and Sivas courses, a curriculum that is basically within the same framework was applied. By this curriculum, inspector candidates were educated in terms of national and universal values, methods and techniques, communication skills, inspection methods and the issues to be considered during inspection, classroom management, educational psychology, measurement and evaluation, history of education, school-family relations, teaching profession. In this context, it is clearly
understood that they have been subjected to an education in topics that form the basis of today's educational sciences such as general competencies, the importance of communication between teachers and inspectors with the environment.

Currently, when the Ministry of Education Inspection Regulation published by the Ministry of Education is examined, it is seen that candidates for inspectors are subjected to two different exams in written and oral form. In this regulation, articles 16 and 17 specify the scope of the written exam, and 18 items specify the explanations about the oral exam. When article 16 is examined, it is seen that the written exam subjects are arranged separately for candidates working within the Ministry and candidates applying from outside. Accordingly, Law, Political Sciences, Economics and Administrative Sciences, Economics and Management Faculties or equivalent for applicants who graduated from institutions of higher education that is held responsible for the issues are as follows; law (constitutional, administrative law, criminal law, law of obligations), economics (microeconomics, macroeconomics, economic development, international economics), finance (general finance, public finance, budget, public debt), accounting and management (general ledger, financial statement analysis, balance sheet analysis and techniques, management control and financial management), other topics (statistics, assessment, general culture).

In the same article, the subjects for which candidates who have eight years or more service in teaching are held responsible in the Written Exam are listed as follows; General Legislation (the Constitution of the Republic, Administrative Law, Law on civil servants, law on Provincial Administration), Ministry of education Legislation (Decree on the organization and duties of Ministry of National Education, Basic Law of National Education First Education Law, Special Education Law, the Ministry of Education, Management, and capital-related regulations), Financial and Judicial Legislation (law on fighting corruption and bribery of the goods declaration fill out the form to the prosecution of civil servants and other public officials, law, public procurement law, public procurement contracts law, public financial management and control Law), Other Topics (Statistics In, Measurement and Evaluation, General Culture).

Article 18 of the relevant regulation states that a certain percentage of the candidates who are successful in the competition exam will be invited to the oral exam. The candidates in the oral exam, information about exam levels, subjects understand to summarize, verbal ability and reasoning powers, competence, representational skills, behaviors and reactions of relevance to the profession, confidence, persuasion and credibility, skills and general culture, to evaluate the direction of openness to scientific and technological developments are expressed (MoE, 2017). Candidates who are successful in these exams are appointed as assistant inspectors.
Assistant inspectors are subjected to a three-year training period. In article 22 of the relevant regulation, the factors to be taken into account in the training of assistant inspectors are stated as follows: to develop qualifications such as attitude, behavior, and representation capability required by the inspectorate behavior and qualities such as the ability to represent duties and powers to develop legislation and practices in the field of teaching, inspection, guidance, investigation and prior investigation to increase their professional knowledge and skills in the subjects of scientific study and research habits. Assistant inspectors are required to work with an inspector for at least one year (MoE, 2017).

Assistant inspectors have the chance to take written Ministry proficiency exam from six months after completing their training period and if they are successful, they start to work as inspectors for the Ministry of Education. When the proficiency exam subjects determined in the regulation are examined, we see that it consists of General Laws, National Education Legislation and Inspection, Examination-Investigation Procedures and Techniques (MoE, 2017).

**Discussion, Conclusion and Recommendations**

When the findings of this study, which compares the first inspector training program of the Republic and today’s inspection regulation, are examined, it is possible to evaluate the results in terms of educational inspection practices in two main groups: the conditions of being an inspector and the scope of the training of inspectors. When the qualifications supposed to be an inspector are examined, it is seen that in the first years of the republic, only teachers were selected, but today this opportunity is also given to graduates of different departments.

The fact that graduates of departments such as law, political sciences, economics, and finance have been allowed to become inspectors shows that a great change has taken place in the understanding of educational inspection. The result of this change brings with the conclusion that the expectations from the inspector have dramatically changed.

Examining the current inspection regulation, it is seen that legal texts such as laws and regulations are emphasized in the subject areas that inspector candidates are responsible for. In addition, candidates for inspectors work for these issues themselves and are selected through central exams. After the ones who are successful on exam start the job as candidate inspector, they are subjected to a practical training with an inspector. At the end of the practical training process, the candidates are appointed as Ministry Education Inspector through a central examination.

When the findings of the study are examined, it is seen that the most notable difference is in the subject areas in which the inspectors are responsible for. It is understood that the curriculum of the first inspector course of the Republic has a large part of the basic fields of educational sciences and
the expectations from inspectors focus on education subject. It is been touched important points about inspector's attitude towards teacher, student, school, parents, and environment. Considering all these, it is clear that the educational inspection will make great contributions to both the student, the teacher, and the society. Nowadays, it is seen that the emphasis on inspection is more and inspectors are expected to dominate the relevant legislation. In this direction, it is understood from the sections of the inspector's duties and responsibilities (7th chapter, articles 34 - 45, MoE, 2017) that the inspectors have ceased to inspect teachers about education. The guidance roles of inspectors in education have been increased (8th chapter, articles 46-53, MoE, 2017), and the teacher investigation roles of inspectors have been left to school principals.

The changes in the inspector selection and training system in the Republic were examined by Ekinci, Öter, and Akın in 2013. The reasons for the changes made in this study are discussed periodically. When the results of the study are examined, it is understood that some new regulations were made to adapt to the changes in education. Education is a very broad concept that includes many different dimensions. Each of the dimensions of school, program, organization, family, and environment, especially students and teachers, are in a very close relationship with the other. For this reason, educational inspection should be handled in a way that includes all processes of encouraging the professional development of teachers, re-determining and arranging the aims of education, encouraging the development of teaching tools and methods, and improving the evaluation of education (Gökçe, 1994).

As a result, considering the expectations from educational inspection today, it is understood that the first inspector training program of the republic was at a level that can meet these expectations. In today's practices, it is understood that the concept of supervision has been emphasized in educational supervision and the expectations from inspectors have changed. This study is expected to guide field researchers to achieve desired and expected situations in educational inspection.

Suggestions

Considering the comparison of the documents dealing with the content of the first inspector training of the Republic examined in this study and the content of today's inspector training, it is thought that paying attention to the following points will contribute to increase the quality of education inspection.

1-) In line with the purpose of educational inspection, emphasis may be placed on selecting education auditors or ministry inspectors from among teaching graduates,

2-) Arrangements can be made to focus the content on the main objectives of education rather than legislation in central and special examinations to be held to determine the Ministry inspectors,
3-) Considering that educational supervision is expected to realize not only on teachers but also on students, parents, and schools, new regulations can be made on the duties and powers of education inspectors.

References


Appendix: List of Name and Official Places of Teachers Attending Ankara and Sivas Courses

Inspectors and Teachers Attending the First Course of Inspection in Ankara from 21 July 1927 to 25 August 1927

<table>
<thead>
<tr>
<th>Names</th>
<th>Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rüstem</td>
<td>Mr. Bilecik Central Inspector</td>
</tr>
<tr>
<td>Şevket</td>
<td>“ Muğla Central Inspector</td>
</tr>
<tr>
<td>Hakkı</td>
<td>“ İzmir Inspector of Sixth District</td>
</tr>
<tr>
<td>Muhittin</td>
<td>“ Tekirdağ Central Inspector</td>
</tr>
<tr>
<td>Hulusi</td>
<td>“ Elbistan Inspector</td>
</tr>
<tr>
<td>Necati</td>
<td>“ Cebeli Bereket Primary School Teacher</td>
</tr>
<tr>
<td>Fazıl</td>
<td>“ Kütahya Central Inspector</td>
</tr>
<tr>
<td>Abdulkadir</td>
<td>“ Bor Teacher</td>
</tr>
<tr>
<td>Rafet Orhan</td>
<td>“ Ermenek Guidance Head Teacher</td>
</tr>
<tr>
<td>Ali Rıza</td>
<td>“ Afyon Karahisar Central Inspector</td>
</tr>
<tr>
<td>Naim Turan</td>
<td>“ Adana Seyhan Head Teacher</td>
</tr>
<tr>
<td>Salih</td>
<td>“ Urfa Nusretiye Head Teacher</td>
</tr>
<tr>
<td>Vahit</td>
<td>“ Manisa Two Number School Head Teacher</td>
</tr>
<tr>
<td>Baki</td>
<td>“ Urfa Central Inspector</td>
</tr>
<tr>
<td>Mahmut Celal</td>
<td>“ Niğde Central Inspector</td>
</tr>
<tr>
<td>Hamdi Nazım</td>
<td>“ İstanbul Eleventh School Manager</td>
</tr>
<tr>
<td>Vasfiye</td>
<td>Mrs. Ankara Gazi Teacher</td>
</tr>
<tr>
<td>Tacisyer</td>
<td>“ İstanbul Cerrahpaşa 24th School Teacher</td>
</tr>
<tr>
<td>Hayriye</td>
<td>“ Tire İstiklal School Teacher</td>
</tr>
<tr>
<td>Pakize</td>
<td>“ İstanbul 8th Girl School Teacher</td>
</tr>
<tr>
<td>Nimet</td>
<td>“ Ankara İsmet Paşa School Teacher</td>
</tr>
<tr>
<td>Memduha</td>
<td>“ Ankara Meçhul Asker School Head Teacher</td>
</tr>
<tr>
<td>Leman</td>
<td>“ İnebolu 2th Girl School Teacher</td>
</tr>
<tr>
<td>Sıdıka</td>
<td>“ Tosya Girl School Head Teacher</td>
</tr>
</tbody>
</table>
Mevlüde  "  Ankara İnönü Girl School Head Teacher
Agah  Mr.  Dursunbey Boarding School Manager
İhsan  "  Urfa Turan School Manager
Sabri  "  Aydın Inspector
Avniye  Mrs.  Gazi Girl School Teacher
Muharrem  Mr.  Üsküdar 14th School Manager
Bayram Savacı  "  Eskişehir Turan School Manager
İsmail  "  Pazarköy Head Teacher
İbrahim  "  Malatya’nın District of Arapgir Inspector
Tahsin  "  Antalya’nın Alaiye Head Teacher
Tevfik  "  Adana İstiklal School Teacher
Tevfik Fikret  "  Denizli Inspector
Lütfi  "  Cebelibereket Inspector
Celal  "  Mersin Kurtuluş School Teacher
Hüsnü  "  Kütahya Tavşanlı Head Teacher
Hüseyin Turgut  "  Karaman Center Teacher
Abdulmecit Sami  "  Adapazari Central Manger
Hüsnü Bey  "  Biga Primary School Manager
Hüseyin  "  Eğridir Boy School Teacher
Hilmi Bey  "  Antalya Sakarya Head Teacher
Cemal  "  İstanbul Kartal First School Teacher
Mustafa Safvet  "  Afyonkarahısar 8th School Head Teacher
Şevket  "  Mersin Çankaya Teacher
Sait İsmail  "  Adana Karasu Cumhuriyet School Manager
Talat  "  Antalya Korkuteli Çomaklı Dede Head Teacher
Sami  "  İzmir Ödemiş Birgi Head Teacher
Hüseyin Şükrü  "  Silifke Central First Boy School Head Teacher
İzzet  "  Üsküdar 15th School Manager
Ali Doğan “ Konya Inspector
Fevzi “ Bursa Inspector
Refik “ Manisa Teacher
Mithat “ Konya Aksaray Inspector
Abdullah “ Urfa’da School Manager
Osman Rahmi “ Balıkesir Bandırma Inspector
Hüsamettin “ Antalya Elmalı Inspector
Adil Atalı “ Kırklareli Inspector
Ferit Oğuz “ Balıkesir Inspector
Ahmet Nuri “ Edirne Selimiye School Head Teacher
Tevfik “ Military Primary School Inspector
Muhammed Ali “ Kırklareli Kocahisar Head Teacher
Mansur “ İzmir Inspector
Mustafa Nadir “ Gaziantep Inspector
Fehmi “ Adana Girl School Teacher
Fehmi “ Isparta Center Inspector
Cevdet “ Kengiri Merkez Numune School Deputy Manager
Abdulkadir Oğuz “ Aydın 3th District Inspector
Seyfettin “ Erzurum Practice Teacher
Ahmet Hilmi “ Burdur Center Inspector
Hadi Fikret “ Adana Center Teacher
Kemal Edip “ Urfa Village Boarding School Teacher
Mahmut Nuri “ Darende Inspector
Ahmet Şevket “ Bolu Düzce Head Teacher
İhsan “ Ankara Yeni Hayat School Head Teacher
Cemil “ Yozgat İsmet Paşa Boarding School Teacher
İhsan “ Ankara Çubuk District of Kalecik Inspector
İbrahim Alaaddin “ Kırşehir First School Head Teacher
Habib " Keskin District of Bala Inspector
Hüseyin Avni " Tosya Merkez First Boy School Teacher
Sabri " Taşköprü Ağacı Kavak Head Teacher
Cavit " Çorum Gazi Paşa School Teacher
Hüsnü Basri " Daday Merkez First School Head Teacher
Hüseyin Avni " Yahşihan Teacher
Zeki " Çorum Inspector
Saffet Şefik " İnebolu Inspector
Mehmet Tayyip " Kırşehir Primary School Inspector
Serdar Erkul " Kırşehir’in Bağı First School Head Teacher
Rafet Rami " İskilip Azmimili Head Teacher
Ali Orhan " Haymana Oyaca Kariyesi Head Teacher
Abdulhamit " Kırşehir Borading School Manager
Seyfeddin " Kırşehir Inspector
Ali Rıza " Keskin Teacher
Fehmi " Hüseyinabad Head Teacher
Şevki " Çorum Osmancık Head Teacher
Abdullatif " Araç Inspector
Osman Fahri " Çorum Seydi Karyesi Head Teacher
Talip " Haymana Teacher
Melih " Gazi Erkek Numune School Deputy Manager
Fahri " Çerkeş Primary School Inspector
Mehmet Satılmış " Haymana Merkez Girl School Head Teacher
Mithat " Ankara Cumhuriyet School Manager
Muhittin " Afyon Karahisar Pedagoji Sınıfları Painting and Handicrafts Teacher
Sururi " Çankırı Primary School Inspector
Kutsi " Mecitözü Education Officer
On July 18, 1927, until 29 August 1927, The list of participant of Sivas First Educators Inspectors Course and the Inspector and Teachers of the Names and Duties

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hikmet Mr.</td>
<td>Trabzon 2nd District Primary School Inspector</td>
</tr>
<tr>
<td>Hasan</td>
<td>Trabzon First Primary School Inspector</td>
</tr>
<tr>
<td>Hakkı</td>
<td>Samsun Havza Primary School Inspector</td>
</tr>
<tr>
<td>Hüseyin Avni</td>
<td>Rize Merkez Primary School Inspector</td>
</tr>
<tr>
<td>(Adil) Kasım</td>
<td>Rize Hopa First Inspector</td>
</tr>
<tr>
<td>Remzi</td>
<td>Tokat, Merkez First Inspector</td>
</tr>
<tr>
<td>Hüsnü</td>
<td>Elazığ First Inspector</td>
</tr>
<tr>
<td>Lütfi</td>
<td>Samsun Merkez Primary School Inspector</td>
</tr>
<tr>
<td>Orhan</td>
<td>Malatya First Inspector</td>
</tr>
<tr>
<td>Ahmet Zeki</td>
<td>Tokat 2nd District Inspector</td>
</tr>
<tr>
<td>Şükrü</td>
<td>Erzincan District Inspector</td>
</tr>
<tr>
<td>Hikmet</td>
<td>Sivas: Zara District Inspector</td>
</tr>
<tr>
<td>Cevedet</td>
<td>Sinop First District Inspector</td>
</tr>
<tr>
<td>Fahri</td>
<td>Ordu Primary School Inspector</td>
</tr>
<tr>
<td>Hikmet</td>
<td>Sivas: Merkez Primary School Inspector</td>
</tr>
<tr>
<td>Cemil</td>
<td>Giresun 2nd District Inspector</td>
</tr>
<tr>
<td>Turgut</td>
<td>Gümüşhane District Inspector</td>
</tr>
<tr>
<td>Doğan</td>
<td>Elazığ Çemişgezek District Inspector</td>
</tr>
<tr>
<td>Sıtkı</td>
<td>Beyazit District Inspector</td>
</tr>
<tr>
<td>İbrahim</td>
<td>Siirt District Inspector</td>
</tr>
<tr>
<td>Hüseyin Avni</td>
<td>Elazığ Pertek District Inspector</td>
</tr>
</tbody>
</table>
Asım " Erzurum 2nd District Inspector
Saim " Bitlis District Inspector
Ali " Bafrı Kızıl İbrahim First Boy School Head Teacher
Ruşen Zeki " Sivas İsmet Paşa District Inspector
Nuri Zeki " Elazığ Birinci Primary School Manager
Şevket " Gümüşhane: Bayburt Village Boarding School Teacher
Şaban Hilmi " Kayseri: Tacettin Mektebi Teacher
Bekir Necip " Tokat: Erbaa First Primary School Head Teacher
Muhlis " Elazığ: 3th School Manager
Nusret " Erzincan First Boy School Teacher
Rauf " Kayseri Şehri Boarding School Teacher
Mustafa " Develi Merkez Numune Mektebi Manager Assistant
Ragıp " Develi Merkez Numune Mektebi Manager Assistant
Bahri " Erzurum Çağlayan Mektebi Head Teacher
Naciye Mrs. Sivas Ziyaköy Alp Mektebi Teacher
Hüseyin Mr. Tokat Erbaa 2nd Primary Boy School Head Teacher
Mustafa " Diyarbakır: Gazi Paşa Numune Mektebi Manager
Fehmi " Yenihan Yıldızeli Head Teacher
Nevzat " Giresun Teacher
Nuriye Sabri Mrs. Tokat Teacher
Hamdi Uluğ Mr. Elazığ: Şehri Boarding School Teacher
Zihni " Kayseri: Aziziye Numune Mektebi Manager Assistant
Hüseyin Yılmaz " Sivas Erkek Muallim Mektebi Tatbikat Kısımı Teacher
Eşref " Erzincan: Kemah Teacher
Mahmut Bahaeddin " Sinop Merkezi: Necati Bey Mektebi Teacher
Ruhi Hüsnü " Ünye Merkez Head Teacher
Osman Fuad " Kayseri Develi Primary Boy School Head Teacher
Nurettin Sirat " Mardin Numune Manager
<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>İlhan</td>
<td>Elazığ 2nd Primary School Teacher</td>
</tr>
<tr>
<td>Muhsin</td>
<td>Tokat Feyziyye Primary School Teacher</td>
</tr>
<tr>
<td>Sıtkı</td>
<td>Giresun Teacher</td>
</tr>
<tr>
<td>Ragıp</td>
<td>Van Merkez Cumhuriyet Primary Boy School Head Teacher</td>
</tr>
<tr>
<td>Nigar Ruhiyev</td>
<td>Ünye Merkez Primary Girl School Head Teacher</td>
</tr>
<tr>
<td>Abdurrahman</td>
<td>Erzincan Kemah Primary Girl School Head Teacher</td>
</tr>
<tr>
<td>Enis Turgut</td>
<td>Erzurum Aşkale Village Boarding School Teacher</td>
</tr>
<tr>
<td>Said</td>
<td>Erzincan Kemah Mektebi Head Teacher</td>
</tr>
<tr>
<td>Rasim</td>
<td>Şankışla Head Teacher</td>
</tr>
<tr>
<td>Bahaeddin Turan</td>
<td>Elazığ Boy Teacher’s School Practice Teacher</td>
</tr>
<tr>
<td>Hüsnü Hamit</td>
<td>Diyarbakır Ziya Köy Alp Mektebi Manager</td>
</tr>
<tr>
<td>Refik</td>
<td>Ahlat Village Boarding School Manager</td>
</tr>
<tr>
<td>Reşit Hayri</td>
<td>Sivas Zara Boy School Teacher</td>
</tr>
<tr>
<td>Kaya</td>
<td>Diyarbakır Gazi Paşa Numune Mektebi Teacher</td>
</tr>
<tr>
<td>Ahmet Nazım</td>
<td>Samsun Havza Primary Girl School Head Teacher</td>
</tr>
<tr>
<td>Kami</td>
<td>Erzurum Cumhuriyet Primary Boy School Teacher</td>
</tr>
</tbody>
</table>
Development of Group Dynamics Scale (GDS): Validity and Reliability Study

Muhammed ZİNCİRLİ¹
Fırat University

Yeşim DEMİR²
Ministry of Education

Abstract

We developed a scale to assess teachers’ perceptions of group dynamics in schools. The sample consisted of 995 teachers from five public schools affiliated with the Ministry of National Education, Turkey. Construct validity was determined using an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA). The EFA results revealed a one-factor structure that accounted for 44% of the total variance. The CFA results indicated acceptable goodness of fit indices for the one-factor group dynamics scale (GDS) model. Criterion validity was determined using the scale of organizational silence (SOS) and the person-organization fit scale (POFS). The results showed that the GDS was positively correlated with POFS and negatively correlated with SOS. Reliability was measured on three different samples. The GDS had a Cronbach’s alpha (α: internal consistency coefficient) of .88 to .89. Reliability was also analyzed using the test-retest method. The results showed that the GDS had an acceptable reliability coefficient. These results indicated that the GDS was a reliable measure. The “upper and lower 27 percent rule” and corrected item-total correlation coefficients were used for item analysis. The former revealed acceptable results for all three samples, while the latter revealed significant t-test results for all items. All these results indicate that the GDS is a valid and reliable measure.

Keywords: Group Dynamics, Scale Development, Validity, Reliability

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Introduction

Group dynamics is defined as the force arising from the interaction between an individual and the social group to which he/she feels a sense of belonging. We should make use of that force in education to achieve teaching/learning outcomes. School stakeholders who collaborate are more likely to achieve organizational goals. Where there are people, there is interaction, and this study focused on group dynamics originating from that interaction. Collective success takes precedence over individual success due to cut-throat global competition and social, political, and cultural changes. Therefore, we should explore and analyze group structure and dynamics (Dereli & Cengiz, 2011). The Turkish Language Association defines the term “group” as “a set of beings or things with shared characteristics” (2019). A body of people is transformed into a group if they have a strong bond, a sense of belonging, and shared norms and goals, and if they take up interdependent role systems, find the group rewarding, and cooperate. People form groups to forge a shared culture, solve problems collectively, guide one another towards the right path, facilitate interaction, and promote independence or apply group or peer pressure (Aksu, 1996). Most groups consist of and recruit like-minded members who cooperate, although they have different takes on different issues (Çökli, 1994). Aksu (1996) defines group dynamics as “the group force acting upon an individual or vice versa.” Yavaşça (2010) defines it as dynamic actions that shape how group members act and interact and encourage them to seek the common good and abide by group rules when communicating with each other, other groups, and even institutions. Dereli and Cengiz (2011) define group dynamics as the influence of group force on its members. Group members internalize each other’s feelings, thoughts, and behaviors, which is known as conformity. They do it either to be appreciated by others or to be on the right side. Sherif (autokinetic effect experiment) and Asch (line judgment tasks) have shown that even when the right answers are obvious, a group member is more likely to give wrong answers if the other members do so. This suggests that people deny what they see and submit to group pressure for the sake of conformity (Gerrig & Zimbardo, 2012). Group dynamics make members’ lives easier because they allow them to do things collectively that they cannot or dare to do alone. However, it does not always work out the way we would like it to, and instead alienates members from themselves and make them forget their own values (Çökli, 1994). Group dynamics encourages members to improve themselves and their groups, overcome formal, organizational, and systemic problems, and work efficiently to achieve shared goals and tasks (Külebi, 1990). Effective group dynamics can help solve organizational problems. Group dynamics shortens and facilitates the solution process.

Organizational groups

- Reduce the workload
- Compensate for managers’ shortcomings
- Facilitate communication
- Increase job satisfaction
- Provide a control mechanism (Yılmazer & Eroğlu, 2008; Dereli & Cengiz, 2011).

Interaction between group members yields positive results. According to Acar (2014), members find solutions from within the group because the higher the number of members, the higher the number of solutions. Members are expected to learn to accept each other for who they are as they do it to themselves. Teacher collaboration is of paramount importance as schools have workgroups, commissions, and boards (Çetin & Yaman, 2004). Schools should address teacher collaboration to adapt to group dynamics and transform themselves into effective educational institutions (Şekerci & Aypay, 2009). Teachers who can turn into a group are more likely to achieve common goals and develop a sense of belonging through their solutions arising from group dynamics.

Group dynamics encompasses teacher collaboration against problems faced by schools. Teacher collaboration is critical for achieving educational goals as well. However, there is no scale for measuring group dynamics in schools in Turkey. The synergistic climate scale and the group unity scale fall short of assessing perceived group dynamics. Therefore, this study aimed to develop a valid and reliable measure of group dynamics that fully represents Turkish culture.

Method

This section addressed the sample, data collection tools, scale development steps, and data collection and analysis. Each stage of the research was conducted according to the ethical principles outlined by the Declaration of Helsinki.

Sample

The sample consisted of 995 teachers from public schools in Elazig, Turkey. The research was conducted in five stages in the fall semester of the 2019-2020 academic year. First, a pilot test was conducted (n=50). Second, an exploratory factor analysis (EFA) was performed (n=240). Third, a confirmatory factor analysis (CFA) was performed (n=275). Fourth, criterion validity was tested (n=310). Fifth, test-retest was used to check for reliability (n=102). Table 1 shows the demographic characteristics of the participants.

Table 1. Demographic Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pilot Study Sample</th>
<th>EFA Sample</th>
<th>CFA Sample</th>
<th>Criterion Validity Sample</th>
<th>Test - retest Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
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<td>Gender</td>
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<tr>
<td>Woman</td>
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<td>44</td>
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</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
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<td>66</td>
<td>194</td>
<td>80,8</td>
</tr>
</tbody>
</table>
Data Collection Tools

Data were collected using a demographic characteristics questionnaire, the group dynamics scale (GDS), the scale of organizational silence (SOS), and the Person-Organization Fit Scale (POFS).

The group dynamics scale (GDS) was a measure developed and tested by this study. The “Results” section addressed its psychometric properties.

The scale of organizational silence (SOS) was used by Dyne, Ang, and Botero (2003) and Briensfield (2009) and was adapted to Turkish (SOS-TR) by Alparslan (2010). It consists of three subscales and 29 items. We took the principles for short-form development and content validity into account and turned the scale into a short form (SOS-SF), which was a combination of SOS-TR adapted by Alparslan (2010) and the three-item SOS (α=.83) used by Zincirli (2017).

The person-organization fit scale (POFS) is a valid and reliable four-item measure developed by Aumann (2007) to assess perceived individual-organization fit. The scale was also used by Vilela, Gonzales, and Ferrin (2008) and Piasentin (2007). Ulutaş et al. (2015) adapted the scale to Turkish (α=.72). The items are scored on a five-point Likert-type scale.

Procedure

Pilot Study

The first stage of scale development is to conduct a literature review to determine the main points of interest (Şeker & Gençdoğan, 2014). After we selected the topic, we conducted a literature review and determined the main points of interest. Afterward, we chose items based on the main points and developed a pool of 39 relevant, easy-to-understand, and culturally sensitive items. We consulted three experts (educational management, guidance and psychological counseling, and assessment and evaluation) for relevance and comprehensibility. We removed sixteen items based on their feedback. A linguist checked the remaining items for grammar and semantics (n=23). Afterward,
we conducted a pilot test on 50 participants representing the target population. We told them that it was of utmost importance that they tell us about the items they had difficulty understanding or any problems they encountered. We evaluated the results together with the three academics and removed four items as some participants did not understand them. We then moved onto the main study.

**Data Collection**

We informed all teachers about the research purpose, procedure, and confidentiality and obtained informed consent from those who volunteered. We handed them the data collection forms and briefed them about the purpose of the research and the concepts of interest. We asked them to indicate (on a scale of 1 to 5) to what extent the items represented their situation. We picked up some of the forms the same day and others a couple of days later and thanked them for their participation.

**Statistical Analysis**

Before the analyses to be carried out in this study were determined, it was examined, by looking at the skewness and kurtosis values, whether the collected data showed normal distribution. It is seen that the coefficients of skewness vary between -.963 and -.487, while the coefficients of kurtosis vary between .396 and .891. According to these results, it is possible to suggest that the data shows normal distribution (Can, 2013; Özdemir, 2018). Exploratory (EFA) and confirmatory factor analyses (CFA) were used for construct validity. The Kaiser-Meyer-Olkin (KMO) was used for sampling adequacy, and Bartlett’s test of sphericity was used to determine the correlation between the items for factor analysis. The KMO was .914, for which the Bartlett’s test of sphericity was significant ($\chi^2 = 1016.518 \ (p<0.000)$), indicating sampling adequacy for principal components analysis and an adequate correlation between the items for factor analysis. A confirmatory factor analysis was used to verify the factor structure. The model fit was assessed using the most common goodness of fit indices; [chi-square/standard deviation ($\chi^2$/df), Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Tucker–Lewis index (TLI)]. Criterion validity was tested using SOS and POFS. Internal consistency coefficients (Cronbach’s alpha) were calculated for all samples, and a test-retest was performed to determine reliability. The “upper and lower 27 percent rule” and corrected item-total correlation coefficients were used for item analysis. Table 2 shows the goodness of fit indices and their cut-off points.

**Table 2. The Goodness of Fit Indices and Cut-off Points**

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$/df</th>
<th>RMSEA</th>
<th>GFI</th>
<th>CFI</th>
<th>IFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td>good fit/ perfect fit</td>
<td>$\leq 5$</td>
<td>$\leq 0.05$</td>
<td>$\geq 0.95$</td>
<td>$\geq 0.95$</td>
<td>$\geq 0.95$</td>
<td>$\geq 0.95$</td>
</tr>
<tr>
<td>acceptable fit/ weak fit</td>
<td>$\leq 3$</td>
<td>$\leq 0.08 / \leq 0.10$</td>
<td>$\geq 0.90$</td>
<td>$\geq 0.90$</td>
<td>$\geq 0.90$</td>
<td>$\geq 0.90$</td>
</tr>
</tbody>
</table>

(Hu & Bentler, 1999; Sümer, 2000; Tabachnick & Fidell, 2001; Kline, 2005; Savecı ve Aysan, 2016)
Results

Construct Validity

*Exploratory Factor Analysis*

Construct validity was determined using an EFA (n=240). This study pursued the three stages of EFA proposed by Pohlmann (2004); (1) selecting and measuring variables, (2) determining the number of factors, and (3) interpreting them. First, the Kaiser-Meyer-Olkin (KMO) was used for sampling adequacy, and Bartlett’s test of sphericity was used for factor analysis. The KMO was .914, for which the Bartlett’s test of sphericity was significant (χ² = 1016.518 (p<0.000)), suggesting sampling adequacy and adequate correlation for factor analysis (Tabachnick & Fidell, 1996; Kalaycı, 2006; Field, 2009; Çokluk, Şekercioğlu & Büyükoztürk, 2010). The EFA was performed on the 19-item GDS using principal component analysis. An exploratory factor analysis should be based on determining the smallest number of factors that best represent the correlation between items. Therefore, items should be loaded on factors with an eigenvalue of 1 or greater (Hutcheson & Sofroniou, 1999). Moreover, an item should have a loading of greater than .40, and the difference between its load on a factor and that on another should be greater than 0.10 (Büyükoztürk, 2007). Four items (8, 9, 10, and 13) were removed because they had factor loadings of smaller than 0.40. Three items (5, 6, and 18) had acceptable factor loadings but were removed from the scale because they were either unsuitable to the scale structure (<0.10) or were loaded on more than one factor. Factors should explain 30%-60% of the total variance (Çokluk et al., 2010; Tavşancıl, 2010; Saveçı, Ercengiz & Aysan, 2018). The analysis showed that the GDS items were loaded on one factor (an eigenvalue of 5.283) that accounted for 44.023% of the total variance of the single-factor structure. According to the scree plot (Figure 1), there was a significant rupture after the first factor, indicating that the GDS had one factor with 12 items (model). The scale items had factor loadings of 0.59 to 0.72. Figure 1 and Table 3 show the scree plot and the EFA Results, respectively.

![Scree Plot](image_url)
Figure 1: Scree Plot

Table 3. Exploratory Factor Analysis for the Group Dynamics Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor load value</th>
<th>Explained variance</th>
<th>Eigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td>group dynamics scale</td>
<td>19</td>
<td>.742</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
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<td>.715</td>
<td>44,023</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>.714</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>.682</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>.666</td>
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</tr>
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<td>.640</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>.618</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>.602</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>.600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>.595</td>
<td></td>
</tr>
</tbody>
</table>

Confirmatory Factor Analysis

The one-factor structure GDS (12 items) was examined using a CFA (n=275). The results showed that the model had acceptable goodness of fit indices \( (\chi^2 = 136.209, \text{df}= 52, \chi^2/\text{df}= 2.619, \text{RMSEA} = 0.077, \text{GFI} = 0.92, \text{AGFI} = 0.90, \text{CFI} = 0.93, \text{IFI} = 0.94, \text{and TLI} = 0.92) \). The items had factor loadings of 0.46 to 0.70. Figure 2 shows the path diagram for the GDS.

![Path Diagram for the Group Dynamics Scale](image)

Figure 2. Path Diagram for the Group Dynamics Scale

The model was also tested using criterion validity (n=310). The CFA results showed that the model had acceptable goodness of fit indices \( (\chi^2 = 121.069, \text{df}= 54, \chi^2/\text{df}= 2.242, \text{RMSEA} = 0.07, \text{GFI} = 0.92, \text{AGFI} = 0.90, \text{CFI} = 0.93, \text{IFI} = 0.93, \text{and TLI} = 0.91) \). The items had factor loadings of .58 to .78. Figure 3 shows the path diagram for the criterion validity analysis.
Criterion Validity

Criterion validity was tested using SOS and POFS (n=310). The Pearson correlation coefficient was used to determine the correlation between the GDS and the SOS and POFS scores. The results indicated that group dynamics (GDS) was positively correlated with person-organization fit (POFS; r= 0.52, p< 0.01) and negatively correlated with organizational silence (SOS; r= -0.38, p< 0.01). Table 4 shows the results.

<table>
<thead>
<tr>
<th>Table 4. Correlations for Criterion Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>group dynamics scale</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**p< .01

Reliability

Reliability was determined using the test-retest method and Cronbach’s alpha internal consistency coefficient (α). The GDS had a Cronbach’s alpha of .88, .89, and .89 for the EFA, CFA, and criterion validity samples, respectively. The results indicated that the scale had high reliability. Test-retest was used to determine whether the GDS yielded consistent results when repeated over time. A sample of 102 teachers was drawn from the CFA sample and tested again four weeks after the initial test. The results showed a test-retest reliability of .81.

Item Analysis

Item analysis is vital for determining item validity. According to Tezbaşaran (1997), corrected item-total correlation coefficients and the difference between the upper and lower 27 percent should be calculated for item analysis (t scores). Şencan (2005) and Büyüköztürk (2007) argue that each item
should have an item-total correlation of greater than .30. The item analysis was also performed on three different samples (EFA, CFA, and criterion validity). The “upper and lower 27 percent rule” was used to determine the discriminatory power of the GDS items. For the EFA sample, the corrected item-total correlation coefficients ranged from 0.50 to 0.63, while the difference between the upper and lower 27 percent ranged from 11.69 to 6.85 (t scores; p < 0.001). For the CFA sample, the corrected item-total correlation coefficients ranged from 0.55 to 0.64, while the difference between the upper and lower 27 percent ranged from 11.75 to 8.27 (t scores; p < 0.001). For the criterion validity sample, the corrected item-total correlation coefficients ranged from 0.57 to 0.64, while the difference between the upper and lower 27 percent ranged from 11.45 to 8.58 (t scores; p < 0.001).

Table 5 shows the results.

<table>
<thead>
<tr>
<th>Item</th>
<th>r_{ij}</th>
<th>t</th>
<th>Item</th>
<th>r_{ij}</th>
<th>t</th>
<th>Item</th>
<th>r_{ij}</th>
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<td>9.69***</td>
<td>12</td>
<td>.60</td>
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<td>9.12***</td>
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<td>.61</td>
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<tr>
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<td>.63</td>
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<td>.62</td>
<td>9.75***</td>
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<td>.62</td>
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<td>2</td>
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<td>.63</td>
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<td>9.75***</td>
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<td>16</td>
<td>.63</td>
<td>10.15***</td>
<td>16</td>
<td>.59</td>
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<td>.64</td>
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<td>.58</td>
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<td>11.54***</td>
<td>17</td>
<td>.59</td>
<td>9.29***</td>
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</table>

p<0.001

**Discussion, Conclusion and Recommendations**

We developed a scale to assess group dynamics in Turkish society. First, we conducted a literature review and developed a pool of 39 items. Three experts (educational management, guidance and psychological counseling, and assessment and evaluation) checked the items for relevance and comprehensibility. We removed 16 items based on their feedback. We then conducted a pilot study and removed four more items based on its results. Lastly, we checked the construct validity of the 19-item group dynamics scale (GDS) on different samples. We performed EFA to determine the construct validity of the GDS. The EFA factor structure was verified using a CFA. We also looked into the correlation between the GDS and the SOS and POFS scores to check for criterion validity. We calculated Cronbach’s alpha (α) internal consistency coefficients on each sample and then employed the test-retest method to determine the reliability of the GDS. We calculated the corrected item-total correlation coefficients for each item and the difference between the upper and lower 27 percent (t scores).
First, we used an EFA to determine the construct validity of the GDS. The EFA results revealed a one-factor structure consisting of items with eigenvalues of greater than 1 (model). Çokluk et al. (2010) state that a one-factor structure should explain 30%-60% of the total variance. The EFA results showed that the one-factor structure explained about 44% of the total variance. Each item should have a factor loading of greater than .30 (Şencan, 2005; Büyüköztürk, 2007). The results showed that the GDS items had adequate factor loadings. We performed the CFA on two different samples to test the model. The results showed that the model had acceptable goodness of fit indices on both samples and that the items had acceptable factor loadings (Büyüköztürk, 2007).

The participants’ GDS scores were negatively correlated with their SOS scores, suggesting that the higher the group dynamics, the less the perceived organizational cynicism. Their GDS scores were positively correlated with their POFS scores, suggesting that the higher the group dynamics, the higher the person-organization fit. The reliability of the GDS was determined using Cronbach’s alpha and the test-retest method. Psychometric studies suggest that a Cronbach’s alpha should be greater than 0.70 (Büyüköztürk, 2007; Tavşancıl, 2010). The results showed that the GDS had adequate Cronbach’s alpha values on the EFA, CFA, and criterion validity samples, which was also confirmed by the test-retest results. Item analysis was performed on the three different samples. The results suggested that the GDS had acceptable corrected item-total correlation coefficients. There was a significant difference between the upper and lower 27 percent groups on all samples. These results indicated that all GDS items were reliable. The validity analysis also showed that all items measured what they were intended to measure (Çokluk et al., 2010). All in all, the results indicate that the GDS is a valid and reliable measure of group dynamics among teachers.

The group dynamics scale (GDS) consists of statements on how teachers perceive group dynamics in schools. Future studies should adapt the GDS to different cultures. We can recruit people from different backgrounds for further research to see how perceived group behavior varies across situations and microcultures.

References


Aumann, K. A. (2007). *Being a Stranger in a Strange Land: The Relationship between Person-Organization Fit on Work Related and Broad Cultural Value Dimensions and Outcomes Related to Expatriates' Success*, Columbia University, PreQuest Information and Learning Company.


Grup Dinamiği Ölçeği

Lütfen aşağıdaki ifadeleri dikkatlice okuyunuz. İfadenin sağ tarafında verilen seçeneklerden size uygun olanı işaretleyiniz.

<table>
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<tr>
<th>Numaralı Soru</th>
<th>Ifadesi</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>1</td>
<td>Öğretmen arkadaşlarıyla grup halinde yapılan etkinliklere katılırım.</td>
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<td>Sınav sorularını zümre arkadaşlarıyla birlikte hazırlarım.</td>
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<td>3</td>
<td>Öğretmen arkadaşlarıyla okul dışında sosyal faaliyetlere katılırım.</td>
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<td>4</td>
<td>Mesleki problemler grup etkisi ile kolay kolay çözülür.</td>
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<td>7</td>
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<td>8</td>
<td>Öğretmenlerin birlikte daha fazla zaman geçirmesi aralarındaki bağlı kuvvetlendirir.</td>
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<td>9</td>
<td>Öğretmenler arasındaki hediyeleşme grup birliktelğini arttırlar.</td>
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<td>Öğretmen arkadaşlarının başa çıkmadığını problemleri çözmesi için hep birlikte yardım ederiz.</td>
<td></td>
<td></td>
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</table>

* Ölçekte ters puanlanacak madde bulunmamaktadır.

** Ölçek, referans kaynağı gösterilerek kullanılabilir.
Emergency Remote Teaching from the Perspective of Pre-service Teachers: An Evaluation through Digital Stories

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Esra EREN²
Eskişehir Osmangazi University

Abstract
The aim of this study was to determine the perspectives of pre-service teachers regarding the emergency remote teaching that took place with the coronavirus disease 2019 (COVID-19) pandemic. The feelings, thoughts and experiences of the pre-service teachers were examined through digital stories prepared by themselves. This case study was carried out within the scope of the Multimedia Design and Production course in the spring semester of the 2019-2020 academic year. The participants consist of 35 third- and fourth-year pre-service teachers who were studying in the Faculty of Education, Department of Computer Education and Instructional Technologies. The data of the research were digital stories prepared by the participants and their responses to an online questionnaire form consisting of open-ended questions. The data were analyzed by content analysis method and collected under four themes: pre-service teachers’ expectations for the distance learning process and their feelings at the beginning of the process, pre-service teachers access to the learning materials, technology and faculty members during the emergency remote teaching, pre-service teachers’ self-regulation skills during the emergency remote teaching, and pre-service teachers’ mood during the emergency remote teaching.

Keywords: Emergency Remote Teaching; Digital Storytelling, Pre-service Teachers, Distance Learning

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Introduction

With the coronavirus disease 2019 (COVID-19) pandemic in March, schools across the world had to cancel on-campus classes, requiring students to take classes online (UNESCO, 2020a). This happened in a short period of time and affected millions of students, teachers, and parents (UNESCO, 2020b). According to UNESCO over 100 countries have implemented nationwide closures (UNESCO, 2020a), the school closures in Turkey began in mid-March 2020 (16 March) and continued for the rest of the school year for 2020. The school closures were considered as a crucial step to stop the transmission of the virus (Abdulamir & Hafidh, 2020). Many instructors found themselves delivering their courses in an online environment, in which they had never experienced before (UNESCO, 2020a). As the instructors, the students also found themselves in online environment taking their face-to-face courses. While the distance education was not a new term in the field of education, the coronavirus disease 2019 (COVID-19) pandemic situation was different as it came with urgency and there was anxiety about the unknown situation and future that the disease brought.

The situation was different from a well-planned online learning experience as it was unexpected and unprepared for all instructors, students, and parents (Hodges et al., 2020). The situation was called as emergency remote teaching (Hodges et al., 2020) which was formed in response to the pandemic. As Hodges et al. (2020) described “the primary objective in these circumstances is not to re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis” (Hodges et al., 2020, p. 6). While a well-planned online course creates flexible and alternative learning environment for students, this new situation with the emergency remote teaching caused an obligation for students to take all of their courses online (Bozkurt & Sharma, 2020).

As primary and secondary schools, postsecondary institutions in Turkey started emergency remote teaching on March 16, 2020 and continued for the rest of the semester. This happened in the middle of a teaching semester and the education and assessments were completed remotely. During this period, instructors and students had to deal with new technological tools, technical issues brought by those new tools and Internet, and feelings of isolation. Besides educational issues, some of the people had to deal with health and economic concerns as the future was unknown (Ferguson et al., 2020). In this new situation, the education was affected by instructors and students’ affective mood (Green et al., 2020).

Even in a normal online class, students become easily isolated and they need to feel presence of the instructor and the other students as well (Garrison, 2009). However, in this emergency situation
they are exposed to many lectures, live sessions, videos, readings, projects, e-mails, discussions, and exams. As cautioned by Bozkurt and Sharma (2020), “when things go back to normal, people will not remember the educational content delivered, but they will remember how they felt, how we cared for them, and how we supported them” (p. 3). While everybody rushed into emergency remote teaching during the pandemic, in this study, we asked students to reflect on their experiences in this new situation through digital stories.

**Digital Storytelling**

Stories and storytelling have been used for teaching and learning purposes in education. Digital storytelling is the tool that use computer-based tools to tell stories. They usually contain images, text, audio, video and music and shares a point of view (Lowenthal, 2009). Although it is expressed differently in different sources, an ideal digital story should have a duration of less than five minutes and approximately 2-3 minutes (Lambert, 2013). It is appropriate for a digital story to consist of an average of 15 pictures and a script of approximately 250-300 words (Gravestock & Jenkins, 2009). The use of digital stories is described as "an effective instructional tool for teachers" and "an effective learning tool for students" (Robin, 2006; p. 3-4). Digital storytelling may allow students and teachers to experience technology in a meaningful way (Erbaş, 2020).

One of the important features of digital storytelling applications is that students become active learners who apply the scenarios during the process of creating and transferring them to the digital environment, rather than being passive listeners in the classroom. Digital storytelling is considered as a valuable teaching tool that supports learning in educational environments, encourages collaboration, improves decision-making processes, brings together formal and informal learning processes, and ensures active participation of students in the learning process (Clarke & Adam, 2011; Robin, 2008).

**Purpose of the Study**

The aim of this study is to determine pre-service teachers' feelings, thoughts and experiences about the emergency remote teaching that took place during the coronavirus disease 2019 (COVID-19) pandemic. It was aimed to reveal the meanings that the participants attributed to emergency remote teaching with their experiences and perspectives. Digital storytelling is used as a tool to help students reflect on their emergency remote teaching experiences.

**Method**

This study, which was conducted to determine the pre-service teachers' feelings, thoughts and experiences about the emergency remote teaching that took place during the coronavirus disease 2019 (COVID-19) pandemic, was designed as a case study, which is one of the qualitative research approaches. The qualitative case study is the study of a current phenomenon within its real-life framework; situations are examined in a multifaceted, systematic and in-depth manner. It is a research
method in which situational themes are defined and in-depth exploration of a specific system (e.g., an activity, event, process or individuals) (Creswell & Poth, 2016).

**Participants of the Study**

The research was carried out within the scope of the multimedia design and production course in the spring semester of the 2019-2020 academic year, taught by the second researcher. The study group consists of 35 third and fourth year (22 male, 13 female) pre-service teachers who are studying at a public university in Turkey. The pre-service teachers were students at Computer and Instructional Technologies Education Department and attending the multimedia design and production course.

To achieve the aim of the study and answer the research questions, the participants who could provide the detailed information and were willing to participate were selected (Bernard, 2002; Creswell & Plano Clark, 2011). This group of pre-service teachers were selected because they were taking several different online courses that can be considered as emergency remote teaching during the spring semester of the 2019-2020 academic year. In addition, they were the students who were directly influenced by the coronavirus disease 2019 (COVID-19) pandemic as their face-to-face classes converted to online in one night.

**Data Collection**

In this study, the pre-service teachers were asked to narrate their thoughts about the distance learning process during the pandemic period in a humorous way. The stories were required in the digital format as the mid-term project. Since the meaning each student will attach to this process will be different from each other, they were asked to prepare the digital stories individually. They were expected to complete the paragraph starting with "Being a student in distance education..." with their stories. It was stated that they should take into consideration the principles of multimedia design, vocalize their videos as much as possible, and add text as well. The preservice teachers prepared videos that are approximately two minutes by using animated video tools such as Animatron, Renderforest, Biteable, Vyond, Powtoon and other video editing tools.

In addition to the digital stories, the pre-service teachers were asked to fill out an open-ended questionnaire which consists of six questions. The purpose of the questionnaire was to determine the pre-service teachers’ views on the emergency remote teaching during the COVID-19 pandemic. Some of the questions in the open-ended questionnaire form are as follows: ‘Write down your point of view on distance education before taking a distance course this semester.’ ‘Think about your distance education experience and write down its positive aspects.’ ‘Think about your distance education experience and write down its negative aspects.’
Data Analysis

The data were analyzed in four stages: coding of the data, finding themes, arranging the codes and themes, defining and interpreting the findings (Yıldırım & Şimşek, 2016). Within the scope of the study, firstly, digital stories prepared by the pre-service teachers were transcribed. The coding process was carried out according to the statements of the pre-service teachers in the digital stories. The similarities and differences of the codes that emerged were determined, and themes were formed by bringing together the codes that were related to each other. While coding, numbers were used together with the concepts, it was aimed to create a hierarchical relationship between the codes. It was paid attention to whether the data under the emerging theme constitute a meaningful whole, and the themes and sub-themes were organized considering the theoretical framework. During the content analysis, data were described according to themes and codes, and direct quotations were included. Pseudonyms were used to ensure anonymity and preserve the identity of the pre-service teachers.

Validity and Reliability of the Study

Validity of the research is related to the correctness of the research results and reliability of the research is related to the repeatability of the research results (Yıldırım & Şimşek, 2016). The study group, data collection tools, and analysis of the data were defined in detail in order to ensure external validity in the study. The positive and negative expressions of the participants were also included, and care was taken to present the findings objectively by supporting them with quotations. For internal validity, attention has been paid to the fact that the research findings are consistent and meaningful in themselves and that the revealed categories constitute a whole. In order to ensure external reliability in the research, the role of the researchers, the research process, the participants, the data collection tool and the analysis of the data were explained in detail. In order to ensure internal reliability in the research, the findings were conveyed without any comments and supported with direct quotations. Qualitative data were quantified in order to reduce bias and make comparisons between categories. After these processes, the words most frequently used by the students were visualized with the word cloud. The coding of the data and the creation of the themes were made by both researchers with the 90% researcher reliability score. Then, the findings were presented according to these themes.

Findings

In this section, pre-service teachers’ expectations for the distance learning process and their feelings at the beginning of the process, teacher candidates’ access to the content, technology and lecturers, pre-service teachers’ self-regulation skills and pre-service teachers’ feelings in the emergency remote teaching process are given under headings, respectively.
The expectations of pre-service teachers for the distance learning process and their feelings at the beginning of the process

When digital stories are analyzed, one of the prominent themes is the pre-service teachers’ expectations for the distance learning process. The meanings that teacher candidates attribute to distance learning and their dreams about the distance learning process and their feelings at the beginning of the process are included under this heading. The expectations of the participants for the distance learning process are given in Table 1 in categories.

Table 1. Pre-service teachers' expectations about the distance learning process

<table>
<thead>
<tr>
<th>Categories</th>
<th>Frequency</th>
<th>Excerpts from the Digital Stories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience</td>
<td>25</td>
<td>'I sleep and wake up whenever I want. &quot;I don't have to worry about going to school, I don't have to worry about catching up to class, most importantly, I don't try to get on buses that pass four or five times and overly crowded” (S12, Digital story)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'You don't have to worry about catching up to the 8 o’clock class. There are no painful wooden benches in those long classes. When you are hungry, there is no need to wait for the teacher to give a break... No waiting for empty metro, empty bus” (S23, Digital story)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'Now I can eat while I am listening to the teacher” (S14, Digital story)</td>
</tr>
<tr>
<td>Spare time</td>
<td>11</td>
<td>'The time we spend going to the school is up to us, to have opportunities, to learn new hobbies’ (S17, Digital story)</td>
</tr>
<tr>
<td>activities</td>
<td></td>
<td>‘There would be a lot of spare time in distance education. I can paint, do sports, read books” (S27, Digital story)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘I will do lots of things. I can learn to do yoga. I can play sports and lose weight. I can meditate and relax a little bit. I will have plenty of time to learn new languages. These are the books I plan to read’ (S29, Digital story)</td>
</tr>
<tr>
<td>Feeling vacation of</td>
<td>11</td>
<td>‘I dreamed of a life without school’ (S30, Digital story)</td>
</tr>
<tr>
<td>Affordability</td>
<td>3</td>
<td>‘You do not need tea money, travel money, food money. You do not need to worry about token in bus card” (S23, Digital story)</td>
</tr>
</tbody>
</table>

When the digital stories of the pre-service teachers were examined, it was found that the they mostly describe the concept of comfort regarding the distance learning process. Regarding convenience, it was stated that the home environment would be more comfortable than the classroom environment in the learning process. In this context, the pre-service teachers stated that the issues with getting up early in the morning and transportation issues. Most of the participants stated that they could attend their classes in their comfortable seats at home. Another situation expressed under the convenience category is the comfort of doing extracurricular activities during the lesson in the distance learning process. Under this sub-category, participants stated that they could do things such as eating and drinking, playing computer games, talking on the phone, texting, and even cooking. The pre-service teachers thought that the distance education process that took place during the COVID-19
pandemic would be easy and comfortable. Two of the participants expressed their views as follows. “I thought distance education could be easier and more comfortable” (S1, Questionnaire) “I thought it would be easier than normal education” (S4, Questionnaire). With the start of the distance learning process, the pre-service teachers thought that they would have a lot sparer time, they would be able to rest during distance learning, and they would spend time for activities such as doing sports, reading books, and acquiring new hobbies.

With the announcement made by Council of Higher Education (2020) that education at all universities was suspended, most of the pre-service teachers in this study made a perception that universities would be on a vacation for the rest of the semester. In addition, a few participants stated that the distance education process would be economical since there would be no transportation and food expenses that they usually spend when they have face-to-face classes. Figure 1 shows sample screenshots from the digital stories of pre-service teachers.

![Convenience, Spare time activities, Feeling of vacation](image)

**Figure 1.** Sample screenshots from digital stories about pre-service teachers' expectations/thoughts at the beginning of the distance learning process

With the interruption of face-to-face education at universities, the students returned to their hometowns. With this unexpected change, the expectation of vacation, the absence of the obligation to go to school, and the expectation that they will be able to continue their education at home comfortably caused the participants to express the feeling of happiness (f = 16) in their digital stories. In addition, only three of the participants who will graduate at the end of the semester stated that they got worried because they were afraid if the schools get delayed. Lastly, two pre-service teachers stated that they were sorry for being separated from their friends.

**The pre-service teachers access to the learning materials, technology and faculty members during the emergency remote teaching**

When the digital stories of the pre-service teachers are examined, it is found that they mostly expressed their opinions about access to materials, technology, and faculty members. The descriptions of the participants about the access status during the emergency remote teaching are included in three categories in Table 2.
Table 2. Pre-service teachers access to learning materials, technology and faculty

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
<th>Frequency</th>
<th>Frequency in total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning materials</td>
<td>Time and space flexibility</td>
<td>15</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Synchronous and asynchronous courses</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Too much homework</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>Problem connecting to the learning management system</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Inequality in access to technology</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internet access problem</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical difficulties in synchronous sessions</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low bandwidth and slowness</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LMS related issues</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Faculty members</td>
<td>Interest and support</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Inability to get instant feedback</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

In their stories, the pre-service teachers stated that they could access the course content whenever they want, from anywhere, and with any device they wanted. The pre-service teachers stated that having both synchronous and asynchronous sessions of the lesson was a positive aspect of distance learning. The other positive aspect reported by the pre-service teachers was the ability to watch the recorded live sessions whenever they want. Regarding this, two of the participants expressed their opinions as follows: “It was very nice to have the chance to attend classes anytime, anywhere, regardless of time or place. It was a good opportunity to be at home, study at home and have the chance to watch the recorded lessons again” (S3, Questionnaire). "The positive aspects for me are that I can access the course materials with any device I want and follow the courses over a long period of time" (S6, Questionnaire).

The pre-service teachers also mentioned that the learning process was exhausting for them during the emergency remote teaching as they had to do too much work; such as exams, homework, and projects. One of the participants’ commented on this: “Every teacher thinks that we have too much time because we are at home or they think we only take their own classes; thus, they made too many exams and gave homework. I know that I have been doing homework for a month, unceasingly from morning to night” (S3, Questionnaire). On the other hand, another participant evaluated the homework aspect from a positive point of view: “While it is exhausting, I think I gain more knowledge through trial and error by researching the topic. In other words, I think since you do and deal with everything yourself, you have multi-faceted learning and permanent knowledge” (S2, Questionnaire). Sample screenshots of digital stories about the exhausting theme are shown in Figure 2.
Another issue that pre-service teachers mentioned in their digital stories is access to technology. Under this category, the pre-service teachers stated that they mostly experienced problems with connecting to the learning management system (LMS). However, the lack of access to the internet, low bandwidth and slowness, disconnection during the live sessions can be listed as Internet related problems. In addition, due to the fact that some of the students do not have the necessary technological devices, it is one of the emphasized issues that there is inequality in accessing to technology. Some of the participants described their difficulties as follows: “Because we live in the village, I had issues with Internet connection. After I do my homework, I walk around the roof at midnight to send it. Even I went to the city center which is 80 km away to do my homework that cannot be done without the Internet” (S2, Questionnaire) “I wish everyone had a microphone, a camera, a strong Internet connection. And then, the platform we connect can handle this without any problems” (S10, Questionnaire). Sample screenshots of the participants' reported problems related to technology access during the emergency remote teaching are shown in Figure 3.

**Figure 3.** Sample screenshots of digital stories about technology access during the emergency remote teaching

Another issue emphasized by the pre-service teachers is that when an assignment is uploaded to the learning management system (LMS), they do not receive notification by e-mail or message. The participant S3 explains this situation as follows: “Nothing comes to us as a notification, except announcements from LMS. For example, when the homework is opened, we do not receive a notification. That's why we had to go into LMS almost every hour to check it” (S3, Questionnaire).

Finally, under the category of access, the participants expressed both positive and negative opinions regarding access to the faculty member. Two of the participants expressed their opinions as follows, regarding the interest and support of the faculty member: "In some of my lessons, I can say that our professors were very helpful and explanatory, they were of interest in situations that we do not understand the assignments" (S7, Questionnaire). "Some professors pay one to one attention when needed" (S10, Questionnaire). However, some of the participants stated that they had difficulties in getting immediate feedback from the instructor. One of the participants stated his opinion: “…Again, late answers to the questions, which I asked to my friends and the instructor, caused time management issues for me” (S2, Questionnaire).
Pre-service Teachers’ Self-Regulation Skills during the Emergency Remote Teaching

One of the themes that emerged as a result of the analysis of digital stories in this study was the self-regulation skills of pre-service teachers. The categories that emerged according to the statements of the pre-service teachers are included in Table 3.

Table 3. Pre-service Teachers’ Self-Regulation Skills during the Emergency Remote Teaching

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
<th>Frequency</th>
<th>Frequency in total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention and persistence</td>
<td>Pretending to attend the live session</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Getting busy with other things</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Being confused</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Getting distracted</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Losing motivation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Time management</td>
<td>Loitering</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Getting up late</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No more time concept</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Procrastinating</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Regulation of the working environment</td>
<td>Sound and noisy environment</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>The lack of a specific working environment</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Help seeking</td>
<td>Teaching staff</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Friends</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Topics related to self-regulation skills expressed in digital stories were grouped into three categories. The pre-service teachers processed the following sub-categories under the attention and persistence category: they pretended to attend the live session, but they got busy with other things such as messaging with friends, playing games, sleeping, cooking, etc. On the other hand, they got distracted, especially due to long class sessions and videos, lost motivation due to technical problems, and difficulties in understanding some content and assignments.

The pre-service teachers stated that unlike face-to-face education in distance education, students cannot use their time efficiently due to the fact that they can follow the lessons whenever they want, and the home environment is too much comfortable. The pre-service teachers stated that they use the time they spend for transportation to the university campus to leisure activities. For example, they got busy with activities such as watching television and playing computer games at home, instead of using the time efficiently. They also stated that they were confused about the concept of time and day due to being at home all the time. Sample screenshots of the problems experienced by the pre-service teachers regarding time management during the emergency remote teaching are shown in Figure 4.

![Sample screenshots of time management during the emergency remote teaching](Image)
Under the category of organization of the work environment; the pre-service teachers complained that they could not find a suitable working environment. One of the participants expressed his opinion as follows. “Lack of finding a quite environment to listen the class. If I need to give an example from myself: I have six siblings, my parents, and my grandmother living in the house. Moreover, my uncles and aunts come home all the time” (S2, Questionnaire). The screenshots of the digital story prepared by one of the participants about the problems related to the working environment are shown in Figure 6.

![Figure 5. Problems in organizing the working environment during the emergency remote teaching](image)

Another category under the theme of self-regulation skills is the behavior of the participants to ask for help from the instructor and other students. Some of the participants stated that they had difficulties in getting immediate feedback from their instructor or friends in understanding the content given. For example, A2 expressed this: “There was no friend to ask for help.” It is found that the participants tried to communicate with their instructor by sending e-mails related to the subjects they did not understand and technical problems they experienced. In addition, they usually communicated with their friends by phone.

**Mood of Pre-service Teachers during the Emergency Remote Teaching**

The mood of the participants in the digital stories is the last theme that emerged in the study. The emotions expressed by the pre-service teachers in their digital stories are shown in Figure 6.
Most of the participants stated that they had difficulties during the emergency remote teaching process. The reasons that cause pre-service teachers to have difficulty in the process are: having too many homework and projects, technical problems, difficulty in finding a suitable study environment, difficulty in understanding the course content or homework, and difficulty in communicating with the instructors and friends. Participants described themselves as overwhelmed, exhausted and stressed in this situation. Participants felt lonely due to staying at home and longed for their friends, school environment and social life at campus. In addition, it is found that the pre-service teachers were satisfied with the continuation of the education process and were hopeful about the future, despite the difficulties and motivation issues they have experienced during this process.

**Conclusion, Discussion and Suggestions**

The coronavirus (COVID-19) outbreak affected all areas of society as well as the field of education. While this situation creates “a strong stress test for education systems, this is also an opportunity to develop alternative education opportunities” (OECD, 2020, p. 1). With the pandemic, digital transformation in education has gained momentum. It is clear that as life returns to normal, distance education applications will gain more important role in the education system. In this study, it was aimed to determine the feelings, thoughts and experiences of pre-service teachers regarding the emergency remote teaching that took place in the first months of the pandemic in higher education through digital stories. The data obtained were collected under four themes: pre-service teachers’ expectations for the distance learning process and their feelings at the beginning of the process, pre-service teachers access to the learning materials, technology and faculty members during the emergency remote teaching, pre-service teachers' self-regulation skills during the emergency remote teaching, and pre-service teachers’ mood during the emergency remote teaching.
The first theme that emerges in the study is pre-service teachers’ expectations for the distance learning process and their feelings at the beginning of the process. According to the results of the study, the interruption of education on March 16, 2020 first caused the perception of vacation among teacher candidates. Later, with the announcement by Council of Higher Education (2020) that the teaching process will continue online at universities as of March 23, 2020, the participants expected that the emergency distance learning process would pass easily and comfortably. At the beginning of the process, the pre-service teachers reported that they expected to have a lot of time for spare time activities such as reading books, doing sports, learning languages. In addition, at the very beginning, the mood of the pre-service teachers was generally positive. Similarly, in the research conducted by Erkut (2020), it was determined that the first reactions of the students were positive because they continued their education at their homes and staying at home reduced the risk of infection and they did not have to spend hours in traffic every day. However, emergency remote teaching situation can be a negative experience on the students as they were caught unexpected and unprepared (Hodges et al. 2020). In addition, the side effects of emergency remote teaching on learning in the long term is unknown and studies are needed to evaluate those effects.

The second theme emerged in the study is pre-service teachers access to the learning materials, technology and faculty members during the emergency remote teaching. The fact that the classes were held both synchronously and asynchronously, and the course contents accessed by anywhere and anytime stand out as positive features of the access category. Similar to Ukata and Onuekwa’s (2020) study, having access to learning materials anytime and anywhere and having flexibility were listed as the most favorable features of the emergency remote teaching. In the study conducted by Serçemeli and Kurnaz (2020), the participants expressed positive opinions related to fact that the video recordings could be watched again, having flexible learning opportunities and saving time. Similarly, the pre-service teachers found video recordings as a positive feature of distance learning. The issue that evaluated negatively was related to homework given in this process. Similarly, in the study conducted by Blizak and colleagues (2020), one of the most complained topics by students was the number of homework assignments. In another study, it is found that students do not want to experience exam stress and homework anxiety even if they want to follow the lessons with distance education during the pandemic period (Aktaş et al., 2020).

Another category under this theme is the access status of the participants to technology. During the emergency remote teaching, it was revealed that students mostly experienced problems with Internet access during the distance education (Blizak et al., 2020; Karakuş et al., 2020; Serçemeli & Kurnaz, 2020). Digital inequalities already existed, but the COVID-19 crisis is exacerbating them dramatically (Beaunoyer et al., 2020). In research conducted by Karadağ and Yücel (2020), they found only 63% of students had Internet connection at home in Turkey, 66% of them have a computer
or tablet, and 23% were unable to maintain their distance education. In this particular study, technical problems experienced by students especially in exams and live class sessions caused distraction, anxiety, concentration problems, and motivation lose.

Regarding the category of access to faculty members, it was revealed that some of the participants were satisfied with the attention and support given by the instructors, while some of them had difficulty in getting immediate feedback. Similarly, Karatepe et al., (2020) pointed out students have trouble communicating with their faculty and friends in online classes. In Blizak et al. (2020) study, the inability to reach the instructor and the feeling of social isolation were identified as negative aspects by students in distance education. Thus, it is suggested that designing the learning process in a way that helps the learner to feel the instructor and peers’ presence would satisfy students and contribute to their learning.

One of the themes that emerged as a result of the analysis of digital stories in this study was the self-regulation skills of pre-service teachers. Self-regulation skills of the participants were grouped into four categories as attention and persistence, time management and regulation of the work environment, and help seeking. It is observed that the participants experienced distraction during both synchronous and asynchronous lessons. Similarly, Karakuş et al. (2020) found students to have low motivation in distance education courses during the pandemic period. It is observed that the inherent flexibility of distance education causes students to postpone their studies and they keep busy with other activities during the day. The fact that the participants do not have their own study rooms and the home environment is not suitable for listening/studying can be expressed as another factor that causes problems. Keskin and Özer Kaya (2020) states that during the pandemic process, the time spent by students in front of social media and television nearly doubled. The negative emotions that the students experience due to the pandemic and the feeling of isolation might cause them to move away from the lesson and postpone their tasks. This would be closely related to the academic procrastination, which was found to negatively impact learning performance of students (Michinov et al., 2011).

The last theme in the study is the emotions that teacher candidates experienced during the emergency remote teaching. The most expressed emotion in the stories is the feeling of pressure. The technical problems experienced by the pre-service teachers and the assignments might cause the process to be exhausting for them. The flexibility of distance education and the provision of both synchronous and asynchronous lessons in this process are the dimensions that most satisfy the participants. It is found that the pre-service teachers also reflected feelings of longing, loneliness, isolation, and boredom. Limited social change as a result of the COVID-19 outbreak might have fed such negative emotions. There is evidence that social isolation can negatively influence people by triggering stress and reducing well-being (Miller, 2020). In a study conducted by Ciğerci (2020), it
was concluded that the COVID-19 pandemic caused students to worry, lose motivation and get bored because of lockdown.

Emergency remote teaching caught us unexpected and unprepared, this also affected the perspective of pre-service teachers in this particular study. While the side effects of emergency remote teaching on learning in the long term is unknown, there is a need for more studies on this subject. Considering the perspective of students who take those online courses, the design of online learning environments can be considered as crucial. Designing online learning environments in a way that increase student engagement and motivation would positively change the students’ perspectives toward online learning. In addition, while the students were socially disconnected from their peers and instructors during the COVID-19 outbreak, supporting their social and emotional needs became more important.

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Critical Discourse Analysis on the Effects of Covid 19 on the Future of Teaching Turkish as a Foreign Language

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Abstract
The aim of this study is to analyse the discourses of prospective teachers who were taking teaching Turkish to foreigners course about the effects of Covid 19 on the future of teaching Turkish as a foreign language. Analysing the discourses of prospective teachers who will teach in the field about the effects of Covid 19 on the future of teaching Turkish as a foreign language is important in terms of providing a more quality language education during and after Covid 19 process. The presents study is a qualitative study. The study group consists of 59 students studying at Zonguldak Bülent Ecevit University, Ereğli Faculty of Education, department of Turkish language teaching since they were receiving teaching Turkish as a foreign language course and they will graduate from the related department. open – ended questitions are applied to the participants in the study. Critical discourse analysis was carried out to analyse the discourses of the participants. As a result of the study, it was concluded that although Covid 19 had a negative influence on language teaching activities, with positive state policies and with more frequent use of distance education and online education, these problems have been overcome and more people can be interested in Turkish in the future.

Keywords: Language Education, Teaching Turkish as a Foreign Language, Covid 19, Discourse Analysis, Online Education.

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Introduction

Communication between people and rapidly developing technology in the globalizing world has made language teaching more important than ever. While societies want to stand out with their economies and the things they produce technologically in the modern world, they also want to export their languages because language is another indicator of existence. This has enabled language education to have an important place in the field of education. Language studies are developing rapidly with the development of technology and by keeping pace with the benefits of technology. Thus, teaching software, exercise, repetition, etc. began to be used in language teaching and language education was provided with the advantages of the online world.

Towards the end of 2019, a new epidemic appeared in the world. This epidemic is called novel coronavirus (Covid 19). The Coronavirus (Covid 19) pandemic caused significant changes particularly in health systems, economic, social and pedagogical aspects all over the world. One of the areas most affected by this pandemic is education systems (Can, 2020). This epidemic affected the whole world in a short time and in 2020 it became the most important agenda of the people in the world. Covid 19, which soon became a pandemic, affected many areas, including economy.

The facts that Covid 19 is fatal, spreads fast and currently has no definite solution for prevention other than social distance, isolation and hygiene rules have made it necessary to take some measures in the field of education, as in many fields. As a result of this situation, many innovations entered the education environment and language teaching activities took their share from these innovations.

During this process, many field experts gave online seminars on language education through online systems. Master and doctorate theses juries gathered online and thus defenses took place safely. Universities opened online certificate courses to train instructors in teaching Turkish to foreigners and organizing committees announced that many symposiums, conferences and congress presentations would be carried out online.

During the global pandemic of COVID-19, countries have taken a series of action plans. Among the measures taken, there is a decision to stop educational activities (Dikmen & Bahçeci, 2020). In Turkey, universities also switched to distance education due to the pandemic. Council of Higher Education (CoHE) that is supervisor of the higher education system in Turkey first announced that universities were on holiday for three weeks on 16 March 2020. CoHE then instructed universities to give courses through distance education and stated that there would be no formal education in the spring semester of the 2019-2020 academic year (Durak, Çankaya & İzmirli, 2020). In this context, the system structured according to formal education had to be transformed into a web-based distance education system with crisis management (Keskin & Özer Kaya, 2020).
With the school closures, continuing of education via alternative platforms become crucial in Turkey. Distance education is the key element of MoNE to maintain its services and transmit these services to all educational stakeholders. Within the scope of distance education, MoNE has decided to perform the courses via its online platform-EBA (Educational Informatics Network) and national television channel-TRT (Turkish Radio and Television Corporation). With the collaboration of MoNE and TRT, learning materials for distance education via national channels are prepared in a quite short time (Özer, 2020).

Based on the discourses made about teaching Turkish as a foreign language, the present study sheds light on the future of all language education activities.

Discourse is a narrative built with a word or words on a subject, event or situation. Discourse analysis is the process of analysing the relationship of any element in this narrative with itself or other elements.

The problem of the study is the question “How will Covid 19 affect the future of teaching Turkish as a foreign language? In order to answer this question in more detail, answers were sought to the following sub-problems:

How is the discourse on the effects of Covid 19 on the future of teaching Turkish as a foreign language defined?

1. What is the plot of the discourse on the effects of Covid 19 on the future of teaching Turkish as a foreign language defined?

2. How is the relationship between the plot and the discourse on the effects of Covid 19 on the future of teaching Turkish as a foreign language analysed?

3. How was the social analysis of the discourse created on the effects of Covid 19 on the future of teaching Turkish as a foreign language conducted?

The aim of this study is to analyse the discourses created by prospective teachers of Turkish language teaching who were receiving teaching Turkish as a foreign language course on the effects of Covid 19 on the future of teaching Turkish as a foreign language.

Turkish will be taught as a foreign language by teachers who have received teaching Turkish as a foreign language course and who have proficiency in the field. For this reason, analysing the discourses of prospective teachers who will teach in the field is important in terms of providing a more quality language education during Covid 19 process and under similar epidemic conditions. The
data obtained from this study will contribute to field experts’ managing the process during other pandemics that may occur in the future.

While no discourse analysis studies were found on the effects of Covid 19 on language teaching in the literature review conducted, studies related with the key words Covid 19, discourse analysis and online education were found.

Grzelka M. (2020) examined how Polish perceived vulnerable populations within the context of global Covid 19 pandemic. The aim of this study was to obtain data to evaluate the attitudes of the public towards vulnerable people in times of crisis. The study concluded that although newspaper readers had responsibility and information about the status of vulnerable people against Covid 19, some of them made worrying false statements.

In their study entitled “Undergraduates’ attitude towards the utilization of open educational resources for learning”, Issa I. A. et al. (2020) examined the attitudes of undergraduate students towards the use of open educational resources. In the study, it was concluded that students showed a positive attitude towards open educational resources in learning. In their study entitled “Transition to online education in schools during a sars-cov-2 coronavirus (covid-19) pandemic in Georgia”, Basilaia, G., & Kvavadze, D. (2020) examined the capacity of Georgian population in continuing education in the form of online distance education, reviewed existing different platforms and gave examples to online education used with the support of the government and platforms that could be used for online communication. In their study entitled “Turkish teacher candidates’ views on distance education”, Karakuş N. et al. (2020) aimed to reveal the opinions of prospective Turkish teachers who are trained to be the practitioners of the Turkish education process regarding the distance education process. In the study, it was concluded that Turkish teacher candidates could not adapt to the distance education process that started with the sudden changes experienced, they thought such a course based on skills could not be taught through online education and they suggested switching to face-to-face education as soon as possible.

When the relevant literature is examined, there are studies in which discourse analysis is applied in universities (Aprilia et Al., 2020; Turhan & Okan, 2017; Jocuns et Al., 2020; Song et Al., 2020). However, when these studies are examined, it can be seen that the studies are not aimed at teaching Turkish as a foreign language. Therefore, it is important to carry out these and similar studies in the field.

Many studies have been carried out to increase the quality of teaching in teaching Turkish as a foreign language. In addition to studies investigating the effects of fairy tales and movies on language teaching (Yılmaz, 2020; İşcan, 2017; Bağcı Ayrancı, 2017), there are also studies aiming to achieve a
more efficient language teaching by applying various scales to teachers and students (İşcan et al., 2017; Okur & Göçen, 2020; Akkaya & Aydin, 2019; Mete, 2015). With the Covid 19 pandemic process, many studies have been carried out on the effects of this process on the educational environment (Hebebci et al., 2020; Şahbaz, 2020; Noor et al., 2020; Lassoued et al., 2020).

**Method**

This section includes the research model, study group, data collection and data analysis.

**Research model**

The present study is a qualitative research. Qualitative researchers often rely on interpretive or critical social science. They apply “logic in practice”. Qualitative researchers speak a language of “cases and contexts (Neuman, 2006). In a qualitative project, the author will describe a research problem that can best be understood by exploring a concept or phenomenon (Creswell, 2002).

**Study group**

In discourse analysis, aims/questions of the research are the key criteria determining sample size and representation (Elliot, 1996). Purposeful sample selection was used in the study.

The study group consists of 59 students studying at Zonguldak Bülent Ecevit University, Ereğli Faculty of Education, department of Turkish language teaching since they had effective views about the effects of Covid 19 on the future of teaching Turkish as a foreign language course, since they were receiving teaching Turkish as a foreign language course and since they will graduate from the related department.

**Data Collection Instruments and Data Collection**

Open – ended questions are used in the study as data collection instrument. The questionnaire consists of a single question. The research questions are;

1. How will Covid 19 affect the future of studies on teaching Turkish as a foreign language?

2. What will Covid 19’s positive effects on teaching Turkish as a foreign language?

3. What will Covid 19’s negative effects on teaching Turkish as a foreign language?

In the study, before data collection, prospective teachers received “teaching Turkish to foreigners” course for a semester. The course, which was taught face-to-face at the beginning of the semester, continued through distance education system of the university due to the effects of Covid 19 on the education system. In data collection, open – ended questions prepared to find out the discourses of prospective teachers related with the effects of Covid 19 on the future of teaching Turkish as a
foreign language. At the end of the semester, forms shared with the students by using the distance education system of the university and the data were received through distance education system. Accordingly, students were coded as p1, p2, p3.

**Data Analysis**

In the study, critical discourse analysis, one of the discourse analysis types, was used to analyse data. Discourse analysis is the analysis of dialectical relationships between discourse and other objects, factors or moments and the analysis of such interruptions between the traditional boundaries between linguistic, political, social and other disciplines (Fairclough, 2013).

In critical discourse analysis, the goal is to reach meaning and to interpret on the meaning achieved. The comment made evaluates and reveals what the discourse wants to reveal (message, information, thought) in terms of its position (plot) (Doyuran, 2018). In critical discourse analysis, the goal is to find out what is told and what one intends to tell through all kinds of discourse.

Critical discourse analysis was used in the analysis of data. Doyuran (2018) suggests a four stage process in critical discourse analysis:

1. Description (discourse/text): Contexts are examined; choice of words, the relationship between the subject and the verb, is the discourse positive or negative?

2. Plot: Discourse is always based on an event. This stage of the analysis process involves finding out the plot and finding out within the context of which event the discourse is made. These events can be historical, political, social or current ordinary events.

3. Interpretation (analysis process): The criticality of analysis is hidden in the interpretation process because this process is in a way the reconstruction of discourse/text. The relationship between discourse and plot is found and the historical, political, social, cultural context and power relationships within the discourse are shown.

4. Explanation/result (social analysis): With description, plot and interpretation a general data is formed and the result is presented with these data. Critical discourse analysis has social content in general. For this reason, the result can also be described as “social analysis”.

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Results

Findings related with the definition of discourse on the effects of Covid-19 on the future of teaching Turkish as a foreign language

When the discourses of prospective teachers who were receiving courses on teaching Turkish to foreigners are examined on the effects of Covid 19 on the future of teaching Turkish as a foreign language, it can be seen that the discourses are made of regular sentences. It was found that some of the prospective teachers tried to make the meaning more effective by building their discourses with questions. Prospective teachers stated that Covid 19 had a negative effect on activities of teaching Turkish as a foreign language.

As a result of the education received, the terms chosen in discourses related with Covid 19 and education were clearly expressed, the discourses in the text were interrelated with each other and they consisted of words that described situations, predicted the future and made suggestions.

Table 1. Terms on the future of teaching Turkish as a foreign language

<table>
<thead>
<tr>
<th>Terms</th>
<th>(f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>teaching Turkish as a foreign language</td>
<td>231</td>
</tr>
<tr>
<td>distance education</td>
<td>221</td>
</tr>
<tr>
<td>technology</td>
<td>92</td>
</tr>
<tr>
<td>language teaching</td>
<td>66</td>
</tr>
<tr>
<td>online education</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>660</td>
</tr>
</tbody>
</table>

When frequency analysis was conducted on the terms in the discourses of prospective teachers about the effects of Covid 19 on the future of teaching Turkish as a foreign language, it was found that the terms most used were teaching Turkish as a foreign language (f:231), distance education (f:221), technology (f:92), language teaching (f:66), online education (f:50).

The fact that the most frequently used terms in discourses are teaching Turkish as a foreign language, distance education and language teaching is associated with the realization of the research on these terms. With the excessive use of the term online education, the participants drew attention to the role and importance of online education in the distance education process. Participants also emphasized technology in their discourse and drew attention to the role and importance of technological developments in increasing the quality of distance education.

Findings related with the plot of discourse created on the effects of Covid 19 on the future of teaching Turkish as a foreign language

Table 2. The discourse built on the effects of Covid 19 into the plot

<table>
<thead>
<tr>
<th>Plots</th>
<th>(f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covid 19 negatively affects life at the beginning</td>
<td>55</td>
</tr>
<tr>
<td>showing reaction</td>
<td>53</td>
</tr>
<tr>
<td>description of events and situations that may arise</td>
<td>58</td>
</tr>
<tr>
<td>Total</td>
<td>166</td>
</tr>
</tbody>
</table>
Discourses about the effects of Covid 19 on the future of teaching Turkish as a foreign language focused on Covid 19 affecting life on earth negatively with its spread in the world (f:55), reaction of countries in a short time (f:53) and descriptions of events and situations regarding the future of language teaching studies, especially teaching Turkish as a foreign language, along with the measures taken and steps taken towards solution (f:58).

The fact that almost all of the participants formed the plot in the appropriate order shows that the participants firstly reveal the plot and base their discourse on the effects of Covid 19 on the future of teaching Turkish as a foreign language.

Findings related with the analysis process of the relationship between plot and discourse on the effects of Covid 19 on the future of teaching Turkish as a foreign language

Participants in the study reached a consensus about Covid 19 affecting language-teaching studies in Turkey and in the world negatively. All participants expressed negative opinions on this matter.

Coronavirus (Covid-19), which affected the whole world a short time after it appeared in the Far East, caused failures and changes in almost all sectors. Coronavirus, which affected the world and showed its effects in many fields, also affected education (p1).

I believe that Coronavirus affected teaching Turkish as a foreign language adversely. Education was interrupted (p4).

This epidemic is a negative factor about teaching Turkish to foreigners as a foreign language. This is because in order to be able to learn a language easily, it is very important to learn the structure and rules of that language, to follow the cultural structure, traditions and customs of the societies living in the land where the language is spoken and to receive language education in that country (p30).

However, it is thought that the fact that the related units of the state in Turkey adapted to life with coronavirus in a short time and thus interfered with the process quickly made it possible to overcome the negative effects of Covid 19 on education in a short time.

During this process, under the leadership of YÖK President Yekta Saraç, universities underwent a transition to online system quickly. On this occasion, I would like to express my gratitude to YÖK staff that provided the sustainability of an uninterrupted education (p3).

In addition, the majority of the participants stated that studies on teaching Turkish as a foreign language would emerge from this negativity in a stronger way by making use of the technological
means and thus in general Covid 19 would improve studies on teaching Turkish as a foreign language and thus leave a positive effect on language teaching.

Since teaching Turkish to foreigners is based on four basic language skills, I think that online education is more suitable. This is because it is very suitable for materials such as videos, listening, watching and speaking texts (p1).

… since each student does not have the same learning speed, we can say that online education will provide a significant advantage to students (p1).

The accessibility brought to humans by technology, easy information acquisition, permanence and reliability of information, resources’ being easily renewable have caused this system to take precedence over books’ being most useful information exchange tool in time (k2).

A great majority of the participants think that although Covid 19 interrupted studies on teaching Turkish as a foreign language when it first started to spread, it will have positive effects on language teaching studies in the future since it caused looking for new ways for the continuation and quality of education.

Table 3. Opinions on the impact of Covid 19 on the future of teaching Turkish as a foreign language

<table>
<thead>
<tr>
<th>Opinions</th>
<th>(f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>positive opinion</td>
<td>47</td>
</tr>
<tr>
<td>negative opinion</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
</tr>
</tbody>
</table>

When the opinions on the impact of Covid 19 on the future of teaching Turkish as a foreign language are examined, it is seen that there are participants who have expressed a positive opinion (f: 47) and a negative opinion (f: 28).

The reasons why Covid 19 will have a positive effect on the future of teaching Turkish as a foreign language in the discourses of the participants are as follows:

1. What Covid 19 has brought to the educational environment will enable online education activities to be used in the teaching of more courses.

Due to coronavirus, online education will have a much more widespread use (p1).

2. Due to the effects of Covid 19 on humanity, online education activities will become more systematic indirectly.

Education, which was previously face-to-face, will be tried to be given systematically through distance education from now on (p1).
3. Making use of the means of online education in the courses of teaching Turkish as a foreign language will enable students to follow the courses according to their individual learning speed.

Another positive aspect is that online education will provide a significant advantage to the student since the learning speed of each student is not the same (p1).

4. Covid 19 will provide an increase in studies for the use of technology in education.

I foresee that the research in the field will increase and the rate of development will increase (p2).

5. With teaching Turkish as a foreign language conducted through distance education due to Covid 19, it is possible to appeal to more people in a wider area.

In terms of teaching Turkish to foreigners, distance education gives us the opportunity to appeal to a wider audience. Courses which were previously taught in classroom environment can now be taught to thousands of students with online lessons through the internet (p2).

6. Covid 19 will enable telephone applications for language education to increase and develop.

Applications downloaded to telephones already existed, but I think that they will become more widespread during this process (k6).

7. There is a successful fight against coronavirus in Turkey. In addition, aid was provided to other countries in the field of health during Covid 19 process. As a result of this, cooperation and tolerance between foreign countries and Turkey will increase. This in turn will be a factor for foreigners to want to learn Turkish.

With all these negative effects, the great unity and successful struggle of Turkey in the fight against coronavirus has won the admiration of the whole world. This admiration can trigger the curiosity of foreigners for our country and our language (p8).

I believe that our aid to states of the world will create a sympathy for “Turks and Turkish” in foreigners (p13).

As I said, our success in health conditions in this period will have a positive effect on teaching Turkish to foreigners. Our language and culture will reach other nationalities (p14).
Our national respiratory device SAHRA RESPIRATORY DEVICE was welcomed and demanded by many countries...the decisions taken and the devices produced have increased the potential rate and use of Turkish by foreigners (p17).

In addition, with the measures taken since the beginning of the pandemic, Turkey became one of the most talked about countries in the world. It has been on the news of many countries and has had a great impact in this process in both national and international arena. For this reason, I think that people will want have information about Turkey and Turkish culture. In this aspect, I think that there will be an increase in the number of people who want to learn Turkish (p23).

With the start of coronavirus epidemic, Turkey sent aid supplies to many countries, including personal protective equipment. There were countries that heard about Turkey and Turkish for the first time with this aid. This help coming during difficult times evoked curiosity for Turkey and Turkish… In this context, Turkey sent aid to 44 countries that demanded aid so far....The words “There are so many hopes behind hopelessness … So many suns behind darkness…” of Mevlana on the aid packages sent can increase the interest in Turkish (p27).

Thanks to aids of our country to other countries, the people living there can learn Turkish to know Turkish people. In addition, they may want to learn Turkish to understand information and apply in their countries through the methods we apply during the treatment process (p34).

It is praiseworthy that Turkey and Turkish people exhibited example behaviours to the world during this process and lent a helping hand to many countries. Although coronavirus has created bad effects, I think that this process will result in favour of Turkey. I think that during this process Turkey will create a large effect in terms of both Turkish language and Turkish culture through a successful and stable attitude. I believe that after this process, the interest in Turkish language will increase in many places and there will be an increase in the number of people who will choose Turkish language for learning a second language (p36).

Since Turkey carried out a very successful operation against corona virus, the reason for this was the subject of this curiosity. For this reason, people may want to understand Turkish (p45).

Considering that all the eyes are on Turkish since Turkey’s struggle with coronavirus is an example to whole world, it would not be wrong to say that “willingness of foreigners to learn English will increase” (p48).

Due to coronavirus pandemic, Turkey sent aid to many foreign countries. In return for this, foreigners learned words such as “Teşekkürler Türkiye” to show their love to Turkey and thanked Turkey with Turkish expressions (p53).
In the struggle with pandemic, we are very successful as a country. For this reason, foreign countries’ interest in Turkey and their willingness to learn Turkish will increase (p59).

8. With Covid 19, the fact that language education began to use the opportunities of distance education more caused more people to benefit more from distance education. This situation has saved learning from the restrictions of time and place.

With distance education, education can be provided to a wide audience without any problem of space (p35).

Distance education provides a healthy education to a wide audience without any problem of space (p54).

Participants who made discourses about the effects of Covid 19 on the future of teaching Turkish as a foreign language think that online educational activities will have a positive effect on education. The reason for this is factors such as online education’s being very convenient in terms of materials such as videos, listening, watching and speaking tests, students’ benefiting from online education according to their learning speed; the opportunity to repeat online education materials, having no time limit; not being restricted with space and being able to exercise any time.

There are also discourses that Covid 19 will have negative effects on teaching Turkish as a foreign language. When these discourses are considered, the following results are found:

9. The decrease in the human mobility around the world will have a negative effect on language education.

I guess that after the coronavirus ends completely, people will travel less to foreign countries. People won’t want to go to risky areas and for this reason our teachers who teach Turkish to foreigners abroad may want to return to Turkey. This may become a negative situation both for foreign students and for teachers working abroad. Some researchers may also not want to conduct their studies abroad (p3).

There has been a decrease in travels between countries as a result of the pandemic and this will cause problems for foreign students who want to come to our country and learn our language and culture (p11).

We are going through a period when people have to be trapped in their homes. Considering that such a protection period started, the number of people who want to learn Turkish outside business and trade will decrease (p16).
This pandemic is a negative factor in terms of teaching Turkish to foreigners as a foreign language. This is because in order to learn a language easily, it is very important to learn the structure and rules of that language, to follow closely the cultural structure, traditions and customs of the societies living where that language is spoken and to receive a language education in that country (p30).

10. With Covid 19, distance education began to be used in a wider area. For this reason, methods, techniques, programs and applications which are suitable for distance education and which are not used in distance education right now are required.

It will take time to find new methods and techniques, programs and new applications for success suitable for distance education and to adapt these (p16).

11. Students who will learn a language through online education may not have the sufficient means.

Courses can continue through the internet and computer system maybe, but for these to happen the student should have computer and the internet at home and the internet should be fast (p19).

When Covid 19 has affected our lives so much and when the courses are continuing as distance education, there will be problems in language education. The greatest of these problems is the lack of sufficient infrastructure in students’ homes (p20).

In the discourses related with the effects of coronavirus on the future of teaching Turkish as a foreign language, some suggestions were made for language teaching to become stronger in Covid 19 process. These suggestions are as follows:

1. Teachers should have technological means to teach Turkish to their students correctly and effectively. For this reason, teachers’ readiness levels are important in distance education (p7, p22).

2. Educators of Turkish should be supported make Turkish education stronger and they should undergo educations such as code writing which is the future of technology (p9).

3. A channel such as “EBA TV” prepared by the Ministry of Education (teaching Turkish as a foreign language) can be prepared for foreigners (p13).

4. Technology can be used for culture transfer. Documentaries, series or films for culture transfer can be presented to foreigners (p13, p24, p43).
5. Remembering that we are in the age of technology, technological development should be used for education (p15, p44).

6. Institutions should provide their resources to students (p15).

7. Teachers should prepare a specific program for students and they should follow the development students show in learning language closely. They should be given homework suitable for the language learning level they are in to speed up the developments they show for Turkish (k15).

8. Even if the courses are not face-to-face, visuality should be prioritised. The concepts newly learned should be made concrete with interesting visuals and students’ learning process should be accelerated (p15).

9. Frequent repetitions should be made by students so as not to forget information (p15).

10. Feedback should be taken from students during class (p15).

11. Exercises should be made based on frequent repetition on four basic skills (listening, speaking, writing, reading) (p15).

12. We can ensure foreign language education to get the least damage from this process with a system that prioritizes visual-auditory memory and is more based on reading and writing studies instead of memorization (p20).

13. Students can watch the videos of experts in the field who teach through video channels on social media and follow the channels (p22, p24, p44).

14. Students can download programs supporting language education on their smartphones (p22, p23, p25).

15. Students can participate in programs giving certificate on the internet (p22, p24).

16. Foreigners can have daily conversations with experts in Turkish language and teaching through social media and reinforce what they have learned (p22).

17. With new software and applications, foreigners can be taught Turkish and efficiency can be increased (p28, p32, p40).

18. Available online education tools should be recognized and new online education tools should be prepared (p29, p43).

19. Online messaging systems should be used (p44).
20. Online course management systems should be used (p44, p53).

21. Feedback should be given to students in online education (p50).

22. Student motivation should be considered and motivation increasing activities should be prepared in online education (p50).

23. Positive messages of Turkish language learners about Turkish can be shown in online education (p53).

24. With this disease, words such as gloves, mask, social distance, curfew, pandemic, filiation, intubation, covidiot etc. became words that we use actively in our lives every day. In this new process, we should prioritize teaching the words that come into our lives and we use a lot (p18).

Findings related with the social analysis of the discourse on the effects of Covid-19 on the future of teaching Turkish as a foreign language

Although not even six months have passed since the spread of the virus to the world, Covid 19 pandemic process had a profound impact on people. With Covid 19, people have made short term or radical changes in their lives sometimes with the measures of governments and sometimes voluntarily. This situation was seen in the discourses of prospective teachers who participated in the study. It is predicted in the discourses that with the effect of Covid 19, educational activities will change and technology will come to the forefront.

Countries’ approach to Covid 19 also affects their feelings and thoughts. The measures of Turkey about Covid 19 and its relationships with other countries have influenced prospective teachers’ discourses and as a result, prospective teachers have stated that Turkey is successfully managing the pandemic process, which will increase the interest in Turkish and therefore, if technological means are used well and studies are conducted on online education, activities of teaching Turkish as a foreign language will reach more people.

Discussion, Conclusion and Recommendations

The participants stated that Covid 19 had a negative effect on studies of teaching Turkish as a foreign language. Other studies on education during the pandemic process have reached similar results. The participants highlighted that limited resources, minimal learner support, lack of technology knowhow and content restructuring were hindrances to the smooth operation of an online teaching environment (Noor, et Al., 2020). However, they concluded that with the steps taken in the field of education and measures taken, the negative effect was greatly eliminated.
Participants stated that there should be distance education in this process. As a joint result of the studies on the effects of the Covid 19 pandemic process on the educational environment distance learning has become an urgent necessity for education. (Hebebci et Al., 2020; Şahbaz, 2020; Noor et Al., 2020; Lassoued et Al., 2020; Jocuns et Al., 2020).

In this study, the participants stated that teaching Turkish as a foreign language will gain new benefits thanks to online education made due to the pandemic process. Other studies have reached similar results: Teachers and learners had to acquire practices that make up the nexus of teaching and learning in this crisis; new interaction orders emerged new discourses in place were acquired where some students found a voice in online learning; and historical bodies were altered in the move to online teaching (Jocuns et Al., 2020).

According to the discourses of the participants, policies of the state are the most important factors affecting the future of language education. In terms of studies about teaching Turkish to foreigners, it was found that Covid 19 process was being well managed in Turkey and for this reason, this situation will have a positive effect on Turkish education in the future.

One of the reasons why Covid 19 positively affects the future of teaching Turkish as a foreign language in the discourse is as follows; There is a successful fight against coronavirus in Turkey. In addition, aid was provided to other countries in the field of health during Covid 19 process. As a result of this, cooperation and tolerance between foreign countries and Turkey will increase. This in turn will be a factor for foreigners to want to learn Turkish. Boylu (2020), as a result of his work; He concluded that the themes of need, positive feeling, finding it easy and similarity between languages have a supportive effect on students' motivation to learn Turkish. When the findings between studies are compared, it can be said that the findings of the studies support each other.

In the discourses of the participants related with the effects of Covid 19 on the future of teaching Turkish as a foreign language, the terms teaching Turkish as a foreign language, distance education, technology, language teaching, and online education came to the forefront. This shows that prospective teachers think that with the effect of Covid 19, foreign language teaching will improve with technological developments and distance education system. In addition, while analysing the effects of Covid 19 on future of teaching Turkish as a foreign language, the participants approached the problem universally and they also made discourses about the future of language teaching in general.

Participants in the study stated that cultural transfer would be better with distance education. This will affect Turkish teaching positively. Looking at past studies on cultural transfer, according to
the 68.4% of the students, culture means mass media, cinema, music, literature and society (İşcan et al., 2017). The use of mass media in distance education will positively affect cultural transfer.

Participants in the study stated that documentaries and films should be used in language teaching. In studies for teaching Turkish as a foreign language they show that film, as a motivator, also makes the language learning process more entertaining and enjoyable. Using films in the Turkish language classrooms is a great method to improve learners’ language skills (Yılmaz, 2020). The use of films in teaching foreign languages or teaching foreigners in foreign languages cannot be seen as a simple phenomenon in the form of films or watching students alone. In order to achieve this success, supporting film watching activities should be created by the teacher (İşcan, 2017).

The measures taken and the steps taken in the field of education during Covid 19 process are reflected in the discourses of the participants. However, although discourse analysis was conducted in the field of education, the acts of governments in other fields were also reflected in the discourses. In the present study, the participants associated the relationship of the country with other countries and its efficiency in the field of health and reflected this in the discourses.

There are also a few negative expressions in the discourses of the patients related with Covid 19. According to this, Covid 19 restricts human mobility. In language education, teaching culture is also an important element. Language education will be negatively influenced since fewer tourists will come to Turkey. Another negation is that students won’t have sufficient means for distance education and online education.

Although Covid 19 epidemic has influenced life and people negatively with the negations it has brought, factors it has brought to human life such as social distance and isolation have caused the importance of technology use to be understood better and investments to be made in this field. The fact that Boylu and Çangal, who contributed to the teaching of Turkish as a foreign language through online seminars in 2020, they prepared and managed, were mentioned in the discourses of the participants was another factor showing the benefits of online education.

The participants also made suggestions about how activities of teaching Turkish as a foreign language should be after Covid 19. A large number of these suggestions are about higher use of technology in education and how technology should be included in education.

Grzelka (2020) concluded that newspaper readers usually made responsible discourses about the states of vulnerable people towards Covid 19. In the present study, discourses about the effects of Covid 19 on language education were analysed. In the study, the importance of social distance and isolation were also emphasized among the discourses related with language teaching and it was stated that education should be carried out in accordance with the existing conditions. From this point of
view, although the fields are different, approaches of individuals related with Covid 19 were found to show similar characteristics.

Issa Et al. (2020) concluded that students displayed a positive attitude towards open education resources in learning. In the discourses analysed in the present study, the importance of technology was emphasized, and it was emphasized that education should be generalized through distance education and online education.

Basilaiia & Kvavadze (2020) gave examples to platforms that can be used for online education and live communication. In the discourses in this study, the importance of online education was emphasized, while the majority did not mention what online platforms were. In the discourses, it was stated that live communication platforms should be used in the future of language teaching. In this respect, it can be said that studies reached similar conclusions.

Karakuş et al. (2020) concluded that Turkish teacher candidates could not adapt to the distance education process and they suggested switching to face-to-face education. In the present study, the participants mentioned the benefits and importance of distance education and stated that distance education activities should be generalized and continue. In this respect, it was found that the studies reached opposite conclusions.

In this research participants also touched on the disadvantages of distance education. Other studies have reached similar results: The high number of students and the lack of sufficient internet connection and infrastructure in rural areas limit live broadcasting opportunities (Hebebci et Al., 2020). When the results of the current study are taken into consideration, it can easily be asserted that the participants were predominantly against distance education (Şahbaz, 2020).

This several recommendations could be made for related studies:

1. The present study was conducted on prospective teachers who received the related course. Conducting a similar discourse analysis on experts who taught in the field of teaching Turkish as a foreign language before Covid 19 will enable comparing the results.

2. Covid 19 pandemic process is a process that will leave a mark in the society’s memory. For this reason, discourse analysis should be conducted on the effects of Covid 19 not only on teaching Turkish as a foreign language but also on other fields of education.

3. In the discourses, it was concluded that there should be more people wishing to learn that language to be able to teach a language to more people, which could be possible with technological development. For this reason, technological studies should be given importance.
4. The participants in the study mentioned the importance of distance education studies in their discourses. Online seminars and other education activities which increased with the Covid 19 process should continue and become more widespread.

5. It was found that state policies in other fields affect the field of education and especially language teaching. Therefore, it is crucial to continue policies that create positive opinions towards Turkey and Turkish.

References


Gender Issues in English Language Teacher Education: Cinderella’s Awakening through Comparative Literature

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Abstract

The socio-dynamics of the 21st century classroom reveals the importance of gender sensitivity as a living mechanism which constructs both intrapersonal and interpersonal relationships. This study explores how reading and discussing comparative children’s literature could impact pre-service English teachers’ understanding of gender issues at a university in the west of Turkey. Adopting a qualitative case study design, the present study involved 25 senior pre-service teachers who were taking the literature course in the 2018-2019 academic year, fall term. Data was collected through written reports and semi-structured interviews. We analyzed the data inductively with codes and themes developing out of a recursive process of data collection and analysis. The findings display that a comparative analysis of fairy tales is an effective means through which the pre-service teachers develop gender sensitivity and become critically literate as a teacher. Besides, the comparative analysis helps the female participants improve self-sufficiency as a woman. Implications are also included for language teacher education programs.

Keywords: Comparative Literature, Gender Issues, Pre-Service English Teachers, Qualitative Case Study

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1 For the comparative analysis of the tales Ashputtel and The Magical Little Date Tree, which was the inspiration for this study see Kumlu, E. (2020). Unveiling the Implicit political Agenda: A Comparative Analysis of the Construction of Gender Roles in Grimm’s Ashputtel and Giuseppe Pitré’s The Magical Little Date Tree. Litera, 30(1), 155-175. https://doi.org/10.26650/LITERA2020-0006

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Introduction

The answer to the question; ‘What do we need to do to become well-qualified or ready for today’s world?’ has become one of the main issues of the 21st century. The practice of teaching has undergone dramatic changes in recent years mainly due to the dynamics of a chaotic world, but at the same time, it has the potential to minimize the negative effects of today’s world. This may be achieved, not only by preparing students through educational practices, but also by encouraging them to be socially conscious individuals who are aware of the need for a better social life. It is evident that the teacher and the practice of teaching have been exposed to the harsh social realities and traumas of the 21st century. However, they have the power to bear the burden of these difficulties because the teacher is no longer the one expected to have certain methodological knowledge only, but a guide/coach who prepares her students for life. Especially in the case of teacher education, developing pre-service teachers’ awareness for certain issues is vital and gender issues can be regarded as one of the most significant subjects as they affect the way pre-service teachers interpret and define both themselves and others.

In order to develop pre-service teachers’ gender sensitivity, the comparative analysis of fairy tales can be a tool as fairy tales are the very source of the way we interpret societal gender roles (Cashdan, 1999; Lieberman, 1986; Parsons, 2004; Rice, 2000; Rowe, 1999; Tatar, 2003; Walkerdine, 1984; Zipes, 1987). Also, comparative literature increases empathy and encourages understanding of others (Kefeli, 2000). In relation, this study explores how reading and discussing comparative children’s literature could impact pre-service English teachers’ understanding of gender issues at a university in the west of Turkey. To do this, the paper first reviews gender issues in pre-service teacher education programs and the representation of gender roles in comparative children’s literature, especially in fairy tales. It then depicts the methodological aspects of the study and presents the findings and concludes with a discussion of the findings and implications for pre-service teacher education programs.

A Neglected Perspective in Pre-service Teacher Education: Gender Issues

Gender is both a cultural and a societal issue that shapes the way we interpret the world. The term “gender” was separated from the term “sex” in the late sixties (Simmonds, 2012). Gender is “the social and cultural overlay that exaggerates and builds on presumed biological differences between males and females” (Kennelly, Merz & Lorber, 2001, p.598). Unlike sex, gender is believed to be constructed by socio-cultural forces which designate the definition of being a man and a woman in society (Bartkey, 1990; Bordo, 2020; Butler, 1999). As gender is defined as a “cultural construction”, gender stereotypes can be defined as general beliefs about what females and males are like and what they should be like (Halpem, 1992).
With the developments in psychology and gender studies in the 1960s, the idea of social construction of gender roles has increased the importance of gender sensitivity. The importance of gender sensitivity lies under the fact that socio-cultural forces affect the way we interpret how we should act, what we should wear, how we should talk or where one should be among the society. It is at this point that the importance of pre-service teacher education intersects with gender issues. As underlined by Skolverket (2011, p.10) “the education should be carried out in accordance with fundamental democratic values and human rights, covering the inviolability of people, the freedom and integrity of the individual, the equal value of all people, gender equality and solidarity between people”. Therefore, there is a need for including gender issues, courses or components in pre-service teacher education programs so that pre-service teachers could “generate the ability to analyze social and cultural phenomena through the lens of gender” (Kuruvilla, 2014, p.36). There exist some studies which displayed that teachers have the power to influence their students’ ability to become more gender sensitive (e.g. Eriksson-Barajas, 2008; Kollberg, 2016; Pace & Townsend, 1999). Therefore, nurturing gender sensitivity of pre-service teachers has the power to shape the way they interpret themselves, their students and the society in general and has consequences at micro, meso and macro levels.

**Representation of Gender Roles in Comparative Children’s Literature**

Comparative literature, as Henry Remak proposes (1961, p.3), “is the study of literature beyond the confines of one particular country, and the study of the relationships between literature on the one hand, and other areas of knowledge and belief”. Deriving its origin from differences, comparative literature fosters the ability to understand others and encourages the development of tolerance, empathy and respect towards others (Cuma, 2019; Kefeli, 2000). Comparative literature, in this sense, could be a tool for fostering gender sensitivity of pre-service teachers in combination with fairy tales.

In *Touch Magic*, Yolen (2000, p.27) notes that “fairy tales are the thumbprints of history, but they are harder to read than any yellowing birth certificate or a well-loved photograph in a family album”. Apparently, fairy tales have tremendous effects on our lives as no matter what culture they are from, children develop in the same way and fairy tales focus upon universal themes and experiences (Campbell, 1993). The tales influence children’s attitudes and perceptions of gender-appropriate behavior in society (Bettelheim, 1976; Joosen, 2011; Tatar, 2003; Zipes, 1997) and the construction of their identity, their beliefs and expectations towards others, and their conscious and unconscious associations in social life and their interpretation of the cultural norms (Joosen, 2011, p.51).
The cultural norms represented in fairy tales have tremendous impacts upon the socialization process of the child who associates herself with the characters in the tales. Thus, gender perceptions and conceptions that are the results of the reading process are significant for children not only for understanding themselves but also for understanding the behaviors of others (Meece, 2002, p.409). It is patent that the importance of the teacher’s awareness of dominant canonical literary texts is extremely important as students generally identify themselves with these characters. As opposed to the ideological stance in canonical fairy tales that define the borders of womanhood and manhood, teachers should therefore propose resistant or oppositional reading practices (Kuo, 2005).

**Cinderella in the Classroom**

Fairy tales can be interpreted as historical documents (Darnton, 1999) which have the potential to act as cultural barometers (Paul, 1998) and cultural artifacts (Gilbert, 1992), and no other fairy tale enchants us as the story of Cinderella. Her glass-slippers, the pumpkin, her stepsisters, the evil stepmother still live with us. With hundreds of versions, Cinderella is “the best-known fairy tale in the Western world, and the one woman most often name as their favorite because all of us, male and female, have known despair and several times in a lifetime seen ourselves as unwanted, looked down on by others” (Gould, 2006: 39). Cinderella can be regarded as the mother of fairy tales as her primordial story is the story of societal gender roles which have been imposed upon both men and women for centuries. As Lieberman (1986: 194) put it, “the child who dreams of being a Cinderella dreams perforce not only of being chosen and elevated by a prince, but also of being a glamorous sufferer or victim”. The dependent, helpless, submissive girl in ashes was so powerful that she would later be an inspiration for “the Cinderella complex”, a term in psychology postulated by Dowling (1981). In her book, Dowling highlights the dependent female figure who fears from movement and displays neurotic dependency, learned helplessness, lack of self-esteem and self-confidence.

The story of Cinderella has been reinvented by different cultures so many times that in each version she has different characteristics (Tatar, 1999: 102). Although there are numerous versions of the story, the most popular one is written by Grimms and Perrault who portray Cinderella as a passive and incompetent female figure. However, with the beginning of the women’s liberation movement during the 1960’s, modern feminists began to interpret the tales from different perspectives. The socio-political and socio-psychological readings of the tales from a feminist point of view illuminated how the discourse used in the tales aimed to oppress women (Haase, 2004; Joosen, 2011; Lieberman, 1972; Rowe, 1979; Schanoes, 2016; Tatar, 2003; Zipes, 1987). As a result, the romantic ideals in the tales were no longer convincing as women realized that “all men are not princes” (Rowe, 1979: 222). The modern readings of the tales transformed the passive and incompetent Cinderellas into competent and powerful ones. Margaret Atwood’s *The Edible Woman* (1969) and Angela Carter’s *Ashputtel or
the Mother’s Ghost: Three versions of One Story (1987) are the few examples of the new Cinderellas that call for a liberation from the patriarchal discourse.

The literary analysis of Cinderella in the classroom is a marvelous tool for understanding the power of the embedded messages of the patriarchal canon of fairy tales. In this study the fairy tale from traditional canon Ashputtel, widely known as Cinderella, by Grimm Brothers is selected to highlight how fairy tales could impact pre-service English teachers’ understanding of gender issues. The text is analyzed comparatively with Giuseppe Pitré’s The Magical Little Date Tree, which provides an oppositional perspective. While Cinderella is the very symbol of enslavement, dependence, lack of self-confidence and submissiveness, Pitré’s protagonist Ninetta is the very symbol of freedom, independence, creativity, and self-reliance. Pitré’s version of Cinderella is quite valuable because he employs a corporeal language of resistance and portrays a female body as a site of both power and resistance in the 19th century.

Methodology

We adopted a qualitative case study design to explore how reading and discussing comparative children’s literature could impact pre-service English teachers’ understanding of gender issues at a university in the west of Turkey. We aimed to provide an in-depth description and analysis of a bounded system (Merriam & Tisdell, 2016), a six-week course module aimed at improving pre-service English teachers’ gender sensitivity at a specific teacher education program in Turkey.

Contexts and Participants

The study was conducted with senior pre-service English language teachers in a public university in the west of Turkey within the scope of the literature course in the fall term of the 2018-2019 academic year. The six-week module prepared was embedded into the course content. There were 25 students (19 females and 6 males) in the course. They all provided verbal consent to participate in the study. In order to prevent coercion, we informed the students that participation in the study would not affect their grading in the course. In order to provide confidentiality, we gave participants numbers and used the acronym PST for pre-service teacher.

Structure of the Course Module

For the two-hour course conducted by the first author, we selected Giuseppe Pitré’s The Magical Little Date Tree (1875) from Italian literature and Grimm Brothers’ fairy tale Ashputtel (1812) from German literature to provide oppositional perspectives. We believed oppositional perspectives would enable the pre-service teachers to compare and contrast the two different versions of Cinderella, which highlights how fairy tales shape and construct gender-appropriate behavior in society. To analyze the patriarchal canon of fairy tales and the cultural messages embedded in them, we chose the fairy tale Ashputtel, widely known as Cinderella, which can be regarded as the mother
of the traditional patriarchal canon of fairy tales with more than 700 versions (Bettelheim, 1976). Each version, especially the older ones, takes almost the same position about societal gender roles and defines women as helpless beings. The Grimm’s version is also based on the submissiveness and passivity of the female body that results in lack of self-confidence and self-reliance. In order to explore how Cinderella’s story shapes the construction of gender-appropriate behavior in society, the pre-service teachers were encouraged to analyze the dominant patriarchal ideology in these fairy tales.

In the first week, the pre-service teachers were expected to develop a general understanding of the nature of comparative literature, its history as well as its theories and methods through discussions. In the second week, we focused on Colette Dowling’s The Cinderella Complex. The pre-service teachers were actively engaged in discussing the work of Dowling as the tale they had known since their childhood gained a new meaning for them. The concepts of neurotic dependency, learned helplessness, fusion, the fear of separation, blind devotion, and the wish to be saved, the symptoms of the Cinderella complex, were the main discussion topics in the class. In the third week, we had a whole-class discussion on Ashputtel and focused upon the depiction of the protagonist in terms of societal gender roles. In the fourth week, the student teachers were ready to analyze Giuseppe Pitré’s The Magical Little Date Tree from Italian literature. While the Grimm’s version is the very symbol of the submissive and passive female character, Pitré’s protagonist Ninetta strictly proposes an opposite attitude. She is a self-reliant, independent, bold and courageous woman who subverts gender roles and shapes her destiny according to her desires and choices. In the fifth week, we comparatively analyzed the tales within the light of comparative literature and feminist literary criticism. The feminist discourse used aimed to highlight the socio-political and socio-psychological dimensions of fairy tales. In the final week of the course, we had a discussion on the pre-service teachers’ takeaways concerning gender issues as presented in the selected fairy tales. The structure of the six-week course module is presented in Table 1.

**Table 1. Structure of the six-week course module**

<table>
<thead>
<tr>
<th>Week</th>
<th>Content</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to comparative literature</td>
<td>Developing a general understanding of the nature of comparative literature and feminist literary criticism</td>
</tr>
<tr>
<td>2</td>
<td>The Cinderella Complex by Colette Dowling</td>
<td>Discussing the psychological aspects of the fairy tale Cinderella and gender issues</td>
</tr>
<tr>
<td>3</td>
<td>Ashputtel</td>
<td>Analyzing and discussing the tale in terms of societal gender roles</td>
</tr>
<tr>
<td>4</td>
<td>The Magical Little Date Tree</td>
<td>Analyzing and discussing the tale in terms of societal gender roles</td>
</tr>
<tr>
<td>5</td>
<td>Comparative analysis of the tales</td>
<td>Comparatively analyzing and discussing the tales in terms of societal gender roles</td>
</tr>
<tr>
<td>6</td>
<td>Wrap-up</td>
<td>Discussing the new perspectives gained from the comparative analysis of the tales</td>
</tr>
</tbody>
</table>
Data collection and analysis

The written reports of pre-service teachers on their reflections concerning the fairy tales they read and discussed comparatively in class constituted the primary source of data in this study. The participants wrote two reports, one in the fourth week and the other in the sixth/final week of the course. The written reports were acronymized as WR in the study. In addition to written reports, we conducted semi-structured interviews with 6 pre-service teachers (all females) who provided rich data in their written reports and who were willing to take part in an interview. Each interview lasted 20 minutes. All the interviews were audio-recorded and transcribed. The semi-structured interviews were acronymized as I in the study. We analyzed the data inductively with codes and themes developing out of a recursive process of data collection and analysis. We read the data two times individually and then discussed the emerging themes until we reached consensus on the overarching themes.

Findings

Analysis of the data revealed three major themes that concern the participants’ professional and personal lives: Developing gender sensitivity as a teacher, becoming critically literate as a teacher and improving self-sufficiency as a woman. We discuss each theme below with the relevant excerpts from the participants’ written reports and interviews.

Developing gender sensitivity as a teacher

The data analyzed revealed that the participant pre-service teachers, both males and females, had regarded societal gender roles as natural elements of human life before the comparative analysis of the selected tales. The comparative analysis of the tales within the light of feminist literary criticism unveiled the reality that the participants began to interpret gender-appropriate behavior in society as a cultural construction. For instance, on reading Cinderella’s and Ninetta’s stories, PST11 mentioned:

After I had analyzed the tales comparatively, I realized that the passive-submissive female role which has been tried to be imposed upon me is the suppression of society. After the course, I criticized myself a lot because as a pre-service teacher I was unaware of the reality that gender is a cultural construction and the way I had been defining womanhood and manhood was completely wrong. I became conscious of the reality that as a teacher I should be much more qualified in order to encourage my students to develop gender awareness. However, I need to confess that first I should be like Ninetta (I).

In a similar fashion, PST2 commented, “I did not know that I am a Sleeping Beauty who has ignored what happens in society. I was unaware that societal gender roles are really constructed by culture. I now feel I need so many qualities to be a teacher” (I). In their overall evaluations of the fairy tales, the participants associated gender sensitivity with the crucial need of raising awareness on many
subjects as a pre-service teacher, as underlined by PST13, “I could not imagine that fairy tales can shape our interpretation of gender roles. I decided to give great importance to raising my awareness as a pre-service teacher” (I).

The participants’ increased awareness of gender issues also boosted their understanding of the important role the teacher plays in a student’s life. For instance PST5 said, “Every little girl in class should read the story of Ninetta, who gives the message of what the society expects from a woman. Just like Ninetta, I want to improve my students to become independent women who respect both men and women” (WR). In relation to gender issues, the majority of the participants highlighted “the importance of the right to choose” and “the necessity of interpreting cases from different perspectives”, as highlighted by PST7:

After the comparative analysis of the tales, I came to realize that just like many other concepts like religion, race, color, our perception of gender is simply a product of culture. As a pre-service teacher I realized that treating both men and women equally is as important as having methodological or linguistic knowledge. As a teacher we should be aware of that for our students (WR).

As this excerpt illustrates, the majority of the participants mentioned how important it is for a teacher to understand gender and foster gender sensitivity in daily life and classroom practices.

**Becoming critically literate as a teacher**

Having developed the idea that texts are socially constructed from particular perspectives, the pre-service teachers in the study expressed that they considered critical literacy skills essential for teachers. For instance, PST13 mentioned, “I did not know that the tales may subconsciously provide such motives. Especially while teaching young learners, it might be quite harmful to read them in class. As a teacher I should read and analyze the materials very carefully” (I). Similarly, PST19 said, “The comparative analysis of the tales led me to interpret the tales from a different perspective. I was not aware of the fact that the materials we use in class are very important for a teacher. I have decided to develop myself in many areas; history literature, psychology” (WR). The participants also commented that they were not aware of the power of fairy tales in our lives. After having analyzed the tales comparatively, they said that they gained different perspectives. For instance, PST6 wrote, “I decided to read the materials I will use in class very carefully. I noticed that the examples we give in class are crucial. I can create Cinderellas or Ninettas, I was not aware of that power” (WR). A male participant PST18 further added:

Next year in my classes I will choose my materials in accordance with the needs of our society. I would like to give examples such as: “He washes the dishes; She works in the office; He cooks dinner” to affect my students in a positive way. I did not know that the materials we use in class
or the works we read have such a tremendous effect on our lives. I should take into account that as teachers we can change the future. I think I have totally developed a different perspective about fairy tales and gender roles (WR).

On the whole, the participants reported that they should be much more careful while reading any kind of written document. They underlined the need for analyzing what they read in detail and questioning the possibility of different perspectives as a teacher.

**Improving self-sufficiency as a woman**

The female participants in the study associated themselves with the female characters in the fairy tales and described Cinderella as the character whom they are forced to become in social life. On the other hand, they defined Ninetta as the one whom they should be as a woman with the qualities of self-sufficiency, self-confidence, self-esteem, self-respect and self-reliance. For instance, PST17 said, “I had thought that only men could be self-confident. Now I believe that everybody has the right to be self-confident whether a woman or a man. I would recommend my students to read literary works that will increase their self-confidence” (WR). The participants internalized Cinderella as a flesh and bone symbol of the women in their society who need an outside force to escape a situation, as indicated by PS4:

The comparative analysis of the tales helped me to understand that a woman should not think ‘I can’t do that’ or ‘only my husband can do this’. I understand that a woman should be brave and self-confident. Marriage should not be an escape from the responsibilities for women. I noticed from Ninetta’s story that we should educate ourselves to become self-confident women (WR).

In addition, PST 5 underlined, “As a woman I begin to feel more self-confident as I see that we have the power to become Ninetta instead of the girl in ashes waiting to be saved” (WR). The majority of the participants regarded Ninetta as a good role-model for them as the fairy tale character shapes her life according to her own choices and desires, rather than having her life choices made by others.

Most of the participants identified this as proof of a deep-rooted sense of own worth and secure self-esteem. For example, PST16 indicated, “Ninetta’s story helped me to learn how to respect myself. I should not let anyone interfere in my life. If I respect myself, my students will respect me too” (I). Another female participant, PST12, mentioned:

I thought that I should be as beautiful as Cinderella, the princess. I think my interpretation about my outlook has completely changed. I can feel strong and beautiful regardless of social norms. I should respect my body and I do not need to be slim or blond to feel beautiful. I did not know that
even our outlooks are shaped by culture. Ninetta’s tale helped me to confess that society has decreased my self-esteem” (WR).

PST24 highlighted the significance of self-respect for a woman in her written report, “As an individual, I should not always seek for others’ approval of what I do. Being Cinderella would not bring me happiness. First, I should respect myself so that others will respect me” (WR). Similarly, PST16 described Ninetta as a self-reliant woman who strives towards her own goals bravely, “Most people think that women are inherently inadequate and in need of support. Ninetta proves that women do not need the support of others. She goes from one place to another, she makes plans and achieves her goals all alone” (WR).

Discussion and Implications

The use of fairy tales, especially Cinderella, has been the subject of several research studies in education (e.g. Demarest & Kortenhaus, 2000; Kim, Wee & Lee, 2017; Mendelson, 1997; Westland, 2006), yet rarely becomes a component of teacher education programs. In this study, Ashputtel, widely known as Cinderella, from the traditional fairy tale canon was analyzed comparatively with The Magical Little Date Tree within the light of feminist literary criticism in pre-service English language teacher education. Feminist literary criticism, which is concerned with "the ways in which literature (and other cultural productions) reinforce or undermine the economic, political, social, and psychological oppression of women” (Tyson, 2006: 83), was adopted in the in-class analysis of the tales. The feminist framework aimed to encourage the students to focus upon gender issues and the patriarchal ideology that aim to limit the female characters in the texts.

The findings of the study indicated that the comparative analysis of the tales encouraged the participants to develop gender sensitivity, become critically literate as a teacher and improve self-sufficiency as a woman. In their written reports and interviews, the pre-service teachers described gender roles as a determinant factor on who they should be in social life. They also mentioned that their conceptions of gender have direct effects on understanding the self and others. The majority of the participants in the study defined gender sensitivity as one of the prominent issues of teaching as a profession, which suggests that gender issues should be on the agenda of teacher education programs (Lahelma, 2011; Sanders, 2002). The comparative analysis of the tales helped the pre-service teachers become aware of gender as a culturally constructed notion and education as a kind of “political act that controls destinies” (Howe, 1982, p. 283). The majority of the participants, both male and female, identified themselves with the characters in the tales and mentioned that they, as teachers, became aware of the importance of fairy tales upon the construction of gender-appropriate behavior in society.

Besides, the comparative analysis of the tales from a feminist perspective enabled the pre-service teachers in the study to question the importance of becoming critically literate as a teacher.
Critical literacy has been defined as “learning to read and write as part of the process of becoming conscious of one’s experience as historically constructed within specific power relations” (Anderson & Irvine, 1982: p. 82). Therefore, critical literacy promotes an active, reflective manner during the reading process through focusing on the cultural and ideological assumptions hidden in the text and encourages readers to focus on different cultural contexts (Luke, 2000). That kind of a critical stance supports “the transformation of self or one’s world” (McDaniel, 2004: 474). The majority of the participants in the study stated that, after the comparative analysis of the tales, their understanding about the construction of gender roles altered dramatically. The pre-service teachers emphasized that they need to learn to be critically literate and gender sensitive as teachers in order to choose the right materials in class. Many expressed that they were highly surprised at the hidden ideological messages in traditional fairy tales and found the discourse of the tales dangerous for children. The participants underlined that they should develop themselves in many areas such as psychology and history in order to choose the best materials in class.

The findings also suggested that improving self-sufficiency as a woman was another theme that encouraged self-confidence, self-esteem, self-respect and self-reliance among the female participants. The female pre-service teachers mentioned that the comparative analysis of the tales helped them question the possibility of different choices and options in social life as a woman. They particularly questioned the Barbie doll beauty standards set by the society and reported that Ninetta’s story was an inspiration for them to feel complete and whole. Moreover, they underlined the possibility of self-sufficiency as a woman as opposed to the limitations of the society.

On the whole, the course module provided gave the pre-service teachers a chance to question the significance of becoming aware of the roles designated to women and men in society and taking a gender conscious approach as a teacher. The most significant point is the fact that they not only decided to develop themselves on certain issues just for their own good but also for their students. They began to question the importance of being a teacher and the crucial necessity of critical literacy, gender sensitivity and self-improvement in order to be a good role model for their students. Their comments revealed that being a teacher encapsulates various qualities such as an awareness of the dynamics of social life. The depiction of gender issues in the course module, as the core subject of daily life, helped the participants enhance new perspectives concerning their professional and personal selves.

As the nature of qualitative research suggests, the current study does not aim at reaching generalizations. Yet, it has several implications for teacher educators who consider gender issues an essential component of pre-service teacher education programs. Such a course module which provides a comparative analysis of fairy tales or any other literary texts can contribute to gender sensitive pre-service teacher education and pre-service teachers for a better life in the 21st century. Similar modules
can be integrated into pre-service teacher education programs so that teachers can act as agents of change to nurture gender sensitivity in the classroom and beyond.

References


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Examining the Opinions of School Principals Regarding Unethical Issues in School Management

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Abstract

This study aims to explore the ethical issues faced by principals working in public schools and determining their responses during and after unethical matters. This research was conducted in phenomenology design as qualitative study. Thirty school principals working in Tekirdağ province, Süleymanpaşa district public schools (special education, preschool, primary school, secondary school, and high school) participated in the study. Data were collected using a semi-structured interview form. The findings were analyzed by applying the content analysis method and presented by creating themes and codes with quotations. The findings show that school principals are not involved in financial processes. Their relationships with parents are more discreet and they are sensitive in their relations with staff. There is no deliberate discrimination among teachers, they are neutral in tenders and canteens, they embrace the interests of students in opening courses, and they are far from financial expectations in student enrolments. For minimizing the ethical difficulties in schools and establishing a regular school ethical chain, it has emerged that the moral principles in schools should be defined beforehand. Administrators should be trained ethically before their assignment. Simultaneously, the obligation of solving financial difficulties, which are the source of ethical problems in schools, has emerged.

Keywords: School Management and Ethics, Ethical Problems, School Principals, Ethical Values, Phenomenology.

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Introduction

Ethics as a concept originates from the Greek word "ethos", which suggests behavior and character (Özdemir, 2008). As Aristotle, one of the world's most recognized and discussed Ancient Greek philosophers, put it: "Man is a political animal by nature" (Tannenbaum & Schultz, 2007). Of course, due to this state of nature, it is inevitable to create a network of relationships. This political and social life created by individuals is a result of human nature. It can be undoubtedly stated that most thinkers accept the role of concepts such as ethics, virtue, and morality in this social and political life, which are formed by their nature (Berkowitz, 1999, p. 4; Miller, 2000).

In the context of social and individual relationship networks, behaviours that are almost entirely adopted and that arise by executing the essential rules and their requirements can be defined as ethical values (Kırhoğlu & Akyel, 2003). There are a relationship and difference between ethics and morality. Most comprehensively, concerning the relationship between morality and ethics, ethics can be described as follows (Cevizezi, 2008, p. 1):

“Ethics can be defined as the way of thinking that has everything adding meaning to life, the theory of moral principles or the discipline of philosophy in terms of the life of the individual who has an absolute morality and strives to realize a specific experience ideal, secondly, those who criticize and even condemn the course of the age, the life of the society of which they are a member and consequently attempt to impose alternative values, living rules or principles instead of the current or in terms of the attitude of the philosopher who does not define him explicitly but tries to justify his implications and finally, just like the physicist who analyzes the language of morality, discusses the nature of moral concepts and judgments, in short, dealing with the phenomenal world, in terms of the work of the philosopher who is involved in a theoretical research that focuses on the world of value at least for now and conventionally, the subject of value, the human’s valuing experience, in short, the way of thinking that includes everything that adds meaning to life.”

The philosophical discipline that deals with the moral rules, values, which form the basis of both social and individual relationships built by individuals over time, with moral concepts such as evil or right or wrong or righteousness are called ethics (Kırel, 2000). There are some moral principles throughout the attitudes and behaviours that the individual exhibits in his daily life. The criteria by which individuals shape their actions in a wide range from what is right and wrong, to what is good and evil are also called ethics (Saban & Atalay, 2005).
Ethics in Schools

In the framework of the study, professional ethics is considered regarding concepts such as school, education, and school administrators. The title "Ethics in Schools" can be defined as professional ethics in educational sciences. With its shortest definition, professional ethics are the rules of behaviour and attitude that must be followed in the professional branches directly dealing with the individual. The main reasons why the issue of professional ethics has become critical nowadays when the Division of Labour is observed in every moment and every aspect of our lives, is the recognition and increase of ethical problems encountered in professional groups (Tepe, 2000). When evaluated in the context of schools, there is a holistic relationship between ethical management and teaching. An acceptable teacher is not only someone with excellent teaching abilities yet also a moral model with his life. In this context, teaching is not just a profession but also an ideal living typology (Pieper, 1999).

Ethics in School Management

According to Bursalıoğlu (1997), it is difficult for school administrations to be successful without mastering the values professionally. Referring to the fact that moral and ethical leadership has become essential for schools and educational organizations like all the others, Bursalıoğlu (1997) states that ethical thoughts and actions are the most important responsibilities of leaders. In his study, Sergiovanni (2001, p. 345) states that "Running schools is not a random business. Mind, heart, and hands must work together in the process of practice. Situations in schools should be authoritarian". According to another definition, as an ethical leader, the school administrator's principal responsibility is to comply with the ethical principles of the profession. The code of ethics should be idealistic and applicable to all school administrators. The school administrator recognizes that public schools serve the purpose of providing educational opportunities for all (American Association of School Administrators, 1996).

Research conducted on school management challenges of school administrators investigated the issues in financial resources management (Aslanargun & Bozkurt, 2012; Hoşgörür & Arslan, 2014; Karakütük & Özbak, 2017; Menteşe, Üstün, & Gökdelen, 2012); school-parent cooperation (Aslanargun & Bozkurt, 2012; Özgan & Aydn, 2010); environmental factors (Aslanargun & Bozkurt, 2012; Özcan, 2014). However, there is limited research on ethical issues that school administrators face in school management (see Argon, 2016) or ethical leadership characteristics of school administrators (see Börü & Boyacı, 2016) in national context. Therefore, the present study is expected to contribute to literature by addressing school management in terms of ethical issues and the way school principals deal with ethical difficulties.
This study aims to examine the unethical issues encountered by school principals in school management and to determine their responses during and after unethical problem situations. As a result of the research, it is attempted to reveal what initials are essential for the founding of ethical infrastructure in schools, the place, and the importance of moral elements in successful school management, and which features should be paid attention to ethically. Therefore, answers to the following questions were sought:

1. How is a school principal’s management of financial processes perceived in terms of ethical values?
2. How are unethical behaviours of school principals perceived in their relationships with parents?
3. How is the approach of the school principals towards teachers perceived in the context of ethical values?
4. How is the relationship of the school principals with the staff perceived in the context of ethical values?
5. For the school principals:
   a. What are the unethical situations they face in conducting refresher courses?
   b. What are the unethical situations they face in service and canteen tenders?
   c. What are the unethical behaviours that students face while enrolling in the school?

Method

Research Design

This study was designed by the qualitative research design. Qualitative research can be defined as studies in which qualitative data collection methods such as interviews and documents are used, and qualitative processes revealed in the natural environment of perception and events are followed (Fraenkel et al., 2012). In qualitative research studies, data are usually collected through methods such as observations, interviews, and metaphors. The present study is conducted in phenomenology design. In this design, it is possible to determine the participants' experiences, thoughts, attitudes, and behaviours (Yıldırım & Şimşek, 2008).

Participants

In determining the study group of the research, one of the purposeful sampling methods, the appropriate sampling method was used. Appropriate sampling is the selection from easily accessible and applicable units due to the limitations in terms of time, money, and labor (Büyüköztürk et al., 2008). Following the appropriate sampling method, the researchers interviewed 30 state school
principals who were working in different levels and types in Tekirdağ Province Süleymanpaşa District. Codes in the form of M1, M2, and M3… were used while conveying the direct opinions of the participants. Information about the participants is given in Table 1:

Table 1. Demographic Information about Participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of Participants (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>6</td>
</tr>
<tr>
<td>Male</td>
<td>24</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Ages 20-30</td>
<td>4</td>
</tr>
<tr>
<td>Ages 31-40</td>
<td>8</td>
</tr>
<tr>
<td>Ages 41-50</td>
<td>12</td>
</tr>
<tr>
<td>Ages 51-60</td>
<td>6</td>
</tr>
<tr>
<td>Branch</td>
<td></td>
</tr>
<tr>
<td>Primary School</td>
<td>10</td>
</tr>
<tr>
<td>Turkish Philology Teaching</td>
<td>2</td>
</tr>
<tr>
<td>Math Teaching</td>
<td>2</td>
</tr>
<tr>
<td>History Teaching</td>
<td>2</td>
</tr>
<tr>
<td>Religious Culture and Moral Knowledge Teaching</td>
<td>2</td>
</tr>
<tr>
<td>Pre-School Teaching</td>
<td>2</td>
</tr>
<tr>
<td>Physical Education Teaching</td>
<td>2</td>
</tr>
<tr>
<td>Turkish Teaching</td>
<td>2</td>
</tr>
<tr>
<td>English Language Teaching</td>
<td>1</td>
</tr>
<tr>
<td>Social Sciences Teaching</td>
<td>1</td>
</tr>
<tr>
<td>Philosophy Teaching</td>
<td>1</td>
</tr>
<tr>
<td>Accounting and Finance Teaching</td>
<td>1</td>
</tr>
<tr>
<td>Science and Technology Teaching</td>
<td>1</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
</tr>
<tr>
<td>Administration Year</td>
<td></td>
</tr>
<tr>
<td>0-5 Years</td>
<td>12</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>8</td>
</tr>
<tr>
<td>11-15 Years</td>
<td>4</td>
</tr>
<tr>
<td>16 and above</td>
<td>6</td>
</tr>
<tr>
<td>Teaching Year</td>
<td></td>
</tr>
<tr>
<td>0-5 Years</td>
<td>4</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>4</td>
</tr>
<tr>
<td>11-15 Years</td>
<td>4</td>
</tr>
<tr>
<td>16-20 Years</td>
<td>8</td>
</tr>
<tr>
<td>21 and older</td>
<td>10</td>
</tr>
<tr>
<td>School Type</td>
<td></td>
</tr>
<tr>
<td>Pre-School</td>
<td>2</td>
</tr>
<tr>
<td>Primary School</td>
<td>11</td>
</tr>
<tr>
<td>Secondary School</td>
<td>9</td>
</tr>
<tr>
<td>High School</td>
<td>6</td>
</tr>
<tr>
<td>Special Education</td>
<td>2</td>
</tr>
<tr>
<td>Average Number of Teachers in Schools</td>
<td></td>
</tr>
<tr>
<td>0-20 Teacher</td>
<td>6</td>
</tr>
<tr>
<td>21-50 Teacher</td>
<td>8</td>
</tr>
<tr>
<td>51-100 Teacher</td>
<td>14</td>
</tr>
<tr>
<td>101 and above</td>
<td>2</td>
</tr>
<tr>
<td>Average Student Amount of Schools</td>
<td></td>
</tr>
<tr>
<td>0-500 Students</td>
<td>10</td>
</tr>
<tr>
<td>501-1000 Students</td>
<td>6</td>
</tr>
<tr>
<td>1001-2000 Students</td>
<td>10</td>
</tr>
<tr>
<td>2001 and above</td>
<td>4</td>
</tr>
</tbody>
</table>
The teaching career stages of 30 school principals who constitute the sample of the study were separated by the career stages suggested by Bakıoğlu (1996) in his research. According to this, 1-5 years of professional seniority is "entering the career" stage, 6-10 years of professional seniority is the "settling" stage, 11-15 years of professional seniority is the "experimentation" stage, 16-20 years of professional seniority is "expertise" stage and 21 years or more professional seniority is defined as the "calmness" stage. In terms of teaching career steps, four of the school principals, who constitute the sample of the research, are at the beginning of the career, four of them are at the stage of settling, four of them are experimental, eight of them are at the expertise, and 10 of them are at the calmness stage.

**Data Collection Tools**

The interview method is another most frequently used system among qualitative data collection methods. The interview method is used as a powerful method to reveal the perspectives, experiences, feelings, and perceptions of the individuals (Bogdan & Biklen, 1992). A semi-structured interview method was preferred to collect data in the study. This method is essential in terms of asking questions that will make it possible to examine in-depth on a specified subject. If the answers are not incomplete or unclear, it makes the situation clearer by asking questions at the end and allows the answers to be completed (Çepni, 2007). The researchers conducted semi-structured interviews consisting of seven questions with 30 state school principals and recorded the interviews using a tape recorder by informing them during the interviews. They made a clean copy of these records and reported the data. The demographic questions in the interview form, which is the data collection tool, are related to the school principals' gender, branch, age, professional and administrative experiences, school type, and the number of school teachers. With the open-ended questions in the interview form, school principals' opinions about their participation in financial processes in the context of ethical values, their relations with parents, staff, and teachers, their moral attitudes in courses, services, canteens, and registries were taken. They were asked to create solutions for the ethical problems encountered in these situations.

**Validity and Reliability**

An education management expert and two school principals and public administration experts to ensure the content validity of the data collection tools examined the questions in the data collection forms. After the review of the literature, the interview form prepared in accordance with the research questions was presented to the field experts to check to what extent it served the purpose, comprehensibility, and applicability. In line with the recommendations of the experts, questions were combined, arranged, and seven questions were seen in a semi-structured interview. In the research, internal validity (credibility) was tried to be ensured through expert examination and participant confirmation. Besides, the consistency of the data findings collected for the credibility dimension of
the research was ensured. Thus, the findings were compatible with the conceptual framework applied in the development of the interview form. To increase the external validity (transferability) of the research, the process and steps taken in this process were explained in detail (Yıldırım & Şimşek, 2008). In this context, the research model, study group, data collection tool, data collection process, analysis, and interpretation of the data, and how the findings were organized were discussed in detail.

While creating coding and sub-themes, expert views were obtained from one field of education management and control and two fields of measurement and evaluation in terms of the reliability of the research. Thus, it was aimed to reach a consensus among the researchers by using the formula of Consensus = Consensus / (Consensus + Disagreement) × 100 (Miles & Huberman, 1994). Therefore, the consensus was reached at 81% and 86%, respectively, between the researcher and other experts. Situations with differences of opinion were evaluated and changed accordingly. The expressions that can be applied as literal quotes have been determined and included quotes form if necessary. Indirect quotations, mainly the views that are highly repetitive and important are tried to be conveyed.

**Data Collection**

The data were collected in the 2015-2016 academic year. Before applying the semi-structured interview questions, which are the data collection tools, to the participants, preliminary interviews were performed with the school principals, and the purpose of the study and their possible contributions were explained. The study data were collected at schools by making appointments in environments where school principals could express themselves comfortably, and voice recording could be made. Interview questions were directed to each participant with the same words and intonations that would evoke the related meaning. The data were collected between February and May 2016, and each interview lasted between 30-65 minutes on average.

**Data Analysis**

In qualitative research, analysis in the ethnographic study is achieved with the "Descriptive or Content Analysis" method. With content analysis, the data are taken into the analysis process in detail. As a result, themes and dimensions that were not clear before being formed (Yıldırım & Şimşek, 2008). The content analysis method was applied to analyze the data. Content analysis is defined as a systematic, repeatable technique in which some words are summarized with smaller content categories with coding made according to specific rules (Büyüköztürk et al., 2008).

Yıldırım and Şimşek (2008) analyze the qualitatively collected data in four stages. The analysis of the research and these four stages are described below:
1. Coding Data: The data obtained from the Interview Forms were first transferred from the voice recordings to the Word Office program and read a few times, and the related coding was created. In Table 2 below, the continually repeating and essential codes that are formed because of the question-based analysis of the interview reports done by the researcher with the school principals are listed:

<table>
<thead>
<tr>
<th>Questions</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research Question</td>
<td>Need for Financial State Support (16), Overshadowing Professional Dignity (15), Problem of State Support (12), Obligation to Meet Essential Needs (9), Solution Produce (9), Need for Financial Specialists (9), Focus on Education (8) Donations and Fundraising Trouble (8), Obligation (8), Parents' Associations (7), Begging (7), Parent and Student Prejudices (6), Additional Staff Salary Payments (5), Charity and Activities (5), Cleaning Needs (5), Quality Service (5), Inability to Employ (4), No Allowance (4), Expenditure Controls (4), Parent Relations (4), Regulation of School Buildings (3), Private School Supports (3), Wear (3), Pool System (3), Professional Units (2), Support of Local Governments (2), Senior Management Pressures (2), Autonomy for Schools (2)</td>
</tr>
<tr>
<td>2. Research Question</td>
<td>Financial Distress (11), Communication Problems (10), Failure to Maintain Level (9), Need for Fundraising (8), Exaggeration of Sincerity (6), Long Term Administrators (6), Grades (6), Student Absences (6), Managers Keeping Up with Parents (5), Incompetent Administrators (4), Compromise (4), Political Pressure (4), Parent Not Discrimination (4), Continuous Asking Parent (4), Negative Parent Profile (3), Population Using (3), Registration Requests (3), Family Association Support (2), Student Conflicts (2), Executive Elections (2), Parent Pressure (2), Parent Cooperation (2), Senior Management Pressure (2)</td>
</tr>
<tr>
<td>3. Research Question</td>
<td>Positive Discrimination (14), Teacher Who Loves His Job (9), Teacher Who Doesn’t Work (7), Difference of Opinion (7), Nepotism (7), Self-Developing Teacher (7), Equality (6), Separations (5), Mobbing (5), Teacher Performing his/her Duty (5), Support For the Teacher (5), For Labour (5), Union Discrimination (4), Sacrifice (4), Sense of Justice (4), Transparent Management (3), Mobbing (3), Polarization (3), Good-Bad Teacher Distinction (3), School Benefits (2), Human Resources Management at School (2), Self-Inquiry (2), Not Equal Approach (2)</td>
</tr>
<tr>
<td>4. Research Question</td>
<td>Discreet Relationship (16), Personnel Fulfilment (11), Performing Personal Affairs (9), Fair Distribution of Tasks (9), Supervision of Personnel (8), Management Abuse (7), Dialogue (7), Over familiarity (7), Ethical and Principled School Management (6), Relations with Subordinates (5), Declaration of Duty (4), Integration of Personnel (4), Distrust in Management (3), Appreciation of Personnel (2), Favouritism (2), Interest Relations (2), Support and Valuation (2), Representation of the State (2)</td>
</tr>
<tr>
<td>5a. Research Question</td>
<td>Student Benefits (9), Evaluation of Parent Requests (8), Teacher Competence (8), Central Teacher Appointment and Planning (5), Affinity to Administration (5), A Skilled Teacher (5), Inability to Manage the Process (4), Low Wages (3), Unwillingness of Teachers (3), Teacher Favor (3), Financial Expectations (3), Management's Lesson Hours (3), Forced Volunteer Teachers (2)</td>
</tr>
<tr>
<td>5b. Research Question</td>
<td>Tender by Senior Management (17), Parents' Associations (11), Conducting Audits (10), Financial Expectations (9), Long-Term Management (8), Transparent Tender (8), Lack of Responsibility (6), No Announcements (5),</td>
</tr>
</tbody>
</table>
Management’s Involvement in Tenders (5), Unqualified Tender (4), Nepotism (4), Managerial Attitudes (4), Quality Search (3), Health and Hygiene (2), Expert Contractors and Auditors (2) Management Concessions (2)

5c. Research Question

Address Based Registration System (19), Financial Expectations (13), Parent Expectations and Attitudes (8), Implementing Change of Address (8), Families with Good Financial Status (7), Inappropriate Offers (6), Request to Choose a School (6), Teacher Selection (5), Central Placement (5), Socio-Economic Level of Parents (5), Doing Business Through Acquaintance (4), Registration by Lot (4), Contact With Senior Management (3), Transparency (3), Using Political Power (3), Allowance Problem (3), Management Guidelines (3), Desire for High-Quality Education (2)

2. Determination of themes: Coding and classification from the obtained data are not sufficient. It is necessary to find themes that can be collected under specific categories based on the determined codes. The codes obtained from the analysis of the data obtained through the interviews with the school principals were collected in seven (7) themes and written as follows in Table 3:

Table 3. Themes

<table>
<thead>
<tr>
<th>Theme No</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1</td>
<td>Financial Needs and Overshadowing of Professional Dignity</td>
</tr>
<tr>
<td>Theme 2</td>
<td>Communication Problems and Parent Attitudes</td>
</tr>
<tr>
<td>Theme 3</td>
<td>Discrimination and Positive Discrimination</td>
</tr>
<tr>
<td>Theme 4</td>
<td>Discreet Relationship and Fair Task Distribution</td>
</tr>
<tr>
<td>Theme 5</td>
<td>Student Interests and Nepotism</td>
</tr>
<tr>
<td>Theme 6</td>
<td>Senior Management Attitudes and Tenders</td>
</tr>
<tr>
<td>Theme 7</td>
<td>Registration Status and Applications</td>
</tr>
</tbody>
</table>

3. Arrangement of codes and themes: The thematic coding stage and the adjustment according to the code and themes created from the data are followed by the thematic coding stage. The researcher divided each theme into twenty-one (21) sub-themes suitable for seven (7) themes by the data. The theme and sub-themes are given in Table 4 below:

Table 4. Sub-Themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Fundraising</td>
</tr>
<tr>
<td></td>
<td>3. Solution Generation and Management Reputation</td>
</tr>
<tr>
<td>Communication Problems and Parent Attitudes</td>
<td>1. Over familiarity to Satisfy Needs</td>
</tr>
<tr>
<td></td>
<td>2. Parental Requests Due to Fundraising</td>
</tr>
<tr>
<td></td>
<td>3. Long-Term Managers and Compromise</td>
</tr>
<tr>
<td>Discrimination and Positive Discrimination</td>
<td>1. A Teacher Who Likes and Dislikes His Job</td>
</tr>
<tr>
<td></td>
<td>2. Differences of Opinion and Fronting Teacher</td>
</tr>
<tr>
<td></td>
<td>3. Mobbing and the Sense of Justice</td>
</tr>
<tr>
<td>Discreet Relationship and Fair Task Distribution</td>
<td>1. Personal Affairs and Personnel Fulfilment</td>
</tr>
<tr>
<td></td>
<td>2. Task Distribution and Supervision</td>
</tr>
<tr>
<td></td>
<td>3. Over familiarity and Management Abuse</td>
</tr>
<tr>
<td>Student Interests and Nepotism</td>
<td>1. Consideration of Requests</td>
</tr>
<tr>
<td></td>
<td>2. Teacher Competencies and Affinity to Management</td>
</tr>
<tr>
<td></td>
<td>3. Planning and Fee Status</td>
</tr>
<tr>
<td>Senior Management Attitudes and Tenders</td>
<td>1. Senior Management and Parents’ Associations</td>
</tr>
</tbody>
</table>
4. Definition and interpretation of findings: In the last stage, the researchers interpret the findings explained in detail and collected. Simultaneously, some results are achieved. In qualitative research, the researchers’ views and inferences are essential since they are close and intertwined with data.

**Results**

Research findings are presented under this subject according to the themes obtained. Within the scope of the study, school principals’ perceived unethical situations or behaviors include informal relationships with parents due to funding schools, favouritism regarding teachers, favouritism in tenders, treating unequally, using political power and false statement for school registration.

**Financial Needs and Overshadowing of Professional Dignity**

**Government Support Requirements and Essential Needs**

Under the theme of financial requirements and undermining professional dignity, the sub-theme most frequently expressed in language stands out as “state support and essential needs” (25/30). Even if the School Principals stated that it was not ethical to be involved in the financial processes in their schools, they were obliged (8/30), since there was not enough state support (16/30), they organized activities such as bazaars to meet the essential needs for quality education (7/30), and that they meet the cleaning and required personnel needs this way (13/30), and that they cannot focus on education while dealing with such financial affairs (8/30). Some of the statements of school principals belonging to this sub-theme are as follows:

"When we look at the essence of the principal's participation in financial processes in school management, it is not appropriate. While it should only be in terms of practicing it in the appropriate areas, in our state, financial support only contributes to the bill payment. Apart from that, they expect the school to manage by putting the excessive and indispensable needs such as cleaning supplies, attendant salary payments, repairs, and stationery on the administrators…” (M2).

“…The state does not cover any expenses other than the bills of schools. There is a shortage of officers and employees in schools. To overcome these challenges, schools have to buy service and recruit personnel who do the jobs such as cleaning staff, civil
servants, security and pay their pensions and insurance expenses with the financial resources they produce...” (M3).

**Fundraising**

Some of the school principals stated that they had trouble collecting donations and aid (8/30) due to not allocating funds (4/30), the necessity of collecting donations through the school-family association (7/30); otherwise, they faced prejudices between parents and students (7/30). Some of the school principals dealing with fundraising stated that they were unable to engage in education and training (4/30), worn out in financial processes (3/30), and fulfilled the task referred to as a begging (7/30). School principals explained their opinions as follows:

"…Due to the financial insufficiency of the schools, bringing these problems to the agenda in parents' meetings affects even the participation of parents to the meetings. Because of the system that left us in this situation, we are getting tired of the parents who come to the school by making sentences beginning with, They will ask for money again…” (M4).

"…There are financial difficulties in schools due to situations such as not meeting the salaries of the staff working in schools, and we have to collect donations from parents to solve these problems. It emerges as a situation that degrades the dignity of the school, school administration, and teachers…” (M13).

**Producing Solutions and Management Reputation**

The number of school principals who state being in financial processes in terms of professional reputation not appropriate is relatively high (15/30). Expressing the need for solution proposals to overcome financial difficulties, school principals (9/30) mentioned the need for expert staff (9/30), expenditure controls (4/30), and support for private schools should be provided to public schools (3/30). As a solution, they expressed the necessity of regular parent relations (4/30), distributing funds to all schools through the pool system (3/30), getting the support of local governments (2/30), and covering professional units in financial processes. The statements of a school principal concerning this are as follows:

"…To prevent ethical problems, resources should be transferred to the school by the government according to specific criteria (school size, number of students). Another solution is that our schools are located in almost the busiest parts of the cities. School gardens can be utilized as parking lots on weekends to create income for schools. Places that can be rented such as shops and conference halls can be built in the lower parts of the newly built schools and given to the management of the school family associations.
Another solution is to set up a pool system for all schools in a neighbourhood and share the income of the schools. " (M19).

**Communication Problems and Parent Attitudes**

*Over familiarity to Satisfy Needs*

School principals (5/30), saying that there are administrators who keep up with the attitudes of the parents mainly to eliminate the needs and troubles (11/30), state that they cannot maintain the level after a certain period (9/30) and exaggerate sincerity (6/30). Thus, they stated communication problems with the parents as follows:

“One of the most basic features that a school administrator should have is being a good communicator and relationship chainman. Having a level and effective communication with parents and school stakeholders will make the administration more permanent and effective…” (M25).

“…I believe that the dose of sincerity must not be exceeded for education to be healthy and qualified. When you make concessions to the parents, the parents will approach you as a friend, and the management you perform will be meaningless. When necessary, they will try to take a managerial position and cause short-sightedness to occur. There will be immoral disconnections and unethical conversations between parents and management.” (M1).

“…The main reason for the unethical behaviour with parents is that administrators have various relationships with these people due to the help they receive for the interests of the school as a result of the relationships they have established with the non-governmental organizations around the schools.” (M11).

**Parental Requests Due to Fundraising**

School principals (9/30), who expressed the necessity of collecting aid to meet financial needs in their schools, stated that parents started to make constant requests due to the presence of some incompetent school principals (4/30). Requests arising from these attitudes of parents such as grade status (6/30), student absenteeism (6/30) become evident. The statements of a school principal regarding these situations are as follows:

“…Parents who support the school financially are not treated very ethically. Due to the relationships established in the name of the interests of the school, ethical behaviours are avoided. This situation is caused due to the financial factors requested by the parents. Parents' requests should be evaluated, but not all claims should be executed. When all the wishes of the always asking parents are fulfilled, unethical requests begin.” (M9).
**Long-Term Managers and Making Concessions**

School principals (6/30), who work for a long time in their institutions, start to embrace the school after a certain period and are accepted by the environment. When this is the case, concessions start to occur among the parents and the people around them (4/30). Due to political pressures (4/30) and the presence of parents who use the population (3/30), demands and concessions appear on the school administration. There are school principals (2/30) who express the existence of relationships of interest, as well as school principals who report that there is parent pressure resulting from compromise (2/30). Therefore, registration requests arise due to concessions (3/30), and managers pay attention not to discriminate appropriately (4/30). The views of some school principals are as follows:

“…The most crucial problem is that an administrator may be working at the same school for many years. Parents knowing him and expressing their wishes freely create unethical issues between the parents and us. They should not be overly intimate with the parents for the solutions, and the rules should be reminded.” (M14).

“…Administrators and even all teachers should be at an equal distance to all parents. They should love each child as an individual; that is, they should not give privileges to those who have money. For example, I recently saw that they took a very spoiled child to the principal, but the principal does nothing except a few weak warnings. Call the child’s family and talk! No way. Because his family contributed to the school! Is this ethical now?” (M22).

**Discrimination and Positive Discrimination**

**A Teacher Who likes and Dislikes His Job**

Many school principals state that discrimination between teachers will be made according to circumstances in their schools (24/30). The principals stated that there should be a difference between the teacher who loves his job (9/30) and the teacher who does not do their duty correctly (7/30) and states that positive discrimination always implies ethics and quality (14/30). School principals (7/30) who say that if more teachers do their jobs properly, the principle of equality should be applied, cherish the teachers who make sacrifices (4/30), and always support the teacher who develops oneself (7/30). The opinions of school principals regarding this are as follows:

“School management does not treat teachers individually. All teachers and educators doing their job are equal in the eyes of the school administration. If he is not doing his job, of course, the performance will be different. Here, the main reason for being treated differently is whether or not to do their duty properly…” (M14).
“…For example, when a teacher does not work, they push the work on to another teacher who is always working. As such, you discourage the working teacher. Is this ethical? I don’t think so. Thus, I am in favour of discrimination among teachers.” (M12).

**Differences of Opinion and Fronting Teacher**

School principals (7/30) stated that the most critical ethical situations to be experienced in schools are disagreements between teachers based on nepotism (7/30) and that this situation affects the moral system of the school (5/30). School principals, who said that teachers who did not share the same opinion were expelled from the school by the administration (3/30) with a policy of mobbing, stated that they sometimes protect some teachers for the interests of the school (2/30). The existence of school principals who adopt a transparent management approach (3/30) prevents unionism (4/30) and minimizes the distinction between good and bad teachers (3/30). The views of school principals on the differences of opinion and favouritism of teachers are as follows:

“…I felt that a woman of the school administrators fulfilled the wishes of a staff group she was close to from their coffee conversations, and favoured that group, as it were. At an event organized for teachers during the ethics week, I heard that a friend who was the manager was criticized, as "What you do is not ethical at all" by a group opposed to the group he was close to. I did not attend this meeting. But a teacher who participated in this meeting came and told me about this situation.” (M17).

**Mobbing and the Sense of Justice**

The participants (5/30), who stated that school principals are mobbing against teachers, noted that this situation is more against teachers who do not do their duty (5/30) and the teachers should be supported under all conditions (5/30). School principals (4/30), who stated that the sense of justice should be in school principals, expressed the necessity of paying the teachers’ labour by preventing their polarization (3/30). The statements of the school principals are as follows:

“…Some administrators apply mobbing to teachers working in their schools. School administrators treat diligent teachers better. The teacher who only attends the class for filling the class and getting their salary and the teacher who spends all his/her energy for the future of the country cannot and should not be the same.”(M3).

“Justice is not absolute equality. I believe this should be the main approach. If a teacher who has internalized education and tries to add value gets the same treatment with a teacher who only gets his salary, always defends his rights but always puts his/her responsibilities behind, then it is called favouritism management…” (M1).
Discreet Relationship and Fair Task Distribution

Personal Affairs and Duties of Personnel

School principals (11/30), who said that most of the staff in schools do not do their work, expressed that school principals use staff to do their job (9/30) and that they should not be in the moral and principled school management (6/30). The school principals (4/30), saying that the staff in their schools should be informed about their duties, declared that they should be appreciated when necessary. Some of the school principals describe this situation as follows:

“School personnel are the people who carry out the work outside the education and training of the school. It should not be forgotten that this personnel is recruited to the school to work on the jobs of the school other than education…” (M6).

“…The administrators use the staff of the school as their maids. The basis for this is that job descriptions are not made correctly in our society. They attend who are responsible for meeting the needs of the school work as the staff of the administration. This situation causes the trust in management to be shaken and unethical elements to occur…” (M1).

Task Distribution and Supervision

Stating that there will not be ethical problems with ethical personnel when there is a fair distribution of tasks in schools, school principals (9/30) stated that it is necessary to inspect the staff from time to time (8/30) and it would be beneficial to implement practices to integrate them (4/30); thus, distrust towards the administration would decrease (3/30). Stating the importance of establishing a dialogue with them (7/30), the executives said that it was essential to be careful not to be nepotist (2/30) and stated the necessity to stay away from interest relations. One of the school principals describes this situation as follows:

“…I believe there will be no problems after acting with the awareness of duties and responsibilities. In short, the staff should do their job, and the school administration should supervise the staff in terms of their responsibilities…” (M13).

“It is essential to have healthy relationships with subordinates in management. The school administrator should establish good relations with the people working at the school. The manager should inform the staff working at the school. Because knowing also increases people’s trust in themselves and others…” (M16).

Over familiarity and Management Abuse

Referring to the importance of being level in relations with staff, school principals (16/30) stated that the most important ethical problems are the misuse of management (7/30), excessive
sincerity (7/30), and forgetting that they represent the state (2/30). The statements of the school principals are as follows:

“…Just as the relations between teacher and staff should be cautious, there should be a certain level between school administration and staff. I always favour a certain distance in between…” (M12).

“...A school administrator should not be too serious or too sincere with the staff working in the school. If they overstep the limit, they may revert to relationships of interest. Over familiarity may require overlooking the abuse of the other party…” (M3).

**Student Interests and Nepotism**

*Consideration of Requests*

Referring to the importance of evaluating parents’ demands, school principals (8/30) asserted that considering the interests of students (9/30), teachers who do their job well should be assigned to refresher courses (5/30). Emphasizing the importance of school principals in managing the process, school administrators (4/30) state that they should consider the development of the student rather than the effort to please. The views of the school principals are as follows:

“…Parents’ demands and students' voices play an important role in teacher selection. The most ethical way is to assess all elements and make choices. Thus, you will please both the parent, the teacher, and the student who will benefit as a result.” (M14).

“…It is essential to employ volunteer teachers in the courses and to include the qualified one in the class in line with student and parent preferences. Course hours have a certain standard. Since there may be teachers who desire to teach more and less concerning financial expectations and time, but as a school administration, we do not allow this…” (M6).

**Teacher Competencies and Affinity to Management**

School principals (8/30) stated that teacher competence comes first among the difficulties and ethical problems in the refresher courses. Moreover, teachers who are close to the administration are appointed to the classes without questioning their competencies (5/30). Besides, they stated that the teachers were assigned to refresher courses (3/30), focused on financial expectations (3/30). School principals define the situation as follows:

“…I encourage teachers who can be productive for students to open these courses. If the school principal is randomly appointing teachers and ignoring students' progress, there is a dilemma. In that case, the courses are opened only for the procedure…”(M5).
“...The teachers assigned in the refresher courses are chosen from the ones who work devotedly in our schools. We prefer teachers who do their duty lovingly and try to give something for their students in order to provide high benefit for students who attend these courses...” (M8).

**Planning and Fee Status**

While assigning teachers to refresher courses, school principals (5/30) stated that it would be ethical to do it centrally and impartially and that teachers did not want to take part in refresher courses, even partially due to the low fees (3/30). School principals stated that the education to be provided by compulsory volunteer teachers (2/30) is not suitable for ethical values, that the school administration cannot manage the process (4/30), cannot arrange the course hours (3/30) as follows:

“...If the aim is to provide supportive education to children, the quality is expected to be high; it is unethical to employ reluctant and inadequate teachers. Justice will be ensured if willing and qualified teachers are assigned to the courses with the lottery method.” (M18).

“...I think there are unethical behaviours regarding the course hours in the refresher courses. Teachers who have good relations with the administration arrange their course hours according to themselves. In order to solve these problems, teacher selection, course time, and course schedule can be made from the district, province, or ministry.” (M3).

**Senior Management Attitudes and Tenders**

**Senior Management and Parents' Associations**

The school principals (17/30) stated that the top administrations are generally involved in the operations of the schools and the district national education directorates make the tenders, and the school family unions are effective in the service tenders (11/30). Stating that long-term school administrators are involved in tenders, school principals (8/30) indicated that school management intervenes when parents’ associations cannot fully grasp the situation (5/30). Opinions are as follows:

“The district directorates make the tenders of the schools. Even though service tenders are within the parent-teacher association, school principals intervene in them...” (M10).

“In the past, these tenders were given to someone through acquaintances. Since there are no principals who have worked in the same school for a long time, unethical behaviour in this regard has decreased to almost none...” (M13).

**Transparent Tender Controls and Financial Expectations**

School principals stated that they had financial expectations from the tender party due to financial insufficiencies (9/30). Although these expectations are not ethical, school principals (8/30)
stated that the administrations are not responsible for tenders (6/30) and that they are only guided. One school principal explains the situation as follows:

“…The district national education directorate conducts canteen tenders. Service tenders are awarded to the company that supports the school the most. Whether this is ethical or not is debated. To prevent the compliance problem, schools should regularly inspect the service and canteen, record the results of the audit, and notify the canteen and service operators. If these works are done regularly, there will be no problems.” (M11).

**Failure to Make Tender Announcements and Duty of Managements**

Stating that not making tender announcements would cause ethical problems, school principals (5/30) expressed the importance of the qualifications of the tenderers (4/30). Besides, they stated that nepotism was done (4/30), and quality should be sought in tender processes (3/30). Referring to the importance of managerial attitudes in tender processes, school principals (4/30) found it necessary to attach importance to health and hygiene (2/30) and employ expert and qualified tenderers and inspectors (2/30). School principals expressed their tendering and senior management attitudes as follows:

“…If parent-teacher associations are passive, school administration is compulsorily involved here. Instead of trying to find the best quality and the most suitable canteen by considering the interests of the students, the school-family union's involvement in these works leads to abuses. The school administration may experience close, friendly assignment and tender transfer process.” (M5).

“It is an unethical situation for the government to apply the tender method for a subject such as nutrition and to award a company that offers cheap meals. It is more accurate that the meals that students will eat are prepared by companies, institutions, or organizations under state control and served healthily…” (M29).

**Registration Status and Possible Applications**

**Address Based Registration System and Central Placements**

The number of school principals who say that their problems in enrolment have decreased with the advent of the address-based registration system is quite high. (19/30). Stating that financial expectations are at the forefront in enrolment periods in schools (13/30), school principals (13/30) said that because of central placements in high schools, irregular situations imposed by the administration and other elements were prevented to some extent (5/30). The explanations are as follows:
“…Since central placements are made, unethical behaviour during registration is almost non-existent. However, some parents persistently want to enrol and offer money because they are uninformed…” (M14).

“Although primary and secondary school registration based on addresses seems to prevent this situation, people can rent a house and pay the rent of the empty place to have their children attend certain schools. I witnessed that popular schools cannot meet preschool education physically (lack of classroom and staff) and they are in a challenging situation, mainly due to the flexibility in the regions in kindergarten enrolments…” (M17).

**Address Changes and Parent Preferences**

School principals (8/30) stated that one of the unethical situations is that parents change their addresses to enrol their students in other schools, and said that parents' expectations and attitudes shaken ethical values during the enrolment period (8/30). According to school principals, the high number of parents who want to enrol using their acquaintances (4/30), the presence of parents who want to choose a school (6/30), the company of parents who want to choose teachers (5/30) make it difficult for school principals to comply with ethical principles. Stating that parents' desire for quality education (2/30) because school administrations to compromise in their duties, school administrators (1/30) explained the situation as follows:

“…We sometimes encounter ethical problems in enrolment. The main reason for this does not result from the students. Parents' expectations are their desire to receive a quality education and schools' expectations of donations from parents…” (M9).

“…Parents use various ways to give their students to the school and teacher they want. They make the school administration act unethically by changing the address, using their political power, using loyalty relationships, and acting unethetically.” (M30).

**Parent's Socio-Economic Level and Inappropriate Offers**

According to the opinions of school principals, the socio-economic level of parents (5/30) encourages school administrators to misdirect. Families with good financial status (7/30) make indecent proposals (6/30); these attitudes of parents are prevented from transparency in management (3/30). The school principals’ views on the inappropriate offers are as follows:

“…Parents find an acquaintance to enrol their children in the school they like and try to come up with a solution in their way, pretending to have "moved" to the school's enrolment environment. If their financial situation is good, even the school principals are directing them like; "do it this way, then I can enrol you to school...” (M4).
“…Expectations of well-off parents who are in the registration area to choose a promising classroom and teacher may cause them to make unethical offers during registration. Dinner and barbecue invitations, giving more donations to the school if they can choose the teachers they like, etc…” (M10).

Discussion, Conclusion and Recommendations

Considering the interviews conducted for the research and the data obtained afterward, financial expectations and the inability to meet the mandatory requirements of the schools stand out based on ethical problems in school management. These situations lead principals to different pursuits and draw them into financial processes (Brimm, 1983). The environment causes them to establish unethical relationships with parents and students. Stating that collecting donations causes problems, school principals indicated that they lost their professional dignity and that parents started to look at them prejudicially (Özcan, 2014; Turan, Yıldırım, & Aydoğdu, 2012). Drawing attention to the need to increase state support in schools, principals expressed the need for a professional finance or accounting specialist in institutions. They also explained that these personnel could overcome financial, ethical problems (Bayrakçı & Dizbay, 2013; Hoşgürür & Arslan, 2014). At the same time, increasing state support and providing monetary support to students studying at public schools, as in private schools, will relieve school principals and prevent them from suffering in situations such as donations.

Parents’ expressing that education in public schools is free of charge and not wanting to donate to schools causes them to distance themselves from the school administration. In the context of ethical principles, it would be more appropriate to collect donations through parent-teacher associations and not to involve school principals in the process (Özdemir, 2018). At the same time, it is observed that school principals who devote a lot of time to these jobs are away from education and weaken the rings of the student-centered education chain, which is the primary purpose of schools (Yıldırım, 2020).

To meet the needs of schools, school principals have to ask for financial resources first from parents, then from businesses around the school, and then from local administrations (Hoşgürür & Arslan, 2014; Özgan & Aydın, 2010). Since sincerity is overplayed in these material relationships, it is natural for unethical dialogues to arise. Simultaneously, it was revealed that the requests and proposals of the parents differ individually due to the communication difficulties with the individuals. Even the parents who donate a nominal fee demand from the school administration consistently. In these developments, where the competence of school principals is questioned, the requests of parents are generally grade, absenteeism, teacher choices, and school preferences. It should be emphasized that distinguishing between parents is incompatible with ethical values. Thus, parents' requests must
be assessed reasonably, and it is important that school principals manage the process well (Menteşe et al., 2012).

School principals, who have been working in their schools for an extended period, possess an essential role in the occurrence of ethical problems, even if they are not aware (Aslanargun & Bozkurt, 2012). Neglecting that schools are public institutions and adopting the school as their own business, school principals exaggerate their relations with the neighbourhood and the environment. They begin to make concessions and allow parents to exert their influence, establish political pressure, and make constant requests. Therefore, it is essential to adjust the level between parents and teachers, and it will be appropriate for school principals not to care about parents' socio-economic status in the context of ethical values (Börü & Boyacı, 2016).

School principals participating in the study stated that distinguishing between teachers who love their job and those who do not like their job (positive discrimination) would not be a problem in the context of ethical values. Still, on the contrary, it would motivate the teacher to commit to his job (Akar, 2018). Teachers who perform their jobs correctly do the right thing in terms of professional ethics and fulfill the requirements of their profession. In this case, the fact that school principals are prone to positive discrimination reveals that they are consistent in the context of ethical values (Börü & Boyacı, 2016; Özkeskin, 2013). However, if all the personnel working at the school are discriminated against, although they are committed to their jobs of equal value, in terms of political views, union attitudes, and closeness to the school administration; in that case, it is not in line with ethical principles (Erdem, 2015). It would be appropriate for school principals to be at the same distance to all teachers and to motivate them in these and such situations.

Mobbing teachers in schools has recently gained an important place in educational science research. As a result of the research, it was revealed that teachers who do not perform their job within the scope of ethical values are more exposed to mobbing. If no problems are arising from the teacher in schools and if the school principal desires to motivate teachers, the feelings of justice should come to the fore, all teachers should be treated appropriately, and they should all be acquired as values within the school culture (Eryaman, 2007; Güngör & Potuk, 2018; Özdemir, 2012).

In schools, the principals to have their staff do their jobs shake the existence of ethical values in the institution. In addition, the personal guidance of the school principals to the staff does not comply with ethical principles. The staff in schools must provide technical, physical, and cleaning services, in short, technical and support services, except for school education. Therefore, it is in line with ethical principles that the distribution of duties to the personnel is done fairly, that they are not rushed to personal affairs, and there is no discrimination and favouritism between them (Argon, 2016; Meriç & Erdem, 2013). That said, adjusting the level in relations and trying not to make individual
concessions will cause the personnel to do their job properly and ensure that ethical factors are taken into account (Aydın, 2016).

School principals should always prioritize student interests in management affairs within the context of ethical values. The principals who were interviewed stated that they evaluated student and parent demands in school refresher courses and indicated that it would be ethical to assign qualified and competent teachers to the refresher courses, with which the student agreed easily (Gülay & Kahveci, 2020). Accordingly, teacher selection, assessment of their demands, and consideration of their interests in refresher courses will motivate students to achieve their goals and ensure that the values of the school are protected. It can be said that when assigning teachers for refresher courses, it is not appropriate to choose teachers who are close to the school administration and who only attend to the courses for additional money (Özcan, 2014). Thus, it can be stated that plans and teacher assignments should be made central in refresher courses and parents and students should be allowed to participate in the decision of determining teachers. In addition, it is essential to make additional course fees in the refresher courses attractive as an incentive for teachers to prevent unethical teacher assignments (Canlı, 2019).

School principals stated that the most common cases of unethical practices in schools are tendering processes (canteen and service tenders). Moreover, that these problems were not experienced in schools compared to the past, and that the school family associations and district national education directorates now carry out these tenders within their structure. Administrators, who have been working in schools for a long time, intervene in the tender processes unethically and direct the process as they wish (Karakütük & Özbal, 2017; Turan, 2007). We can state that teacher and manager rotations are the right practice to avoid ethical problems. Besides, beyond the involvement of school principals and senior management in the tender processes, a professional team will make the tender more transparent and ethical. We can assume that parent-teacher associations are inadequate in tendering, which draws school principals into tender processes. In these cases, parent-teacher associations should be informed about tendering processes and service inspections. Problematic situations can be overcome with audits that prioritize student interests and incorporate ethical elements. The tenders should be done far from financial expectations, and the tender participants should not be subjected to guidance by the management.

As a result, we can assume that the material elements in schools form the basis of ethical problems. Failure to fully meet the needs of schools leads to the evaluation of inappropriate offers by school principals, collecting donations and grants, and naturally making concessions to these resources. Moreover, the presence of unqualified school principals, overly sincere and unregulated staff and parent relationships indicate the necessity of the existence of ethical principles in schools. It
should be stressed yet again, that discrimination among teachers affects ethical values, and there is a necessity of auditing the registration and tender status.

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SWOT Analysis for the Distance Education Process of Lecturers Teaching Turkish as a Foreign Language

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Abstract

Nowadays, distance education programs are increasing with the Covid-19 outbreak. Due to the number of options based on distance education, it is aimed to provide a higher quality to service users. One of the important methods to increase the quality of distance education services is SWOT analysis. SWOT Analysis enables organizations to see their strengths (S) and weaknesses (W) and position them according to Opportunity (O) and Threats (T) that may occur in the external environment. The method of this research is phenomenology, one of the qualitative research methods. The study group of the research was selected by purposeful sampling technique. The analysis forms were collected from the lecturers via digital mail on a voluntary basis. Therefore, the study reached 48 instructors teaching Turkish as a foreign language in different regions of Turkey. In the research, a SWOT analysis form (4 questions) was used to understand distance education practices. The data were analyzed using content analysis and descriptive analysis technique. According to the results, the strength of teaching Turkish as a foreign language in distance education is “flexibility in time and place” with a ratio of 58%. Again, "flexibility in time and space” was evaluated as an opportunity with a rate of 42%. The weakest aspect of teaching Turkish in distance education seems to be "technical problems” with a rate of 29%. The instructors rated the “lack of the classroom environment” as the biggest threat with 30%. Finally, it can be asserted that the findings of the study sheds light on distance education practices in the Covid 19 pandemic process in terms of teaching Turkish to foreigners.

Keywords: Distance Education, SWOT Analysis, Teaching Turkish as a Foreign Language

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Introduction

In the early 1950s, the first studies on SWOT began in the areas of organizational strategies and environmental relations by George Albert Smith Jr and C. Roland Christensen. SWOT analysis emerged in 1982 in Heinz Weilrich's article titled "The TOWS Matrix, a Tool for Situational Analysis" as the initials of Strength (S), Weakness (W), Opportunities (O) and Threats (T) to examine internal and external factors as a new analysis method in strategic planning (Weilrich, 1982, p.54).

- **S**: Strength (detecting strengths / superiorities)
- **W**: Weaknesses (detecting weaknesses)
- **O**: Opportunities (expressing opportunities)
- **T**: Threats (expressing threats and dangers)

The main function of the SWOT Analysis as a strategic analysis phase is to eliminate weaknesses (W) with strengths (S) and threats (T) with opportunities (O) by revealing the strong and weak points while evaluating the current situation (Öztemel, 2001, p.158). The factors emerging as a result of the SWOT analysis (Luo & Qin, 2012, p.254; Panigrahi & Mohanty, 2012, p.41; Büyükalaca et al., 2009, pp.29-31) are as follows:

**Strengths**: It is the answer given to the question of what we do well by making the active use of resources to achieve goals, objectives, assets and capabilities that have superiority/power over competitors and must be protected and be at the forefront. With strength aspect, answers are sought for questions such as ‘What are our advantages and strengths?, What resources do we have?, What are the differences that distinguish us from others?, What are our advantages and strong point from the outside?

**Weakness**: The economic resources lost as a result of deficiencies, weaknesses, mistakes and constraints in achieving the goals and objectives, competitive advantage and efficiency are examined, and answers are sought for questions such as ‘Which situations are not going well?, Which situations do we need to fix?, Which situations need to be improved?, Which situations should we avoid?, On what subject are our competitors better than us?,’ All these questions require taking necessary precautions to identify weaknesses.

**Opportunities**: It is necessary to investigate an alternative situation against the current situation, to determine and strengthen the status of strategies and plans, and to have the ability and capacity to evaluate the emerging new situation more comprehensively in order for a development or change to be an opportunity by expressing positive situations in the environment. The following questions are tried to be answered in revealing the opportunities: What are the current opportunities?
What are the current developments in our environment? How can strengths and weaknesses be turned into opportunities?

**Threats:** It refers to situations that prevent opportunities in the environment and threaten strengths, which should be avoided and objectionable. Answers are sought for questions such as ‘What are the current obstacles?, What could be the potential obstacles?, Are there threatening or dangerous advances in competitors?, Is there a possibility that strengths or weaknesses turn into threats?, Are there any changes in the expectations of the target audience?, Are there any budget or resource problems?, Are there any threatening developments?’

SWOT analysis aims to identify the strategic situations and internal and external environment with systematic thinking and broad interpretation method, determining the positive or negative factors to the organization, the project or the individual, and to adopt or develop strategies that will harmonize these factors (Gao & Peng, 2011, p.796). SWOT analysis is the process of determining and examining key or important success factors in empirical research and strategic analysis (Bernroider, 2002, p.564). According to Büyükalaca et al. (2009, p.28), SWOT analysis also provides the following benefits:

- Being able to evaluate the future in multiple ways and to ensure harmony
- Developing the right strategies to achieve goals and objectives,
- Discovering more alternatives,
- Preparing more effective plans,
- Knowing the organization better,
- Making decisions faster,
- Having information on time,
- Being able to influence the future with the right decisions to be taken today,
- Giving the opportunity to recognize the risks.

SWOT is the process of analyzing the competitiveness of a certain region, firm or countries and the changing internal and external conditions and situations and designing and evaluating their own resources and plans accordingly (Tabak, 2003, p.222). SWOT Analysis has the feature of "future situation analysis" as it is an analysis that helps to determine and predict the future situation by
examining the current factors by evaluating both internal and external situations (Büyükalaca et al., 2009, p.28).

In the education process, it is necessary to carry out a situation analysis in order to evaluate the schools, which are the key elements in gaining the desired behaviors, and to produce policies regarding the existing deficiencies. At this stage, this current situation is determined by SWOT analysis. It is unimaginable for educational organizations to be independent from the environment. Therefore, educational organizations are open to the influence of all elements in the environment and are affected positively or negatively by this effect. Power analysis (SWOT) is one of the basic methods used to determine the strengths and weaknesses of organizations, to perceive the opportunities and threats, and makes it possible to see the current status of the organization. Organizations see where they are now and determine their future goals with SWOT analysis. This structure is beneficial in terms of focusing on strengths, minimizing threats and utilize the appropriate opportunities (Özan et al., 2015).

In order for schools to follow the changes in their environment and to adapt to these changes, they themselves have to accept this change. Strategic planning is an important point in realizing change as an organization in education. Future goals, vision and mission can be determined with a strong strategic planning, the strengths and weaknesses of schools along with the opportunities and threats they may face can be revealed (Çalık, 2003, p.267).

Advances in communication technologies have led to the spread and increased effectiveness of internet-based education. Distance education has begun to be known by different names, and thanks to the great increase in the number of successful examples, it has attracted great attention from institutions and individuals all over the world. Distance education is a model that differs from standard education models in terms of its implementation. It is an educational activity where students, teachers and educational tools in different places are brought together through communication technologies (Arslantaş, 2014).

Distance education, in the most basic sense, is a requirement that occurs due to the separation of a teacher and learner at a physical distance, unlike face to face. Technological tools such as podcast, video, computer data and published publications that replace traditional education are the link between distance education and traditional education. Education programs provided in this way offer new educational opportunities to adults in addition to the education they receive. This system means the opportunity to increase their knowledge and continue their education in their home office environment for those with time, distance or physical disabilities (Kaya, 2002).
In this sense, the purpose of this study is to reveal the strengths and deficiencies of distance education practiced by the instructors who teach Turkish as a foreign language, and the aspects that they consider as an opportunity and they worry about.

Within this scope, the main problem and sub-problems of the research were formed as follows:

**Main Problem Statement:** How do instructors evaluate teaching Turkish to foreigners in distance education?

Sub-problems:

1. What are the strengths of teaching Turkish to foreigners in distance education according to the instructors?
2. What are the weaknesses of teaching Turkish to foreigners in distance education according to the instructors?
3. What are the possible opportunities in teaching Turkish to foreigners in distance education according to the instructors?
4. What are the possible threats in teaching Turkish to foreigners in distance education according to the instructors?

**Method**

**Research Method**

The phenomenological design, one of the qualitative research designs, was used in the study. The aim of phenomenological research is to describe the experiences and perceptions of individuals (Johnson & Christensen, 2014, p. 383; Ersoy, 2016, p.55).

**Study Group of the Research**

The purpose of the research has an important place in determining the study group in qualitative research designs. In this sense, purposeful sampling approach was used in the study. However, the formation of the study group in the study was on a voluntary basis. Thus, 48 academics who study Turkish language teaching to foreigners from different regions of Turkey have been reached. The names of the lecturers participating in the study are not disclosed, thus they are referred to as LECT1, LECT2, LECT3, etc.

**Data Collection**

The SWOT analysis form (4 questions) was used to understand distance education practices in this study. The analysis form was collected from the lecturers via digital mail on a voluntary basis.
Data Analysis

Firstly, content analysis, a method mostly preferred by historians and men of letters (Merriam, 2013, p.144), was used in the analysis of the data. In this sense, the answers given by the instructors to the SWOT analysis constitute the data of the research (Yıldırım & Şimşek, 2013, p. 259). Categories and codes were used in the content analysis (Bilgin, 2014, p.12). On the other hand, descriptive analysis was used as a qualitative analysis together with content analysis in the analysis of the data. Thus, the reliability of the research was tried to be increased. Again, the validity and reliability of the content analysis were tested with expert opinions and inter-coders. Harmony between coders was found to be 81% (Miles & Huberman, 2015, p.64; Muijs, 2004, p.73).

Findings

The findings below regarding the strengths of teaching staff in Turkish as a foreign language in distance education are given as frequency (f) and percentage (%).

Table 1. Strengths of Turkish lessons as a foreign language in distance education.

<table>
<thead>
<tr>
<th>Strengths-Categories</th>
<th>Frequency (f)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility in time and space</td>
<td>32</td>
<td>58</td>
</tr>
<tr>
<td>Digitalization</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Communication</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Teaching methods and techniques</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Learning Turkish</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>The number of employees</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>55</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

When Table 1 is examined, lecturers seem to show the strengths of teaching Turkish as a foreign language in distance education as follows: "Flexibility in time and space" 58% (f = 32), "Digitalization" 13% (f = 7), "Teaching methods and techniques" 11% (f = 6), “Learning Turkish” 9% (f = 5),
“Communication” 7% (f = 4) and “Saving in employees” 2% (f = 1). These findings are schematized in the graphic below.

As can be seen in Figure 1, the strongest aspects of Turkish lessons in distance education are (f = 32) “flexibility in time and space.” In addition, sample sentences from the explanations of the lecturers regarding the strengths of Turkish lessons in distance education are given below.

LECT33: “It presents possibility to learn Turkish in a more flexible environment without time and space limitations.”

LECT45: "Being independent of time and place for both learner and teacher, providing access to learners from every country, easy access to different materials during the lesson are among the strengths of distance education in Turkish as a foreign language.”

Below, the findings regarding the weaknesses of lecturers in Turkish as a foreign language in distance education are given as frequency (f) and percentage (%).

<table>
<thead>
<tr>
<th>Weaknesses-Categories</th>
<th>Frequency (f)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to provide natural and effective communication</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Failure to socialize</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Technical problems</td>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>Lack of opportunities in learning and teaching methods and techniques</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Inability to learn Turkish</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Assessment and evaluation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

When Table 2 is examined, the lecturers appear to show the weaknesses of teaching Turkish as a foreign language in distance education as follows: "Technical problems" 29% (f = 17), "Failure to provide natural and effective communication" 25% (f = 15), "Lack of opportunities in learning and teaching methods and techniques" 25%(f=15), "Failure to socialize” 10%(f=6), "Inability to learn Turkish” 9% (f = 5) and "Assessment and evaluation " 2% (f = 1). These findings are schematized in the graphic below.
As can be seen in Figure 2, the strengths of Turkish lessons in distance education are mostly (f = 17) "Technical problems." On the other hand, sample quotations from the explanations of the LECTURERS regarding the weaknesses of Turkish lessons in distance education are given below.

LECT38: “Since language learning and teaching takes place in a natural context, distance education is not effective at this point. As the web-based systems used in distance education are not designed for language teaching and learning, it is not possible to reach the desired competencies in education.”

LECT47: "I think the main weaknesses are the lack of one-to-one communication, lack of interaction, low motivation of students and instructors."

The views of lecturers on opportunities in teaching Turkish as a foreign language in distance education are given below as frequency (f) and percentage (%).

Table 3. Opportunities in teaching Turkish as a foreign language in distance education

<table>
<thead>
<tr>
<th>Opportunities-Categories</th>
<th>Frequency (f)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility in time and space</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>Digitalization and technological transformation</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>New learning and teaching methods</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>New opportunities in learning Turkish</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Protection from the epidemic</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

When Table 3 is analyzed, the lecturers can be seen to show the opportunities of teaching Turkish as a foreign language in distance education as follows: "Flexibility in time and space” 42% (f = 21), "New learning and teaching methods" 26% (f = 13), "Digitalization and technological transformation” 20% (f = 10), “New opportunities in learning Turkish” 10% (f = 5) and “Protection from the epidemic” 2% (f = 1). These findings are schematized in the graphic below.
As can be seen in Figure 3, the strongest aspect of Turkish lessons in distance education is "Flexibility in time and space" (f = 21). On the other hand, sample quotations from the explanations of the LECTURERS regarding the opportunities in teaching Turkish in distance education are presented below.

LECT46: “Since distance education brings education to the entire world, students can be made more eager to learn Turkish. Distance education is important in terms of showing students that learning Turkish can be done anywhere with technological tools. This can change students’ perspective. Thanks to online products such as applications for teaching Turkish, dictionaries and books, which are presented to students during the course, students can make progress faster in learning Turkish - if they are directed correctly.

LECT32: "It enhances students' computer skills."

The views of the lecturers about threats in teaching Turkish as a foreign language in distance education are given below as frequency (f) and percentage (%).

Table 4. Threats in teaching Turkish as a foreign language in distance education

<table>
<thead>
<tr>
<th>Threats-Categories</th>
<th>Frequency (f)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inability to learn Turkish</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td>Failure to protect personal data</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>The lack of classroom environment</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>Reliability and validity of assessment and evaluation</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Health problems such as eye and posture</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Limitations in learning and teaching</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Technical problems</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

When Table 4 is examined, the lecturers show the threats of teaching Turkish as a foreign language in distance education as follows: "The lack of classroom environment" 30% (f = 12),
“Inability to learn Turkish” %22 (f=9), "Failure to protect personal data" 20% (f = 8), "Reliability and validity of assessment and evaluation" 17% ( f = 7), “health problems such as eye strain and posture” 5% (f = 2), “Limitations in learning and teaching”3% (f = 1) and “Technical problems”3% (f = 1). These findings are schematized in the graphic below.

**Figure 4.** Threats in teaching Turkish as a foreign language in distance education

As can be seen in Figure 4, the most threatful aspect in Turkish language teaching in distance education has been stated as "The lack of classroom environment" (f = 12). On the other hand, sample quotations from the explanations of instructors regarding threats in teaching Turkish in distance education are given below.

LECT45: “The fact that the course contents are not updated according to distance education, the communication breakdown with the learner due to technological infrastructure problems, the students watching the course only from the recording and falling behind in the application, the lecturer pushing the speaking and writing lessons into the background are among the threats of distance education in Turkish language teaching lessons as a foreign language.”

LECT47: "I am worried about the benefits of distance education, especially considering the importance of continuity and practice in language learning.”

LECT43: “The student may lose motivation after a certain period of time because the more the student spends time on screen, the more pain and somnolence can occur in the eyes inevitably. In this case, it eventually demotivates the student. It may prevent the face to face, warm classroom setting.”

LECT46: "Students' Turkish language learning, which is interrupted, may not be made up even when face-to-face education begins.”
LECT48: "Online exams in distance Turkish lessons can cause problems about the validity and reliability of assessment and evaluation."

**Discussion, Conclusion and Recommendations**

In the study, lecturers highlight the strengths of teaching Turkish as a foreign language in distance education in the categories of "Flexibility in time and space", "Digitalization" "Teaching methods and techniques", "Learning Turkish" "Communication" and "The number of employees", respectively. They emphasized that with the dimension of flexibility in time and space, the time and space limitations of students and lecturers are largely eliminated. As a matter of fact, the removal of limitations in terms of time and space and allowing the use of multimedia tools are the characteristic features of distance education. (Karakuş, Ucuzsatar, Karacaoğlu, Esendemir & Bayraktar, 2020). Therefore, the findings obtained from the participants are also institutionally meaningful.

The lecturers stated that the distance education process is a good preparation stage for students' adaptation to the digitalized world. The reason why they see the Turkish learning dimension as a strength is that participants from different countries can take part in education. According to the lecturers, an international medium for foreign language learning has thus been gained. They also considered distance education to be a good communication channel for shy students, digital course materials and online teaching methods and techniques as strengths.

The instructors listed the weaknesses of teaching Turkish as a foreign language in distance education, mostly in the categories of technical problems and the inability to provide natural and effective communication, limitations in learning and teaching methods and techniques, not being able to socialize, inability to learn Turkish and assessment and evaluation. Technical problems can occur in terms of both the student and the learning path. Considering the body of literature, it is shown that technical problems are possible in terms of distance education. (Pilanci, 2009; Karakuş et al., 2020; Bayburtlu, 2020; Keskin & Kaya, 2020; Aytaç, 2021).

The lack of natural and effective communication is considered the biggest deficiency compared to face-to-face education. Similarly, the inability to use teaching methods and techniques that can be done in face-to-face education is considered as another deficiency. It is because the lack of face-to-face communication has been seen as a limitation not only for today's pandemic education process but also for foreign language education before (Pilanci, 2009).

Considering socialization as a deficiency is an expression of a correct approach to education. As a matter of fact, education provides students with cognitive and affective gains, as well as socialization. The most emphasized weakness in assessment and evaluation is the inability to control students. On the other hand, the statements regarding not being able to learn Turkish are about the
distant language learning in its natural context. Again, the lack of real communication in language learning is one of the most emphasized factors. Motivation strategies in distance education can be applied to overcome the theoretically mentioned limitations (Karakuş et al., 2020; Uçar, 2016).

The instructors stated the opportunities of teaching Turkish in distance education as flexibility in time and place, new learning and teaching methods, digitalization and technological transformation, new opportunities in Turkish learning, and protection from the pandemic, respectively. The categories under this theme are in line with the previously mentioned elements. When considering new opportunities in learning Turkish, it is understood that educators see digital resources such as online digital dictionaries and books as opportunities. In reality, distance education or distance education settings offer opportunities for language learners and teachers. For example, videos presenting environments where the target language is spoken are one of them. (Pilanci, 2009). On the other hand, the fact that distance education mostly affects the use of educational technologies and professional development positively (Bakioğlu, & Çevik, 2020) makes the research findings meaningful.

Additionally, the most common threats of Turkish teaching in distance education are the lack of the classroom environment, the inability to learn Turkish, and the failure to protect personal data, reliability and validity of assessment and evaluation, health problems such as eye and posture, limitations in learning and teaching, technical problems, respectively because the unreal classroom environment in distance education is a threat to both language learning and socialization.

In addition, the lecturers emphasized not only psychological negative conditions but also physical negativities such as eye and posture health for students. The course contents not being updated according to distance education, the communication gap between the learner and the lecturer due to technological infrastructure problems, the students watching the course only from the recording and falling behind in terms of practice, the lecturer pushing the speaking and writing exercises to the background are among the threats of distance education in teaching Turkish language as a foreign language. Findings of the research and literature on the subject show the need for certain legislative and pedagogical improvements in terms of infrastructure, access, security, content, design, implementation, quality in distance education in Turkey (Can, 2020).

References


Disciplinary Power in The School: Panoptic Surveillance

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Yunus Emre ÖMÜR³
Yıldız Technical University

Abstract

The curiosity on how disciplinary power operates in a secondary school in the context of Panoptic surveillance became our motive. We designed the study as a single case study in qualitative approach to grasp the holistic understanding of disciplinary power, surveillance, and resistance to it in a secondary school. The data were obtained by a set of data collection techniques including a focus group interview, semi-structured interviews, observation and document analysis. The content analysis method was employed to analyze the collected data. In the analysis, we identified the themes of forced docility, norm provider, and reflection on discipline. To the findings, the main disciplinary power practice in this school is surveillance on appearances, behaviors, and exams, and the students prefer reacting to surveillance practices in two ways: either normalizing their behaviors or displaying resistance and insisting on the undesired behaviors. For further research, the relation between power, surveillance, and resistance can be analyzed as multiple case study to compare the findings at different types of school.

Keywords: Disciplinary Power, Foucault, Surveillance, Resistance, Secondary School

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Introduction

Power relations in daily life have a tendency for using some sorts of strategies not based on the concept of ownership but rooted in schemes, maneuvers, and techniques. As articulated by Foucault’s in his outstanding work *Discipline and Punishment: The Birth of Prison*, there has been no longer physical punishment for disobedience against power since the beginning of the 19th century in Europe. Instead of it, there is a toolbox, which is insidious control on the bodies and souls of individuals. It is defined as the art of surveillance, a disciplinary technique to rank, order, and normalize individuals (Foucault, 1995). A school is deemed to be one of the most favorable contexts for applying traditional and modern technologies of the art of surveillance except for a prison, a military, and a hospital, (Gallagher, 2010; Hope, 2016; Lyon, 2007; Taylor, 2012) since it is a crucial part of the norm-providing power which aims at raising individuals serving to the power itself (Bakioğlu & Korumaz, 2019). In this paper, surveillance in schools is considered with Foucault’s metaphor of panopticon, a kind of prison originally designed by Jeremy Bentham.

The panopticon is depicted as a round building or circle of cells with an observation tower at the core. ‘All that is needed, then, is to place a supervisor in a central tower and to shut up in each cell… a worker or a schoolboy… One can observe from the tower, standing out precisely against the light, small captive shadows in the cells of the periphery’ (Foucault, 1995, p. 200). The panopticon, which is a reflection of the enlightenment mind, obtains the information of the individual through examination and surveillance in institutions in which the individual's life is enclosed, they are classified, observed, recorded and their behaviors are analyzed comparatively (Gücüyener, 2011). Imagining this prison design, it is not hard to say that there is a similarity between the panopticon and schools. As Deacon (2006) it is necessary to evaluate modern schools in the context of the disciplinary power that began to multiply and spread in seventeenth century Europe. The realities of physical surveillance, attendance records, exams, performance progress reports, body-belongings researches, seclusion units in schools interrogate us the idea that a school could be a prison in disguise (Barker et al., 2010; Hall, 2003). In short, schools are designed as an institution where there is no rule-gap, strict discipline prevails and no one can escape surveillance (Dolgun, 2008). Students, in alert against the possibility of being under surveillance, are urged to feel they have to improve their abilities of self-control (Hope, 2018). They normalize being monitored and monitoring since they are socialized in the surveillance culture (Taylor, 2012). In other words, the panopticon takes advantage of the uncertainty experienced by those who have been shut down for being disciplined (Lyon, 1994). Ultimately, the birth of pedagogy emerged purely from the needs of disciplinary power (Akar, 2007). Although there is a possibility for resistance to this surveillance culture (Foucault, 1995), this resistance, devoid of being mass effective, mostly consists of individual awareness against manipulation and control by the power (Birnhack, et. al, 2018). Insisting on the resistance, students
are at risk facing with various modern techniques of punishment (Taylor, 2012) such as threat, reprimand, offending, isolation, suspension, and expulsion (Margolis & Fram, 2007; Noguera, 2003). This case results in increasing the number of individuals obedient, non-questioning, irresponsible or authoritarian in society. In this paper, disciplinary power with its influential tool, panoptic surveillance on students, is examined in a secondary school in İstanbul to reveal how it is exercised by school staff and reacted by students.

**Power, Surveillance, Resistance**

In Foucault’s (1995) analysis of power, discipline is defined as the power exercised through surveillance, control, discrimination, spatial regulation, and classification. Disciplinary power is not homogenous domination of one individual over other individuals and one group over other groups or not something shared between those holding sovereignty and those not having it. This sort of power is ‘the interaction of warring parties, as the decentered network of bodily, face-to-face confrontations, and ultimately as the productive penetration and subjectivizing subjugation of a bodily opponent’ (Habermas, 2007, p.255). Foucault demarcated it as something continuously exercised and rotating (Lilja & Hanthagen, 2014). ‘Power is located at the levels of struggle and manifest in its effects’ (Haugaard 1997, p.67). The human body tends to be vulnerable to this circulating power everywhere, which leads it to be explored, broken, and rearranged (Foucault, 1995).

Despite the necessity of seeking power relations outside the institutions, these relations become concrete and crystallized in institutions (Foucault, 2014). The disciplinary power is mostly exercised through surveillance, which comes to be routine, instilled, and boosted by social organizations such as prisons, hospitals, asylums, and schools (Foucault 1995). For most of its history, modernity has done its work under the prophecy of panoptic power by imposing discipline through constant surveillance (Bauman, 2017). Power relations, based on discipline and subjectification, regulate and reshape bodies, actions, attitudes, and daily behavior patterns of individuals (Foucault, 1995). Haggerty and Ericson (2000) allege that panopticon surveillance as a disciplinary power includes soul training, enabling prisoners to think about the subtleties of their behaviors in order to transform themselves. In other words, the possibility of being observed at all times pushes the subject to control its behavior as if being supervised even when not being observed.

As for our focal point in this paper, it could be remarked that schools have a correlation with prisons in terms of the discourse of panopticon. ‘Not only are prisoners treated like children, but children are treated like prisoners... Here, the schools are also a bit prison-oriented’ (Deleuze, 1977, p. 210). Doing everything on time, being obedient and memorizing what is shown exactly as desired without making individual decisions are the most important skills that students try to acquire in modern schools (Dolgun, 2008). In the disciplinary society, schools constitute a concentrated...
miniature of the society and it is the duty of teachers and school administrators to constantly monitor whether the rules are followed; the school is a space of relationships that is defined by visual transparency of individual behavior (Bauman, 2003). Just to clarify, a school, a microorganism of the education system, has a unique feature from other political settings in that it is directly affected by the social change (Bakioglu & Korumaz, 2019) and the first official step for individuals to normalize obedience to disciplinary power. Ultimately, the birth of pedagogy originated from the needs of disciplinary power, one of whose functions is to control whether each person is doing what they are told (Foucault, 2014). This process is especially important for schools; schools are the main centers where information on production is transferred (Foucault, 2014). There are lots of panoptic surveillance practices in school settings such as attendance records, filling in reports, wearing uniforms, observing rules, abiding by time schedules, and taking exams under strict rules (Hope, 2018; Foucault, 2014). For example, literacy allows to understand and apply instructions; art lessons help to make sense of pictures, figures and schemes; mathematics develops minimally rational calculations; thanks to physical education, physical strength develops, and social studies lesson is necessary to be a good citizen (Dolgun, 2008). They are pervasive in schools since the success of this power stems from the use of hierarchical gaze, normalization, and examination.

Disciplinary power functions as training, monitoring, and examining individuals about how to do things by virtue of institutions in the truth regimes, based on scientific discourses. However, ‘where there is power, there is resistance, and yet, or rather consequently, this resistance is never in a position of exteriority in relation to power’ (Foucault, 2014, p.238). Resistance can be defined as reversed power, necessarily employing the same techniques as the power in favor of individuals who would like to create spaces for their own decisions (Hartmann, 2003; Nealon, 2008; Pickett, 1996). In this sense, resistance to discipline can appear in different forms as in avoiding, restating discourses, and undermining the control of subjects’ behavior by institutionalized norms (Lilja & Vinthagen 2014). The disciplinary power could be also suspended through resistance practices such as foot-dragging, slander, sarcasm, passivity, disloyalty, ignorance, avoidance, and escape (Scott, 1989). Although there is no general consensus among researchers about whether conformity might be a way of resistance (Bash, et al., 1985; Marx, 2003; Simon, 2005), Bash et al. (1985) state that conformity could be regarded as a passive resistance technique. In terms of schooling, Gallagher (2011) in his research points that intentional noise made by students during class exemplifies resistance to the teacher, representing the figure of power. For the other resistance example in a school context, the relation of punishment and reward could be taken into consideration. Bargaining an individual’s relationship to assigned punishments and rewards could destabilize the effect of disciplinary power (Lilja, 2008). A student who facing disciplinary punishment due to his/her acting out norm in school can be seen as a hero by those admiring him/her but avoiding performing behaviors against school norms for any reason. Therefore, being punished by the disciplinary board yields a reward.
Panoptic surveillance and resistance in schools in the Foucauldian context have attracted attention from a lot of researchers (Opfer, 2001; Bushnell, 2003; Perryman, 2006; Devine-Eller, 2004, Lewis, 2006, Kupchik, 2010; Taylor, 2013). Referring to the cynical effect of neoliberal policies on education, Webb et al. (2009) also assert that standardized tests as the machine of surveillance installed on the act of ‘No Child Behind Left’ is proper for matching students provided with inadequate education service with easily manageable low-paying positions oriented by an increasingly overcentralized and layered national and global economy. ‘There is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations’ (Foucault, 2017, p.65). In light of these studies, we could say that knowledge is one of the things that power needs to manage docile bodies. In fact, tools like IQ tests and standardized exams provide this knowledge for the institutions. They suggest that a minority of students displayed resistance to surveillance by administration and teachers in schools.

Despite all studies on surveillance as disciplinary power, considering the relevant literature, there is a gap needed to research on this issue in a secondary school in Turkey. The aforementioned studies demonstrate that surveillance as a disciplinary power might serve to control the conformity of students at some schools in Europe and the USA; however, while reviewing the relevant literature, we notice that there are few theoretical or empirical studies conducted in Turkey (see e.g., Ağın, 2019; Alğan, 2014; Asan, 2013; Meşeci, 2007; Şentürk and Turan, 2012; Taşkın, 2014; Temir, 2013). Therefore, we think examining surveillance practices in such a context could provide data unexplored earlier. Our main research question and sub-research questions are respectively as in the following:

- How do school staff (i.e., school principal, vice principals, teachers and psychological counselors) exercise disciplinary power with its influential tool, panoptic surveillance on students in a secondary school?

- How does disciplinary power with its influential tool, panoptic surveillance normalize students’ behaviors in this school?

- In which ways do students resist to disciplinary power with its influential tool, panoptic surveillance?

To understand the role of surveillance in this context, we aim to identify its themes on students in the context of Foucault’s panopticon and describe the ways of resistance by students to the surveillance as disciplinary power.
Method

Research Approach and Design

In this research, we examined the practices of surveillance as disciplinary power and the resistance shown to them in a secondary school in a district in Istanbul. The residents in this district are at high socio-economic and high education level. However, none of its students live in the district where the school is located. They largely reside in peripheral districts near the location of the school. While most of the parents are at low socio-economic and low education level (i.e., primary school graduation), some of them are at middle level. The classroom size in the school is between 20 and 25 students, which means it is quite small comparing to the other public secondary schools in Istanbul. Due to the uniqueness of this school context, we took care to avoid generalizing in a quantitative approach, unlike, adopted exploratory philosophy in a qualitative approach. We utilized case study design in this research since case study design allows focusing on the complexity of a case (Creswell, 2007), its uniqueness, and the connections with the social context of which it is a part (Glesne, 2016). Owing to investigating the case in such a school, we employed a single case study design in the research. Therefore, in this research, case study design provided us for in-depth grasping the surveillance practices as disciplinary power exercised to the students, how students normalized them and their behaviors, and how they resisted to these practices. Another reason for this design was that the case study gives space to use a variety of data collection tools to get a detailed understanding in a limited area.

Participants

We adopted maximum variation in the purposeful sampling method while deciding on whom we interviewed. It enables us to maximize the differences in the findings reflecting the different perspectives on a case, which is optimal in qualitative research (Creswell, 2007). We reached a great variety of data through maximum variation. Our participants are from different disciplines and have different experience period as a professional in the education field. This variation in sampling provided a holistic understanding of how the surveillance as a disciplinary power on the students worked in this school. The table of the participants in this study is as follows:

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Profession</th>
<th>Branch</th>
<th>Year of service in teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray</td>
<td>School Principal</td>
<td>Religious Education</td>
<td>33</td>
</tr>
<tr>
<td>Black</td>
<td>Vice-Principal</td>
<td>Religious Education</td>
<td>5</td>
</tr>
<tr>
<td>Green</td>
<td>Vice-Principal</td>
<td>Turkish</td>
<td>9</td>
</tr>
<tr>
<td>Pink</td>
<td>Psychological Counselor</td>
<td>PCG</td>
<td>9</td>
</tr>
<tr>
<td>Brown</td>
<td>Psychological Counselor</td>
<td>PCG</td>
<td>6</td>
</tr>
<tr>
<td>White</td>
<td>Teacher</td>
<td>Religious Education</td>
<td>27</td>
</tr>
<tr>
<td>Yellow</td>
<td>Teacher</td>
<td>Religious Education</td>
<td>7</td>
</tr>
<tr>
<td>Orange</td>
<td>Teacher</td>
<td>Science</td>
<td>10</td>
</tr>
<tr>
<td>Red</td>
<td>Teacher</td>
<td>Turkish</td>
<td>7</td>
</tr>
</tbody>
</table>
As shown above, the criteria of the study for selecting participants were profession, branch, year of service in teaching. We interviewed 13 participants to collect data for the study. The participants were the school principal, two vice-principals as school administration, two psychological counselors, and eight teachers from different branches. The service year in the teaching of participants differs from three years to thirty-three years. Furthermore, we gave code names to participants according to the color whose clothes they wore on the day we had the interview.

Data Collection

Before the interviews, we had observed life in the school for three months attending classes, ceremonies on special days. Instead of using any structured or semi-structured observation form, we kept research diary. Writing diary entries provide data accounts for a qualitative research to enlighten the unnoticed details in daily life (Creswell, 2012). As a research team, we regularly revised our diaries and made discussions on the common and different points we caught. Therefore, the observations recorded on diary entries enable us to grasp the holistic understanding of the research context. Scanning the relevant literature and considering the aims of the study and observation notes, we also designed six main questions to use in the focus group discussion and interviews and presented the questions in the form to two experts in the relevant field and a linguist. Accordingly, some questions were reviewed and readjusted. Afterward, we asked the questions to two teachers in the school as a pilot study and confirmed their clarity. All interviews were conducted in the school, with teachers in the teachers’ room, with counselors and the administrators in their own rooms after making appointments from the participants. The semi-structured face-to-face interviews were made in 2020, January. Each interview took roughly 40-50 minutes. The focus group discussion occurred with two teachers and a psychological counselor in the school. It took 46 minutes. We informed the participants about the aims of the study and asked them to read and sign the protocol reminding they were free to leave the interview whenever they wanted. The participants’ views were recorded on a tape recorder with their permission. After transcribing the interviews, we received participant confirmation for each transcript and deleted the records. The participants confirmed their transcripts. Therefore, we did not need to omit any statements in the views. To check whether the collected data during interviews and discussion was credible, we analyzed some documents such as the school’s website, the papers on the information boards.
Data Analysis

The field notes taken on observation and the audio-records were transcribed just after the interviews. We, as a research team, analyzed all data together by using content analysis method to provide credibility in the findings. Content analysis method is ‘the systematic examination of texts and visuals, media and/or material culture to analyze their prominent manifest and latent meanings’ (Saldaña, 2011, p. 10). This method enabled us to uncover latent meanings and patterns in data we collected. We also reread the transcriptions several times and then identified respectively codes, categories and themes. To code the items in data, we utilized conceptual coding, which is valuable for cultural studies, sociopolitical inquiries and critical theory as it encourages reflection on broader social structures (Saldaña, 2015). Through it, we could think critically, reveal the relationships between patterns and reach the big picture of our findings.

Credibility and Transferability

There are lots of ways to increase the credibility of a qualitative study. One of the most common methods is triangulation. ‘It may be defined as the use of two or more methods of data collection in the study of some aspect of human behavior’ (Cohen et al., 2007, p. 133). There are different types of triangulation such as method triangulation, participant triangulation, and researcher participant. ‘This ensures that the study will be accurate because the information draws on multiple sources of information, individuals, or processes’ (Creswell, 2012, p. 259).

We made data triangulation which means that we collected the data via observation, focus group discussion, semi-structured face-to-face interviews, and document analysis to make sure whether we properly understand and describe the participants’ views relevant to surveillance as disciplinary power by teachers and resistance to it by students. To gain a deep understanding, we interviewed teachers, psychological counselors, and administrators in the school- utterly 13 participants, thereby building up a better and coherent picture of the case through the participant triangulation. Finally, we, as a research team, collected the data together during some interviews and analyzed together to provide credibility in the data. Hence, multiple triangulation was adopted during research in order to have high credibility on the results of the study.

Transferability means getting the results in a study applicable to those in potential studies in a similar setting or context (Lincoln & Guba, 1985). To provide transferability in a study, researchers should use purposeful sampling method and provide a thick description (Creswell, 2014; Lincoln & Guba, 1985). We also chose purposeful sampling method and presented the collected data in detail and direct quotations of the participants’ views to obtain transferability in this study.
Results

The analysis of the transcripts of the focus group interview, individual interviews, observations, and documents indicated that *forced docility* is the most emphasized concept all participants agree on concerning the definition of the discipline in the school. The views of participants also support that *norm-provider* is the main function of disciplinary power in the school. Moreover, the participants have a consensus on students’ behaviors in a self-controlled way under surveillance via both digital cameras and monitor teachers as in the Panoptic tower. Finally, the participants state that *reflections of discipline* exercised in the school are either normalization in students’ behaviors or resistance to discipline by students. In short, the themes are identified as follows: forced docility, norm-provider, reflections of discipline.

**Theme One: Forced Docility**

The analysis of the data collected reveals that *forced docility* is the theme stressed by all participants to define the discipline. The categories of provocative deprivation, responsibility, and obedience are mostly emphasized by the participants describing disciplinary power. For instance, a teacher participant in the focus group interview defines it as provocative deprivation:

*Well, I see discipline as being deprived of something. Discipline prevents students from behaving as they wish. They never go beyond the obstacles in front of them, depriving them of that thing. They want to act the forbidden behavior more because they are deprived. It's forbidden, or that rule, they would like to violate it anyway, it is provocative for students* (Purple, Arabic Language Teacher, 3).

A vice-principal emphasizes the definition of the discipline in the school as a responsibility. She addresses the obligation of wearing the uniform, being punctual, and behaving properly in the school while describing discipline. Again, she employs the concept of forced docility:

*They (students) have to be responsible for their behaviors. There is discipline everywhere. God says that humankind should be responsible and should be disciplined to be happy on the earth and after death. Even religion is discipline. Discipline has to exist in the school, as well. Students are obliged to wear the uniform, be on time for class and treat properly (to their teachers and peers) in the school* (Black, Religious Education Teacher, 5).

In this view, some religious references such as *God, after death*, etc. are remarkable in describing surveillance as disciplinary power. The participant also emphasizes there is a correlation between school life and religious norms. It gives the impression normalization by surveillance is based on religion in the school. While explaining what discipline means in this school, some
participants refer to the concept of obedience to school rules, official regulations, and teachers’ directions. The school principal defines discipline in this way:

... to me, discipline is that students comply with the rules and regulations in the school and unite around the truths supported by the teachers ... (Gray, Religious Education Teacher, 33).

In brief, the general analysis of the collected data reveals that the theme forced docility consists of the categories of provocative deprivation, a responsibility based on religious norms, and obedience, and this theme defines discipline in this school.

Theme Two: Surveillance as Norm-provider

The analysis of the data collected during the research shows that norm-provider was the most frequently stressed notion to explain the function of surveillance as disciplinary power in this school. Based on the findings, three categories were identified for the theme norm-provider: destructive norm, manipulative norm, and classifying norm. Destructive norms include violence-creating, threatening, and regulating. A teacher in this school explains how discipline which is based on violence affects students:

When school staff and parents employ discipline based on violence, students take them as a role model and use violence to their peers. In this way, some students in the school try to provide discipline by using violence among their peers. Of course, it is destructive, but they see their role models’ way to build discipline and imitate their patterns (Red, Turkish Language Teacher, 7).

Manipulative norms operate on students to become docile students in schools obeying the defined rules. Accordingly, during our observation in the school, we noticed students’ uniforms were often checked whether it was suitable for the norms of school. Every month, school administration chose and appraised a model student who wore school uniform properly in front of all students. We infer from the finding that obeying norms are not compulsory but welcomed and incentivized in this school.

In the analysis of the interviews, classifying norms are defined as exams in this study. They are neither only destructive nor only manipulative. They divide students into two groups as superior students and inferior ones. The students taking high marks are welcomed by the teachers, principals, parents, and their peers. However, the students having low marks feel themselves worthless. They are rarely or never honored in the school and at home. A teacher participant explains how exams affect students to be disciplined:
It depends on the student, if the student really has a goal, yes, taking exam can be very effective. For example, a student having a goal for the future says ‘I will pass this exam so that I will be like this physics professor. Here I have to win this exam first, I must be in a very good high school so that I can achieve this goal. I can get my dream job.’ This kind of student is successful and determined. Otherwise, they are aimless and unsuccessful. These exams are very effective in terms of discipline (Orange, Science Teacher, 10).

According to our observation, at the end of semesters, three students having the highest marks in school reports are celebrated and honored with presents by the school management and applauded by teachers and other students at the ceremony. In addition, students join some contests on religious education such as reciting the azan, reciting the Quran. The winners are also celebrated at the ceremonies. This situation gives the impression that success on marks or contests are welcomed and desired in the school. By teachers and school principals, unsuccessful students are expected to take the role model of successful ones.

A psychological counselor participant emphasizes the given message with teacher observation or digital cameras to students:

Knowing that students are being watched stops their behaviors. However, the message we as a teacher give students is that in visible locations where the cameras are, don't misbehave. Don’t forget that there are cameras. For example, these bad behaviors are usually around the fire ladder because there are no cameras there. Smoking is common where there is no camera. The school principal will put the camera there, a camera not working but it will be at least to be scary and deterrent for students (Pink, Psychological Counselor, 9).

We can understand from this view that students’ behavior changes depending on whether they are observed or not. When students notice they are under gaze via camera or teacher, they give up their misbehaviors. On the other hand, they prefer showing the undesired behaviors on the blind spot as on the fire ladder. Therefore, the school principal thinks installing even a broken camera works for normalizing students.

The findings reveal that disciplinary power as surveillance is a common tool for normalizing students and become docile bodies in this school. The destructive norms clearly urge students to do so; however, the manipulative norms are cynically practiced having students self-controlled in the school.

Theme Three: Reflections of Surveillance as Disciplinary Power

The analysis of the collected data shows the disciplinary power practiced by the teachers has some effects on students in the school. Discipline reflects in two ways: normalization and resistance.
Some students normalize their behaviors, perform the desired ones and control themselves to obey the rules whereas others resist disciplinary power and display their resistance in different ways such as insisting on misbehavior, self-defense, giving responses in an angry manner, neglecting religious requirements, and smoking in the school. A teacher participant thinks students pay attention to wear the uniform properly when they are warned by her:

> For example, when I warned a student wearing different clothes about the uniform, the other day the student wore it properly, some of them do so only when they have my lesson, let me say it is just because they fear being punished by me... S/he wears jeans in other lessons because s/he does not think it is logical to wear a uniform in the school (Maroon, Science Teacher, 8).

A monitor teacher in each hall has students behave in a controlled way during breaks. According to the findings, students think they should obey the rules, not argue with their friends or swear. Otherwise, they need to face some problems such as their parents’ calling to complain about their misbehaviors, getting disciplinary punishment, or just reprimanding. The school principal employs the metaphor guardian to explain the role of a teacher responsible for observing students:

> Of course, teachers keep watching students all time like a guardian, for example, even being in that corridor is a disciplinary event for the student. At least, he says, if I make a wrong action, my friends and the teacher are watching me there. Maybe if I insist on misbehavior, they will discipline me, I will get a punishment or the same way we warn them about certain issues at the same time. I think surveillance whether via teacher or camera provides the discipline for students. They control themselves (Gray, Religious Education Teacher, 33).

The school principal explains how the disciplinary function of surveillance operates on students’ normalization by stressing the possible results of their insist on misbehaviors. Scores in the exams are another normalizing tool for the teachers in this school because having a poor score in the report card means low self-esteem and reprimand by parents for most students. In order not to be unsuccessful, students tend to normalize their behaviors which their teachers find threatening for effective classroom management. A teacher participant states her Arabic lesson is challenging for the students not familiar with the Arabic alphabet and they try to make noise or chat with each other when they find exercises difficult in a class. She goes on by mentioning the technique she uses to make her students docile during class:

> For example, in a class for 8th grade, I gave three students poor performance score because they made noise during class. they are very afraid of having the low grade. I said to them ‘But if you keep silent for three weeks, I will delete this weak score’. These mischievous students did not make any noise in my class for three weeks, they sat quietly. I extended these three
weeks to four when I extended it to five until the last time of the report card, they sat quietly in a disciplined way (Purple, Arabic Language Teacher, 3).

On an observation day, at the teachers’ room, a Turkish language teacher participant was telling the problem to his colleague in the last class. He was displeased with his quite students who did not any reaction to the chatty students during class. Because of that, he decided on asking hard questions in the exam and announced his decision to all students at the end of class. He added to explain the reason for his decision in this way.

The students who listened to the lesson quietly objected to my decision concerning exam questions. They said that they did not deserve to be asked hard questions in the exam as punishment. I gave the answer saying that you did not react to your friends who disturbed you and hindered a peaceful lesson. In other classes, successful students put pressure on naughty students to be quiet. I will ask hard questions to all of you because of that (Red, Turkish Language Teacher, 7).

We can understand the teacher felt lonely and asked support from the students listening to the class quietly. However, these students did not react to the students chatting during class. Therefore, the teacher preferred threatening by asking difficult questions in the exam to trigger students for providing a quiet classroom atmosphere by putting pressure on students chatting.

Smoking at students’ toilets and on the fire ladder is another way to show resistance for some students in the school. A counselor participant explains the reason for this behavior in this way:

Smoking at school is such a thing, ‘Look, what am I doing, guy?’, the student smoking in the school says to his peers ‘You see, don’t you? I can smoke in the school’. Otherwise, these children are not addicted. They’re not addicted. Indeed, this movement has a challenge. The student is challenging to school administration. He says to his peers ‘Look at me, what am I doing, can you do it?’. Not every child can do this because they are afraid, they can’t do it. However, this boy implies that ‘Look, I’m not scared of anybody else.’ by smoking (Pink, Psychological Counsellor, 9).

Even if it is not common, teachers talked about some male students smoke in the school and they were directed to the counseling department and then to the discipline board. According to the psychological counselor, smoking at school is not about being addicted but a way for adolescence to resist the rules and challenge with authority. It shows there is resistance where the disciplinary power exists.
To sum up, we obtained three themes in this study to understand and describe how surveillance as disciplinary power operates in this school, its normalizing effects on students. We also examined the ways of students’ resistance to disciplinary practices exercised by the teachers and the school administration. In brief, the findings reveal these themes in this school; discipline means forced docility, surveillance functions as norm-provider, its effects refer to reflections of discipline, either normalization or resistance.

**Discussion, Conclusion and Recommendations**

The findings of the study reveal that disciplinary power in this school is defined as *forced docility*. To all participants, students are strictly expected to be obedient to school rules to have a peaceful and suitable educational setting in the school. The most practical technique for it is to gain the notion of students’ being responsible for the duties reported by the school administration, teachers, so on. Once students feel it is their responsibility to comply with a rule, they constantly try to obey it improving self-control skills. This finding of the study is in line with Foucault's promise (1995) that discipline is self-punishment. Disciplinary power shifts the focus of punishment from body to mind and it gives the message that the punishment will suffer more than the pleasure they receive while committing a crime, with which it advises them to avoid illegal acts as rational assets so that the body disciplined without being subjected to physical punishment is imprisoned in a system of imperatives and prohibitions (Deleuze, 1977; Foucault, 1995).

As a finding of this study, the participants mostly emphasize that surveillance functions as a *norm provider*. In other words, disciplinary power provides some sorts of the norm such as destructive ones via punishment, manipulative ones via pieces of advice, or classifying ones via exams. Foucault (1995) also defines surveillance as disciplinary power which is a tool for ranking, ordering, and normalizing individuals. As in Foucauldian panopticon, the observer in the tower knows what the prisoners do in their cells; however, the prisoners have no information about whether he is there or not. What makes the observer superior to the prisoners is knowledge. According to Foucault, ‘There is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations’ (2017, 65). Based on the findings of this study, we can easily reach the same scenario in the school through observation on students by monitor teachers or surveillance cameras in the halls during breaks, ceremonies in the school garden, classrooms during the lesson. Furthermore, the findings show that surveillance practices as disciplinary power are influential in the school with the use of three basic instruments, which are ‘hierarchical observation, normalizing judgment and their combination in a procedure that is specific to it, the examination’ (Foucault 1995, 170). After the discussion on the effect of hierarchical observation on students to become docile bodies by both teacher gaze and surveillance camera, we could emphasize the relationship between normalization and exams referring
to the reflections of discipline in the school obtained by the analysis of data. Most of the participants in this study address that students feel anxious when taken to exams and teachers know it very well and use exams as practical apparatuses to control and measure them. Therefore, teachers and school administration practice disciplinary power through exams, performance progress tests, and so on. Eller (2004) asserted that the nature of the standardizing tests could be suitable for making students controllable, predictable, and manageable. The finding of this study supports the normalizing effect of surveillance as disciplinary power on students’ behaviors, as well.

Power relations based on discipline regulate and reshape bodies, actions, attitudes and daily behavior patterns of students as in the prisoners and mental patients (Foucault, 1995). The findings demonstrate that students control their behaviors through norms based on school rules. However, according to some participants, the students in this school as disciplined bodies experience provocative deprivation concerning the desire to violate the rules predetermined by those having disciplinary power such as the obligation of wearing the uniform and staying quiet in class. Therefore, we reveal the finding that surveillance practices as disciplinary power pave the way for resistance supporting that ‘where there is power, there is resistance, and yet, or rather consequently, this resistance is never in a position of exteriority in relation to power’ (Foucault, 2014, p. 238). The finding that students tend to perform the undesired behaviors such as bullying, making noise or smoking reveals that students always can resist the disciplinary power in this school (Scott, 1989; Lilja, 2008; Gallagher, 2010). More broadly, we can express the findings of our research contribute to the Foucauldian literature concerning surveillance as disciplinary power in two ways. We explored (1) how surveillance practices are exercised in the context of disciplinary power and (2) the ways of students’ normalization and resistance to them in a secondary school. Our analysis, to some extent, explores the practices and reflections of surveillance as disciplinary power.

For the field practitioners, the recommendations are presented as the following:

- In any schooling context, staff should avoid exercising surveillance as disciplinary power on students in order to have raise autonomous, responsible and open-minded generations.
- School principals should encourage teachers, counselors and students to share their ideas without any hesitation in order to create democratic education environment rather than surveillance culture based on strictly top-down framed norms.
- Rather than taking a big exam at one time, teachers should employ individualized assessment methods and techniques so that students could be given the feedback based on their own improvement, not standardized evaluation norms.
- For further research, the recommendations are presented as the following:
The relation between power, surveillance, and resistance can be analyzed as a multiple case study comparing the findings obtained at different secondary schools in İstanbul.

The same research can be conducted at different school levels (i.e., primary school, high school).

The surveillance as a disciplinary power on the students and resistance to it by students can be searched in the context of online learning.

The surveillance as a disciplinary power on teachers and their resistance can also be searched.

To the final remark in this paper, as teachers, education administrators, and policymakers, we should give more space to students to reflect and to transform themselves not by imposing our truths on them or expecting to normalize themselves based on our truths but by letting them find what they already are.

References


History Courses and Values Education: History Teachers’ Evaluation of History Education Processes in Turkey in Terms of Values Education

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Abstract

Values education is a subject matter that draws attention in history education in every period. As history is about people's past lives, it naturally presents the heritage values of the society. In addition, the confrontation of the students with the historians’ process of history making also contributes to both seeing these values and developing other values through some collaborative processes. There exists a special relationship between history and values education and both strengthen one another over the heritage values. The main purpose of the study is to learn history teachers’ views about value education within the context of history courses. History teachers were asked to evaluate history courses, curriculum, and textbooks in terms of values education, and their opinions about classroom practices and effective values education were received. In this respect, qualitative research approach and case study design in accordance with its nature was adopted in the study. In 2020, 16 history teachers were interviewed via a semi-structured interview form, and the data obtained were analysed via content analysis and presented. As a result, it was observed that history teachers considered history courses as an ideal field in terms of values education. Despite this, they did not find the curriculum and textbook sufficient and they carried out values education with their own efforts, mostly through classroom practices. Teachers emphasized that there would be opportunities for effective values education in a history lesson where student-centred activities were carried out, history was not abused and its social aspect was emphasized more.

Keywords: Value Education, History Education, History Course Book, History Curriculum, In-Class Practices.

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Introduction

The concept of value refers to the beliefs that are accepted, approved and encouraged as the reason for the existence, unity, functioning and continuation of a social structure, and tried to be protected (Tural, 1988; cited in Ulusoy & Dilmaç, 2015). Values are the thoughts that are accepted as true and sufficient by most members of the social group or society in order to survive (Yeşil & Aydın, 2007). In other words, it is the set of beliefs that make human beings human and lead human behaviour (Ulusoy & Dilmaç, 2015).

The values that reveal the ideal thought and behavioural patterns in the society are necessary for the existence, functioning, unity, continuity, and solidarity of societies. It is both the inspiration and meaning of community life (Ulusoy & Arslan, 2014). Values are a choice that determines people's perspective towards life, affects their decisions, reflects their beliefs, and composes their behavioural measures (Ergen, 2019; Kızıler & Canikli, 2015). Values are important for the humans to determine their life, actions, goals, and ideals individually and to live in accordance with them. Values are also determinant in the processes of organizing interpersonal relationships, decision making, selection and evaluation. When evaluated in general, values are the source of both individual and social control system (Aydınl & Akyol-Gürler, 2014). With this aspect, the characteristics of the existing cultural structure are transferred to the individual and thus its continuity and sustainability is ensured. In addition, the desired citizen is shaped and adapted to the society through the transferred values and norms (Muç & Pamuk, 2020). Value education is necessary to maximize the contribution of values to the individual and society. Value education refers to a process that includes developing sensitivity towards moral, cultural, spiritual, universal, and individual values, internalizing them and turning them into a behaviour (Kaya & Taşkın, 2016).

Today's technological developments and the phenomenon of globalization bring some positive results and increase people's living standards; however, it poses the danger of corrupting the accumulation that societies transfer from generation to generation (Keskin, 2016). Values are as important as laws for keeping society together and survival of individuals. In this sense, a quality value education is needed to ensure the continuity of the society and to prevent dissolution, to ensure peace, tolerance, reconciliation, social empathy, to develop human personality in every aspect and to reach human excellence (Aydınl & Akyol-Gürler, 2014). It can be stated that well-equipped individuals, who have received quality value education, shape the future of societies, and contribute to the transfer and sustainability of values (Yel & Aladağ, 2015). For a good value education, it is important for individuals to acquire suitable behaviour in accordance with what they learn as much as knowledge. In other words, a good value education should gain behaviour as well as knowledge. Students are expected to develop their personality, learn their responsibilities towards society, adapt to society, socialize, and feel cultural identity (Genc & Eryaman, 2008; Ulusoy & Arslan, 2014). The
The fact that individuals transfer the values they have learned into their lives and turn them into a behaviour shows the quality and success of values education. It also ensures the continuity of the historical accumulation of the society.

One of the courses that can provide effective values education is history. Historical understanding tries to teach us who we are and where we come from as well as where we stand. Without thinking about how life took its present form, we cannot speak of our current social life in a meaningful way because these forms cannot be separated from the past (Fitzgerald, 1983). History education which emphasizes the cultural form of national identity focuses on traditions and customs, cultural holidays, values, beliefs, and attitudes. The projected form of identity is created by the awareness of the in-group’s background, roots and resources, the relationship between in-group and out-group, and the current situation, position and perspectives of the in-group person (Korostelina, 2008).

In traditional history education approach, the value gains were expected over the socialization of students and the need to raise good citizens. In the new approach to history education, while students create their own historical knowledge in line with the disciplinary purposes, they could gain democracy awareness and values especially with the experiences they have during the cooperative learning process (Dilek, 2007). In other words, it can be stated that while values education for the social purposes of history is at the forefront in history course taught with the traditional approach, the contemporary approach prioritizes values education approach that supports the disciplinary goals of history (Demircioğlu & Tokdemir, 2008). In addition, values education in history courses can serve both purposes. Approaches such as stories, biographies, legends, epics, excursions, and museum trips used in the teaching of history offer important opportunities for values education. The states’ idea of raising good citizens impose non-disciplinary duties on values education. In addition, it can be said that values education also serves the disciplinary purposes of history through the processes of examining the sources, seeing the differences, and extracting new meanings from the sources (Tokdemir, 2017). In other words, values education activities in history course can serve both disciplinary and non-disciplinary social purposes.

Within the context of history education, values education has been considered both as a tool and a goal. Values education in history courses is of great importance for individuals not to have problems in their social adaptation processes and for the creation of a good future for the sake of humanity (Gültekin, 2010). Events experienced in history gain meaning with values because we will have to make some moral explanations while shaping historical studies and evaluating historical events. Moreover, thanks to the history courses, students can learn certain virtues and become a moral individual of the society (Arthur et al., 2001). Historical awareness and values are related. The fact that people make their decisions with a certain value judgment about matters of interest to history and
the existence of a certain value judgments in the society they live should be considered. In this sense, it is inevitable for people to see and learn a certain value system while learning their past. While people learn their past, they also gain a consciousness woven with values (Kaya, 2006; Ulusoy, 2010; Demircioğlu & Demircioğlu, 2014a; Tokdemir, 2017).

History courses are a course with a strong aspect of values education and students can gain values by using active and student-centred approaches (Demircioğlu & Demircioğlu, 2014a). It should not be forgotten that in education, teaching processes have gained value and considering that everyone has different interests and abilities and when appropriate learning environment is provided, everyone will have more learning opportunities (Özden, 2013). In this sense, teachers have a great responsibility. Teachers should take the initiative to design the process for an effective values education, taking into account the constraints in the curriculum, the social and physical conditions of the place they work and the qualifications of the students (Ekşi & Katılmış, 2016). As a matter of fact, Yıldırım (2018) stated that values that should be gained by students and history teacher candidates (such as patriotism, justice, honesty) must be taught by teachers.

Coltham and Fines (1971) expressed intuition/insight and knowledge of values as educational consequences of history education. Students should be demonstrated in history courses that values affect human behaviour and decisions, there is an opportunity to choose values, and choosing certain values and acting accordingly have various consequences. In addition, they must be enabled to understand the importance of values in human relations (Translated by Safran, 2006, pp. 143-144). It must be carefully decided which values to teach in history courses and the values taught should become a part of real life by putting them into action (Paykoç, 1991).

The following statement “It is an indisputable fact that the future of a society depends on its people who have embraced their values and who have put flesh on these values with their competencies.” indicates the importance of values as the perspective of the Ministry of National Education curricula (MEB, 2018, p. 5). It is known that in addition to some conceptual studies carried out in Turkey about values education in history courses (Demircioğlu & Tokdemir, 2008; Gültekin, 2010; Demircioğlu & Demircioğlu, 2014a; Demirhan, 2014; Yıldırım & Demirel, 2019), such studies as considering the opinions of teachers and teacher candidates (Tokdemir, 2007; Demircioğlu, Demircioğlu & Genç, 2016; Gündüz, 2018; Yıldırım, 2018), evaluating curricula (Ulusoy, 2010; Keskin, 2015; Özdemir, 2017; Yıldırım, 2017; Erkan & Çoban, 2018), analysing course books (Keskin, 2015; Yıldırım, 2017; Erkan & Çoban, 2018; Muç & Pamuk, 2020) and demonstrating the effectiveness of variety of ways and methods (Ulusoy, 2005; Demircioğlu & Demircioğlu, 2014b, Okumuş, 2020; Öztas, 2017; Öztas, 2018) were carried out. The common point of the studies is that there is a strong relationship between history lessons and values and the difficulty of realizing it independently from values education due to the nature of history. It is a fact that there is a continuous
improvement related to curriculum and textbooks in Turkey. In this context, the new curriculum, textbook and the current education understanding must be constantly questioned to achieve a better understanding. Values education is an important phenomenon for history courses. Its versatile evaluation will demonstrate the current situation in the education system. The number of studies carried out in this direction is relatively scarce compared to their importance. This study was designed based on this problem.

The Purpose and Importance

Schools have become a particularly important place in the teaching of values. Especially today's family structure and working relationships cause children to meet school at a young age and it is seen that they spend a significant part of their time at school. Schools are a small sample of society and they make contributions to seeing what is good and what is bad through experience. (Kaya & Taşkın, 2016). It is important that values education begins as early as possible. However, it should also be studied intensively in high school periods when children experience all kinds of changes in the most intense way because the adolescence period is a very difficult period, and this period should pass as smoothly as possible. In values education, young people's identities become clear, positive values are adopted, negative attitudes and behaviours are avoided (Kaya & Taşkın, 2016)

Values reflect society's attitudes and expectations, and values have a structure that can unite individual around themselves. Values should be taught to provide social continuity and effective citizenship (Karasu-Avcı, Faiz & Turan, 2020). Some new values (such as democracy, freedom, aesthetics), which are necessities of modern times, have been added to the values of the past. Teaching values is considered important in terms of providing continuity of the society and adaptation to the modern world (Yıldırım & Demirel, 2019).

With values education, it is possible to raise individuals who are democratic, socially adaptable, patriotic, sensitive and responsible, have a culture of living together, moral, sensible and tolerant, fair, conscientious, honest and compassionate, and respect each other (Demircioğlu & Demircioğlu, 2014b). In this sense, history courses have an important function. It is possible to develop personality and character in history courses with many subjects that contain values such as traditions, customs, rules, moral values, human rights, justice, war, peace, religious experiences, etc. (Ulusoy, 2010).

Values education has an important potential in history courses; however, the number of studies is limited depending on the importance of the subject (Tokdemir, 2017). There are six main topics in front of teachers for effective values education in history courses including competence, student concerns, lack of support, duration, curriculum, identity and political influence (Mohamad,
Sihes, Bohari & Suhaini, 2020). A direct and indirect evaluation of these titles will show the state of values education in history courses.

Values are particularly important for the individuals’ formation of their personality in a healthy way and their adaptation to the society, knowing and transferring cultural and universal values to their lives. In this sense, it has become a necessity to examine the state of values education from different perspectives in history courses which have a rich content and resource accumulation. The thoughts of history teachers are important to see the current situation through experience. In this respect, the main purpose of the study is to learn the general opinions of history teachers about the state of values education within the context of history courses. To learn the opinions of history teachers, the study sought to answer the following research questions/sub-problems:

- Are history courses a suitable field for values education?
- Is the content of history textbooks adequate for values education?
- Are history education curricula sufficient for values education?
- Is there values education in history courses?
- What are the history teachers’ reasons for values education in history courses, the values they teach most and the methods they use?
- What are the history teachers’ reasons for not teaching values education in history courses?
- How should an effective values education be performed in history lessons?

Considering the research questions/sub-problems, it can be said that the overall evaluation of the process is aimed. In learning-teaching processes, the nature of the lesson, the curriculum, the textbook, the teacher, and the applications complement each other like pieces of a puzzle. With this research, the compatibility between these parts will be tried to be seen holistically. However, the study has some limitations. Above all, it is restricted to the limited number of accessible participants. Undoubtedly, this is related to the nature of qualitative research and its lack of effort for generalization. Another situation is that it is limited to the period in which the study was conducted. The process has a dynamic nature. Although there are similarities with the past in history courses, the changes are also remarkable. In this respect, it is anticipated that the study will contribute to the literature.

Method

This section will give information about the methodological processes followed in the study. The method, study group, data collection tool, data analysis, validity and reliability issues of the research were mentioned.
The Research Method

Qualitative research method was adopted in this study in which history teachers evaluated the status of values education in history courses. Qualitative research is useful in understanding and describing local situations and developing theories with non-numerical information based on the subjective perspectives and experiences of the participants (Christensen, Johnson, & Turner, 2015). In other words, qualitative studies are studies that try to reveal attitudes, behaviours, and experiences with a small number of participants in a long process using methods such as interviews (Dawson, 2015). With this aspect, the participants tried to explain the status of values education in history courses in Turkey through subjective point of views and experiences. The state of value education was given in detail by considering many components such as the nature of the course, curriculum, textbook, teacher and applications. In this respect, the study was designed as a case study in accordance with the nature of qualitative research. Case studies are studies in which detailed results are revealed by examining different aspects of a particular phenomenon in depth. The factors related to the phenomenon, the effect of the phenomenon on another phenomenon, and the factors that cause the situation, etc., are analysed (Köse, 2013).

The Study Group/Participants

The research study group consists of 16 history teachers working in private and public institutions in 2020. In the selection of the participants, diversity was provided in terms of gender, experience, and type of school. In this respect, maximum diversity sampling method was adopted in sample selection. Maximum diversity sampling is the type of sampling that provides the variety of individuals who may be a party to the problem (Yıldırım & Şimşek, 2008). Online interviews with the participants were preferred more intensely due to the extraordinary situations caused by the pandemic conditions. Information regarding the demographic characteristics of the participants is presented in Table 1:

Table 1. Participants’ demographic characteristics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Experience</th>
<th>Types of Schools</th>
<th>Ways of Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-1</td>
<td>M</td>
<td>6-10 years</td>
<td>Private</td>
<td>Online</td>
</tr>
<tr>
<td>K-2</td>
<td>M</td>
<td>1-5 years</td>
<td>Public</td>
<td>Online</td>
</tr>
<tr>
<td>K-3</td>
<td>M</td>
<td>6-10 years</td>
<td>Public</td>
<td>Online</td>
</tr>
<tr>
<td>K-4</td>
<td>F</td>
<td>1-5 years</td>
<td>Public</td>
<td>Online</td>
</tr>
<tr>
<td>K-5</td>
<td>F</td>
<td>11-15 years</td>
<td>Private</td>
<td>Online</td>
</tr>
<tr>
<td>K-6</td>
<td>M</td>
<td>6-10 years</td>
<td>Private</td>
<td>Online</td>
</tr>
<tr>
<td>K-7</td>
<td>F</td>
<td>6-10 years</td>
<td>Private</td>
<td>Online</td>
</tr>
<tr>
<td>K-8</td>
<td>F</td>
<td>1-5 years</td>
<td>Private</td>
<td>Online</td>
</tr>
<tr>
<td>K-9</td>
<td>M</td>
<td>1-5 years</td>
<td>Public</td>
<td>Online</td>
</tr>
<tr>
<td>K-10</td>
<td>F</td>
<td>1-5 years</td>
<td>Private</td>
<td>Face to Face</td>
</tr>
<tr>
<td>K-11</td>
<td>F</td>
<td>Above 15 year</td>
<td>Public</td>
<td>Face to Face</td>
</tr>
<tr>
<td>K-12</td>
<td>F</td>
<td>6-10 years</td>
<td>Public</td>
<td>Online</td>
</tr>
<tr>
<td>K-13</td>
<td>M</td>
<td>Above 15 years</td>
<td>Private</td>
<td>Face to Face</td>
</tr>
<tr>
<td>K-14</td>
<td>F</td>
<td>Above 15 years</td>
<td>Public</td>
<td>Face to Face</td>
</tr>
<tr>
<td>K-15</td>
<td>M</td>
<td>Above 15 years</td>
<td>Public</td>
<td>Face to Face</td>
</tr>
<tr>
<td>K-16</td>
<td>M</td>
<td>Above 11-15 years</td>
<td>Private</td>
<td>Online</td>
</tr>
</tbody>
</table>
When the table is evaluated, the distribution of the participants according to the categories are as follows: considering gender there are 8 male and 8 female participants; 5 participants have a work experience between 1-5 years, 5 participants between 6-10 years, 2 between 11-15 years and 4 participants with 15 years or above; 8 participants work in public school whereas 8 of them work in private schools. A balanced distribution was considered in a general sense. In addition to this, a balance was considered as much as possible according to the gender between descriptive features such as other characteristics.

Data Collection Tool

The data were collected via semi-structured interview form developed by the researcher in line with the purpose of the research. A semi-structured interview is an interview method in which new questions can be asked according to the issues determined by the researcher before or created during the interview (Güler, Halıcıoğlu & Taşkın, 2013). This method provides certain area of freedom both for the researcher and the participant. It is also possible that new questions may be raised while the participant is answering the questions. During the design of the form, the draft form was created by first considering the relevant literature. The draft form was arranged according to the opinions of 2 field experts and 3 history teachers and then it was finalized. The academics and teachers who gave their opinions during the development of the form were not included in the analysis process. The form consists of two parts. In the first part, descriptive information consisting of gender, experience and type of school is included. The second part consists of questions about history courses, curricula, coursebooks, evaluation of in-class practices in terms of values education and suggestions for effective values education and the additional ideas.

Data Analysis

Qualitative data analysis is an exploratory process in which the obtained data is organized, classified, synthesized, some patterns are extracted, concepts are obtained, and the process is reported purposefully (Gürbüz & Şahin, 2014). In qualitative research, data analysis consists of three successive phases: data reduction, data display, and drawing conclusion and verifying (Miles & Huberman, 2015). In this sense, qualitative research process is the process in which the researcher takes the role of an “objective foreigner” and associates the interpretive-subjective data with the research purpose and research questions (Christensen, Johnson, & Turner, 2015). The data obtained from the participants as a result of the interview was transcribed, the points emphasized and highlighted by the participants were determined and the identified titles were presented with appropriate examples. In this process, extracting meaning from the text and identifying various relationships and the thoughts that were tried to be highlighted were carried out intensively. This overlaps with the content analysis in accordance with the nature of qualitative research. Content analysis is a careful, detailed, systematic examination and interpretation of a particular body of
material. The main purpose in content analysis is an effort to understand the meaning of the content in the texts as well as the emphasized thought (Bal, 2016). In other words, the main purpose of content analysis is to reach concepts and relationships that can explain the gathered data (Yıldırım & Şimşek, 2008).

Validity and Reliability

Because qualitative research studies are carried out with a more limited sample compared to the quantitative studies and based on the subjective experiences of individuals, there are some discussions about their validity and reliability (Güler, Halıcıoğlu, & Taşkın, 2013). However, some criteria have been developed by various researchers in accordance with the nature of qualitative research. Validity in qualitative research is that the researcher reveals the subject he is studying as objectively as it is and the reliability in qualitative research is whether or not the research results are obtained in similar environments and different researchers reach the same results on the same data (Kirk & Miller, 1986; cited in Yıldırım & Şimşek, 2008: pp. 256, 259-260). In this study, some measures were taken in terms of validity and reliability. Expert opinion was obtained during the development process of the data collection tool used in the study. Pilot interviews were conducted with history teachers for a more effective progress of the process. The interviews were immediately transcribed and both the prominent points at the end of the interview and the prominent points after the transcription were compared and thus, they were confirmed by the participants. The summary and comparison of the data obtained were confirmed via consultation with another field expert. The opinions put forward by the researcher were supported by the participants’ examples.

Findings and Interpretation

This section presented the evaluation of the history courses, history education curricula, and course books in terms of value education, in-class practices for values education, and history teachers’ suggestions for effective values education.

History Courses in Terms of Values Education

According to the interviews carried out with history teachers, a significant number of the participants (13 participants) stated that history courses were a suitable field for values education. On the other hand, two participants stated that history courses were not a suitable area for values education, and one participant stated that it was partially suitable.

The frequently stated opinion of the participants who stated that history lessons were a suitable field in terms of values education was that the subjects included in history could support values education. Participant 1 stated the following on the subject; “Values education is definitely given in a course that tells about all the experiences from the first ages to the present. Since its subject includes people and social, economic, religious, and political activities between people, it is
unimaginable not to teach it.” In addition, participant 7 said, “Because human relations are explained in history courses...”, participant 16 emphasized, “Value education can be done in history courses because it is related to every field such as social, economic, political, religious...”

Another opinion which defends that history courses would be evaluated in terms of values education is that history courses would serve the purpose of raising ideal citizens. Participant 3 stated the following opinion about the subject; “Since history courses are generally seen by the state as the shortest way to create ideal citizens, values such as heroism, patriotism, and the awareness of being a nation can be easily taught to students. ...” Participant 15 drew attention to the opinion of ideal citizen with his following statement “…History courses are very suitable for gaining values such as patriotism, national unity and solidarity, and tolerance in order to raise the type of human that states desire.”

According to some participants, the relationship built with the past and the skills that develop within students because of this make values education possible in history courses. Participant 2 stated; “Children are able empathize not only with their ancestors but also with other nations.” Participant 4 said; “Values such as nation, homeland, flag, national heritage, national culture, tradition, customs, rules, peace and religion are given to students. Students will gain skills by establishing a link between the past and the future and thus, they will individually progress in values education.”

The fundamental argument of the participants who defend that history courses are not a suitable field for values education is that values education is a condition which students can decide individually. According to the participants who share this opinion, the values must not be imposed on individuals. Participant 12 stated; “… People cannot live without values. It is possible to gain value with the relationship they have in their family and social environment. But teaching these values as a lesson in a school is something different. It is not the right approach for the system to decide what value the students will care about.” Participant 5 similarly emphasized the following opinion, “… if one wants to follow a value, he, himself, must decide it.” Participant 8 emphasized that she was hesitant about whether or not values education is done in history courses with the following opinion, “Today, it is very difficult to decide which values mean what to whom.”

When the participants’ opinions are evaluated as a whole, it can be concluded that the nature of history is suitable for values education. As history discusses people’s past, it provides an important opportunity for values education. Values and cultural knowledge created by nations throughout the historical process are transferred to the students through history courses, and thus both values and cultural accumulation are learned, and their continuity is ensured. In addition to these, there are participants who emphasize that learning values is an individual process.
Evaluation of History Education Curricula in Terms of Values Education

A significant number of the participants (14 participants) stated that history education curricula are insufficient in terms of values education. However, while one participant found history education curricula sufficient, one participant did not express any opinion.

The idea mostly emphasized by the participants who stated that history curricula were insufficient in terms of values education was that the curriculum focused mostly on political history. Participant 7 stated the following opinion about the subject, “...Because it focused mostly on politics, the values do not stand out.” Similarly, participant 9 shared her opinion like that, “History education curriculum was developed with a very political focus.” Participant 13 opined, “Values education can be given much more easily for social issues. Although there are developments, political history stands out in curriculum”.

Another point that history teachers draw attention is lack of direct explanations about the implementation of values education. Participant 15 stated the following opinion about the issue, “Actually, national values in the goals and some values in the later explanations are mentioned, but there are no explanations about what to do and how. If teachers do not take responsibility in this matter, the lesson will be taught and skipped. More concrete explanations will enable this training to be standard.”

Participants also stated that the development of knowledge-based history education curricula was another important reason for inadequacy. Participant 3 defended his opinion in that way, “Since our curriculum is generally intensely knowledge-based, subjects such as values education are not included adequately in our curriculum.” Participant 14 said: “… There is also information on social issues. He could not consider values education because of knowledge transfer.”

Other reasons for the inadequacy of history education curriculum in terms of values education are the possibility of causing undesirable situations and title-content mismatch. Participant 5 stated, “... Because neither time nor conjecture is available for this. Whatever it is said can be misunderstood.” Participant 6 expressed his opinions, “... Class hours and curriculum are not enough. The curriculum title and the content do not match.”

The participant who argued that the history education plan was sufficient in terms of values education in history courses and he defended that there could be only general explanations in the history education plan and the rest was the responsibility of the teacher. Participant 16 expressed the following opinion on the subject, “I think the curriculum says you will teach values and has made enough explanations. If it says where to teach which value, something different will happen this time.
Because it will have to do the same thing for every explanation it makes, the curriculum will not be a curriculum anymore. The teacher should teach values in his own way considering the explanations.”

When the participants’ views are evaluated as a whole, it is seen that the history education curriculum is insufficient in terms of values education. The reasons for this situation are that history education curriculum is political history-centred and based on knowledge transfer, it has different understanding, it lacks sufficient explanations about values education in the curricula, and there are some structural defects in the curriculum. History education curriculum constitutes an important dimension of the education and training process. The negative opinions of the participants about the curriculum are likely to create a disadvantage in terms of values education. However, there are participants who think that the explanations in the curriculum are sufficient.

**Evaluation of History Course Books in Terms of Values Education**

A significant number of the participants (14 participants) in the interviews argued that history textbooks are insufficient in terms of values education. However, two participants expressed opposing opinions.

Considering the inadequacy of history textbooks in terms of values education, the participants mostly expressed the opinion that the textbooks were prepared from macro history perspective. This situation is in parallel with the opinions expressed by the participants about the history education curriculum. Participant 3 stated the following opinion on the subject; “… Because our books generally tell about heroism. In the X war, armies of thousand people were encountered. Since it was written with the understanding that this commander was victorious in this war, the subjects of values education remain in the background.” In addition, participant 5 stated, “Political content is unfortunately everything for the states. Even if values education is wanted to be given, the state is giving it for us.” And participant 6 said, “The political content is more, we look as if we are not tired of telling the lives of the sultans yet.”

Another inadequacy of history textbook in terms of values education is that the textbooks were prepared with a behavioural approach/knowledge-based approach. Participant 2 stated the following opinion about the subject; “… Unfortunately, as the books are still prepared with a behaviourist approach, the students remain at knowledge level. They fall short of internalizing values and thus transforming them into a behaviour.” Similarly, participant 11 said, “Although the textbooks have changed shape, they are basically prepared on the basis of knowledge. I think knowledge is important, but it should have been prepared differently for values teaching. …”

The last reason for the inadequacy of the textbooks is that the textbooks are not prepared for practice/ in a practical way. Participant 9 stated his opinion about the subject, “Sometimes they are
superficial and sometimes overwhelming with details, but they are definitely not enough.” Participant 14 said, “The textbooks contain certain topics. Connecting the subjects to values is teachers’ responsibility. Its contribution to us in practice is exceedingly small.”

There are also participants who share their thoughts that history textbooks are sufficient in terms of values education. These participants emphasized that some values were directly or indirectly covered in the textbook. Participant 3 shared his opinion about the subject; “I think values such as patriotism and solidarity are emphasized in almost every subject.” Participant 16 said, “There are indirect emphasis on national and universal values. Since the book cannot have students do activities in the classroom, it must know how to use a teacher here too.”

When the participants’ opinions are evaluated as a whole, their emphasis on the inadequacy of history textbooks in terms of values education draws attention. The claim that the textbooks were inadequate were attempted to be grounded with the opinions that the textbooks were prepared from a macro history perspective, a behavioural approach/knowledge-based understanding prevailed, and they were not prepared for practice/in a practical way. The participants’ criticisms of history education curricula in terms of values education and their criticisms of the textbooks show similarity. It is thought that the development of textbooks by considering the curriculum is effective in the emergence of this situation. In addition, since both the curriculum and the textbook present the point of view of the system in writing, it could be criticism of the system. However, there are some participants who argue that the textbook is sufficient in giving national and universal values.

**Values Education in History Courses and In-Class Practices**

It is seen that history teachers generally do not find the curriculum and textbook sufficient in terms of values education. In this sense, within the framework of the participant opinions, the history teachers are expected to be effective in the history courses for values education. A significant number of the participants (12 participants) stated that they did value education in history courses. However, four participants stated that they did not teach value education for various reasons.

The most common opinions emphasized by the participants as a reason to do values educations is to give students historical awareness. Participant 11 said, “I care about values education in history courses. Textbooks and curriculum are not enough in this sense. My aim is to develop awareness of history in students. Consciousness is important to enable him to recognize what is important and to make a more conscious evaluation of his past. I can say that values have a close relationship with historical awareness. …” Participant 16 said “... Historical events are about people's past. We can say that all events are value laden. People make certain decisions in line with certain values. While teaching values to students, we teach history in real terms and gain historical awareness by evaluating the past.”
Another opinion emphasized by the participants almost as much as the historical awareness is the idea of raising ideal citizens. Participant 1 stated, “I do transfers and activities so that they become individuals who are sensitive to their environment, prudent and tolerant in human relations.” Participant 4 said, “I try to raise individuals with a good character, reinforce basic values, ensure that children acquire basic values that will be beneficial for themselves and the society in accordance with their psychological, cognitive and social development.”

Another reason for doing values education in history courses is that students recognize the differences. Participant 3 emphasized her opinion on the subject; “... It is of course important for us to know the background of the student. But the student must know that he should treat people of different nationalities or beliefs with respect which is as important as knowing his own past.”

Some of the participants stated that they did not teach values in history courses. They emphasized the following as the reasons for this situation: the concerns of misunderstanding, unsuitable conjuncture, failure of the attempts, and the students’ opinions that it is a process which they should perform themselves. Participant 5 stated, “... Everything can be drawn to the political dimension. ... Nobody should fear that something will happen because of what they say...” Participant 7 said, “The conjuncture is not suitable.” Participant 8 stated, “I tried but it didn't work.” and participant 12 said, “Students should learn the values necessary for their survival through their own experiences.”

The participants teaching values education in history courses stated that they used methods such as narration, role models (heroes, historical figures), being an example (teacher behaviour), drama, empathy, case study, telling anecdotes, dialogue, discussion and problem solving. The methods expressed by the participants were listed according to frequency, and it is seen that the most used method in this sense was “narration”. In addition, according to the frequency of emphasis, the values that the participants mostly taught in history courses include patriotism, national unity and solidarity, freedom, being scientific, justice, tolerance, empathy, sensitivity, responsibility, solidarity, love and respect, human rights, peace, honesty, virtue, common sense, hospitality. Participant 3 stated, “Tolerance, empathy. Today's world is full of people living far from their homeland for various reasons. The adaptation and acceptance of these people to the geography they go to depends on the tolerance of the people living in that geography. ... We focus more on case study. We seek an answer to the question such as how would we react if we were on the opposite side while examining the incident?” Participant 15 said, “I try to teach values such as patriotism, unity and solidarity, freedom, tolerance, responsibility, peace and empathy. ... In general, I adopt narration and other ways with some subjects such as drama, examples of old heroes.”
It is seen that a significant number of the participants are involved in an activity for values education in history courses. In addition, these activities are carried out in line with the abilities and experiences of teachers. History teachers make their own decisions about which subject and which value they will teach, and this leads to different learning experiences. Of course, the teacher should consider the location and student qualifications, but it seems necessary to set certain standards.

**Suggestions for Effective Values Education in History Courses**

Participants also had some recommendations for effective values education in history courses. Recommendations such as carrying out student-centred activities in values education, not misusing history, highlighting the social aspects of events, transforming values into a behaviour, blending values with historical issues, and providing personal development of students draw attention.

Participant 11 shared the following opinion about the activity-based practices in values education, “If we want to do values education in history courses, we must do activities. The student learns better by participating in the lesson. Some skills develop spontaneously in this way.” Participant 13 opined about not misusing history, “History has a really suitable structure for values education. However, we should tell what happened as it is, and we should not marginalize anyone.” Participant 6 stated the following opinion by highlighting the social aspects of the events; “The first subjects of history must not be stone, metal, etc. but human beings. How did man exist? Instead of being happy and sad by winning and losing wars, it is necessary to start the lesson with the damage caused by the losses in wars and develop the curriculum in that way.” Participant 2 opined about the transformation of values into a behaviour, “Instead of teaching the lives and actions of role models in history, environments where children will transform values into a behaviour should be presented.” Participant 10 remarked about blending the values to be taught with historical subjects, “If lessons are taught by identifying values with history subjects, it can be an effective values education for history courses.”

Participants’ recommendations for effective values education in history courses include using contemporary student-centred approaches and historical literacy. Designing appropriate teaching process for values education in history courses and integrating students into this process as much as possible will increase the quality of values education.

**Discussion, Results, and Suggestions**

The study generally includes the evaluation of history courses by history teachers in terms of values education. Before continuing with specific results about the study, an observation made by the researcher will be given. In the interviews with the participants, it was observed that participants’ life experiences, their identities, education they received and the place they lived influenced values education and the values that were considered. Mohamad, Sihes, Bohari & Suhaini (2020) argue that
teachers have an important place in values education and teachers’ attitudes towards values education will also affect their actions. It can be said that history courses are an important field in terms of values education, but some problems are observed during the interviews.

Participants stated that history lessons are a suitable field for values education because of their following opinions: the subjects included in history have the quality to support values education, history courses serve the purpose of raising ideal citizens, and they reveal some skills in students as a result of the relationship established with the past. However, some participants said that the process of students’ acquisition of values was an individual process. History courses have an important place for people to know about the events that happened in the past. History courses constitute a suitable field for values education to gain many skills such as the transfer and continuity of national culture, individuals’ adaptation to society, and creative, critical, and empathetic thinking (Demircioğlu & Tokdemir, 2008). Tokdemir (2007), in his study with history teachers, stated that history teachers created a suitable field for values education and concluded that all kinds of values, especially political, moral, religious and social values, can be acquired by students. Öztas (2017) stated that history courses were considered as an important tool in which the continuity of values and commitment to values could be gained in every period. It is possible to teach students many values such as justice, peace, diligence, tolerance, human rights, responsibility, benevolence, love of homeland and responsibility with the history courses. The studies in the literature support the results of this study. History courses have a supportive nature for values education.

Participants generally found the history education curriculum inadequate in terms of values education. Such reasons as political history-centred curriculum, lack of indirect explanations for the implementation of values education, knowledge-based curriculum, and some structural problems were presented as the main arguments of the participants. However, there are participants who stated that the curriculum is only a guide and contains sufficient explanations for values education. Tokdemir (2007) determined that history teachers did not consider history education curricula sufficient enough in terms of values education and they suggested a curriculum in which more visual materials were used, stories and biographies were included, and topics of culture-civilization were predominant in place of the rote learning based on knowledge transfer. Ulusoy (2010) determined that the curricula developed were compatible with the constructivist education approach, but considering the fact that there were not clear explanations in the curricula, the responsibility for teaching values were given to the teachers and textbooks. Keskin (2015), in parallel with Ulusoy's study, emphasized that unlike the life sciences and social studies curricula, values were not directly explained in the history curriculum. Yıldırım (2017) found that although values education and principles were comprehensively emphasized in the history education curriculum, values were not associated with units, gains, and explanations. Özdemir (2017) found that almost every subject in the curriculum was associated with
values, and the values of patriotism, responsibility, and benevolence came into prominence. However, it was revealed that some gains were associated with some values via force. Erkan & Çoban (2018) stated that the new history education curriculum was better than the old curriculum in terms of values education; however, they found that values were not addressed in a comprehensively, adequately and directly. There are various reasons for this situation. It is a fact that there are expressions about values education in curricula. However, it is not clearly stated how to gain affective aspects of values. This situation implicitly causes the realization of values education in values education. Values should be an important part of formal education. Gaining values in history courses through planned learning experiences will bring better results (Doğanay, 2015). In fact, both the results of this research and the previous studies on the subject meet on a common ground. History education curricula are in a better place than in the past in terms of values education. However, there is a need for a clearer, understandable history education curricula that is related to values education, directly involves values education and establishes relationships with learning outcomes and explanations.

Participants generally considered history textbooks inadequate in terms of values education. This result shows parallelism with the result that history education curricula are inadequate in terms of values education. Participants’ opinions on this issue include the following: the textbooks should be prepared from a macro history perspective with a behaviourist approach/knowledge-based approach, and they are not developed with the intention of implementation/practice. However, there are also two participants who defend that either direct or indirect information in the textbook adequately supports values education. Keskin (2015) found that the values stated in the general objectives of the history courses could not be reflected in the textbooks properly. Moreover, the values that are tried to be given most are sensitivity (towards Turkish elders, historical and cultural heritage) and national awareness. In addition, it was revealed that the values of fairness, being scientific, aesthetics, tolerance and patriotism were included at moderate levels; the values of independence, solidarity, love, responsibility, and helpfulness were included at low levels. In his examination on the 9th grade history textbooks, Yıldırım (2017) determined that because the values were not associated with unit, learning outcomes, and topic explanations in history education curriculum, they affected the writing of the textbook directly, values education could not be reflected in a holistic manner and values education had no concrete equivalent. Erkan & Çoban (2018) emphasized that the history textbooks did not include “root values” adequately under the influence of old curriculum and approaches but the values given did not correspond at a desired level. Muç & Pamuk (2020) determined in their research on history textbooks that value transfer was made in history textbooks, but not as specified in the curriculum. In addition, it was observed that the most used approach in the transfer of values was to induce values and fewer number of value analysis approaches were used. It is regarded that the values are dictated to the students more and high-level
approaches are not used. The result that history education curricula were insufficient in terms of values education overlaps with other studies conducted at different times in the literature.

It was observed that a significant number of the participants did values education in history courses in terms of raising awareness of history, raising ideal citizens, and recognizing the differences of students. Defending the concerns of misunderstanding, unsuitability of the conjuncture, failure of the attempts and students’ construction of their own values, all four participants stated that they did not teach values in history courses. The ways used by the participants who teach values in history lessons included lecture, role model (heroes, historical figures), being an example (teacher behaviour), drama, empathy, case study, telling anecdotes, dialogue, discussion and problem solving. It was also found that the participants tried to develop values such as patriotism, national unity and solidarity, freedom, being scientific, justice, tolerance, empathy, sensitivity, responsibility, solidarity, love and respect, human rights, peace, honesty, virtue, common sense, and hospitality. It is seen that the values that the participants try to develop within the students and the methods they use in this sense are in accordance with the root values specified in the curriculum and other explanations (See MEB, 2018, pp. 4-6, 12). In this sense, it was understood that the explanations in the curriculum were taken into consideration, but there was no unity between history teachers in terms of teaching which value on which subject. Tokdemir (2007) stated that most of the history teachers participating in his study had a positive attitude towards values education in history courses; however, it was found that they did not have sufficient information about the definition and scope of value. On the other hand, it was determined that they tried to teach values of patriotism, national unity and solidarity with many activities mainly using such methods and techniques as case study, demonstration, narration and with many activities including discussion, biography, question and answer. Gülmiş (2015) stated that elementary teachers mostly tried to teach values such as patriotism, respect, tolerance, solidarity, benevolence, national unity and solidarity, love, diligence, sacrifice, hospitality and independence in teaching of history subjects of social studies. In addition, it was found that they organized activities such as drama, reading/narration, trips/observation/interview, visual material, research/examination, values corner, and competition for values education in history subjects. Demircioğlu, Demircioglu & Genç (2016) stated that a significant number of the pre-service teachers participating in the study did not receive values education, but they expressed that history courses should support values education. Yıldırım (2018) found that pre-service history teachers stated that the teachers should have responsibility of teaching values to students. Despite this, it is striking that the teacher candidates suggested teaching the values that students should have with direct method. The opinions of the participants who stated that they did values education in history courses are similar to the other studies in the literature. However, O'Boyle (2004), in his study, shared the idea that values education was not an easy process since it addressed more affective areas and there may be misunderstanding no
matter how well-intentioned the teacher was and thus his opinion coincided with some of the opinions of the participants who did not do values education.

Participants made recommendations such as conducting student-centred activities for effective values education in history courses, not misusing history, highlighting the social aspects of events, transforming values into a behaviour, blending values with historical issues, and enabling the personal development of students. These opinions expressed by the participants are similar to the results of the studies from the literature. Demircioğlu & Tokdemir (2008) stated that values could be taught in many ways (sources, literary works such as stories, characters, direct instruction, discussion, out-of-school practices, etc.) and in addition to this, he stated that active learning approaches based on collaboration would also contribute to values education. In other words, active and student-centred approaches that enable learning by doing contributes to permanent values education (Demircioğlu & Demircioğlu, 2014b). Demircioğlu, Demircioğlu & Genç (2016) in their studies determined that pre-service history teachers had information about the materials to be used in values education in history courses, but they did not have enough information about the method. Okumuş (2020) observed that student-centred history courses taught through activities based on visuality made positive contributions to students’ learning democratic values, increasing their ability to express and perception of democratic values, and thus the course has become interesting and understandable. Gündüz (2018) carried out a study on the value of patriotism and concluded that student-centred activities and using teaching materials appealing to many senses would be beneficial for values education. Considering the studies in the literature, it can be said that a student-centred and values education with a purpose will contribute to history courses.

Considering the results of the study, the following recommendations are offered:

- The nature of history lessons constitutes a suitable field for values education. In-service training can be given to teachers to use this area effectively.
- A guidebook consisting of good examples for values education in history education should be prepared.
- National and local workshops and panels should be organized for more awareness raising on the subject.
- History curriculum should be revised to support values education and to associate values with subjects.
- The number of materials and activities for values education should be increased in history textbooks.
- The effects of different methods in values education should be investigated in future studies

References


The Influence of Active Learning Provided By Distance Education on Academic Achievement, Self-Efficacy And Attitudes in Art Education

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Abstract

This research was carried out to examine the effects of active learning methods, which take the information away from memorization and make it applicable in daily life, on the achievement, attitude and self-efficacy of the ‘Contemporary Art Practices’ course taken by the undergraduate students. In the study, single group pretest-posttest experimental design, which is one of the quantitative research approaches, was used. The research was carried out on 15 students studying at the 1st and 2nd Grades of İzmir Katip Çelebi University in the fall semester of 2019-2020 in Turkey on the pandemic process. Contemporary Art Practices course was conducted by using active learning methods ‘brainstorming, demonstration, speech ring, story creation and Phillips 66’. In this study, ‘Contemporary Art Practices Course Achievement Test’, ‘Attitude Scale’ and ‘Self-Efficacy Scale’ developed by the researcher were used as data collection tools. In the study, it was examined whether the data obtained had a normal distribution. For this, Shapiro-Wilk test was used. Relationship sample t-test was used to compare the data obtained before and after active learning activities. Analyzes were made using statistical program. The results of the research are that active learning methods have a significant effect on the achievements, attitudes and self-efficacy of the ‘Contemporary Art Practices’ course that the undergraduate students take via distance education.

Keywords: Art Education, Active Learning, Distance Education, Pandemic Process

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Introduction

One of the ways that education, which aims to raise the person who can realize himself with great effort, to achieve this goal is art education. Art education is an activity that prepares conditions that will help people to reveal their creative powers and aims to gain personality (Buyurgan, Buyurgan, 2007: 22). The scope of this activity includes applied works, work of art review, criticism, art history, and aesthetics. These four basic disciplines, which constitute a versatile art education program, were developed by the Getty Fine Arts Education Center in the U.S. in the 1980s (Özsoy, 2003; 167). W. Dwaine Greer, who heads expert art educators at this center, has been designated as a Discipline-Based Art Education (quoted by Efland, Özsoy, 2003; 168). The purpose of this method, also known as Multi-Field Art Education, is to provide the student to synthesize the work of art properly, by adding the intellectual dimension to its stages such as producing, defining, interpreting, and analyzing it. In order for the Discipline-Based Art Education method to achieve the above-mentioned goal; art historical approaches, phases of art historical understanding, and ways of teaching and learning should be assimilated (Ayaydın et al., 2009; 74). Thanks to the art history that will give the student a lively and conscious history of art, the student will recognize, learn, and form a basis in creating new forms and choices (Kirişoğlu 1991; 140).

There is a great need for art history lessons in increasing the level of aesthetic taste that is felt in our society. Different perspectives are known for developing new likes levels instead of ordinary stereotypes. It is known to reach an interpretation by thinking and analyzing the history of art and works of art of the past. This interpretation will affect our future work and even our daily life. Art history is taught for a better understanding of the artwork and its place in society. It improves students' ability to evaluate, understand, and tolerate opposing views (Kirişoğlu & Stokrocki, 1997; 133). Since the content of art history lessons is intensive theoretical lessons, when processed with a teacher-centered teaching method, it may cause the information to be kept in short-term memory and to be forgotten after a while. This situation prevents the cognitive goal from passing to other stages such as comprehension, application, analysis, synthesis and evaluation, and permanent information flow. For this reason, creating learning environments that will enable students to use more than one sense organs, develop their abilities and creativity, provide permanent learning, will also be effective on supportive learning, and ensure their enjoyment while learning, is an important factor in increasing the quality of education.

Today, as a result of the developments in the field of information technology, the change takes place faster than ever. Information in a field is quickly out of date, and learning specialized information and processes is less important now (Sivan et al, 2000). For this reason, rather than memorizing pieces of information that are disconnected from each other, there is a need for individuals who can establish relationships between the information they acquire, analyze and derive
new information, and adapt the information they have structured in this way and use it effectively in their own life. Schools are now expected to provide students with the skills to analyze, synthesize, work productively in groups and develop appropriate attitudes by dealing with individual differences and learning styles, critical thinking, technical, social, economic, political, and scientific problems (Mills, 2006). Unfortunately, traditional education understanding cannot fulfill these expectations. To raise individuals who are suitable for the type of people required by the information age, who have high academic success, individuals who have the critical thinking, can make independent decisions, are open to learning, have strong communication skills, have problem-solving skills, are creative, empathetic and open to personal development (Riedler & Eryaman, 2016). The realization of this depends on the application of the teaching models in which the student is active.

**Active Learning**

Today's learning paradigm is inspired by the constructivist approach that advocates that learning is actively structured by the student (Birenbaum, 2003). Learning takes place only when students leave the passive listener position and become active participants (Hawtrey, 2007). This realization of learning is the basis of active learning. With active learning, thinking, processing, learning by doing and living takes place rather than just listening. This encourages students to be responsible for their learning (Greene, 2011; Michel at al. 2009; Quinlan & Fogel, 2014). There are various definitions of active learning in the literature. According to Shariff (2012), active learning; it means that students actively participate in class activities throughout the lesson, rather than passively following the teacher who teaches the lesson during the lesson. According to Greene (2011), it is based on first-hand experience and learning by living. According to Açıkgoz (2005), active learning is a process where the learner bears the responsibility of the learning process, the learner is allowed to make decisions and self-regulate about different aspects of the learning process, and complex teaching tasks are forced to use the mental abilities of the learner during learning. According to Dolan and Collins (2015), the teacher stops talking and students move towards a learning goal by actively doing something to work on a problem in a small group or answer a conceptual question. Inactive learning, the student takes decisions about learning and takes responsibility from the beginning to the end of the process (Saygı & Bilen, 2009). These decisions to be taken by the student are generally; It is listed as choosing the appropriate learning goals for itself, determining the activities and strategies to be used in reaching the learning goals, establishing a relationship between the acquired knowledge and pre-learning, applying what they learn, evaluating their performance and learning process (Yalın, 2015).

According to Dolan and Collins (2015), the teacher stops talking and students move towards a learning goal by actively doing something to work on a problem in a small group or answer a conceptual question. Inactive learning, the student takes decisions about learning and takes responsibility from the beginning to the end of the process (Saygı & Bilen, 2009). These decisions to
be taken by the student are generally; It is listed as choosing the appropriate learning goals for itself, determining the activities and strategies to be used in reaching the learning goals, establishing a relationship between the acquired knowledge and pre-learning, applying what they learn, evaluating their performance and learning process (Yalın, 2015). It is possible to say that the most important reason for the active learning approach to be so popular is its contributions to the field of education, the benefits it provides to teachers and students. There are various researches in the literature that enable the adoption of active learning. Shieh et al. (2010) stated that student-centered approaches in active classrooms improve their academic achievement by keeping students away from passive learning habits as well as improving their competencies in learning methods. Köse and Küçükoğlu (2009) determined that the learning environment affects student success in the research results, where they determine the effect of active learning on the teacher candidates. Besides, various studies related to the learning environment reveal that students' emotions (eg lesson enjoyment, positive attitude), active participation, classroom interaction (teacher-student, student-student), collaborative student work and teacher attitudes affect learning positively (Artut & Bal, 2018; Kısakürek 1985; Küçükoğlu & Köse 2008; Okumuş at al, 2020; Wong 1993). Studies of Dağ et al. (2019) showed that a course and classroom environment designed according to the active learning model of undergraduate students have positive effects in terms of cognitive awareness, respectability, individual responsibility, cooperation, and active participation.

In this study, the effect of active learning approach, which is one of the most important subjects in Turkey and worldwide, and which is regarded as one of the most important elements of student-centered understanding, on the academic achievement, self-efficacy levels and self-efficacy levels of students in art education has been tried to be determined. It is thought that active learning will be effective to ensure permanent learning in distance education art education.

**Problem Statement**

What are the views of the research on the ‘Contemporary Art Practices’ course, which is taught using active learning methods via distance education? The sub-problems of the research are;

1-Does it have a significant effect on the academic achievements of undergraduate students regarding ‘Contemporary Art Practices’ course, which is carried out with active learning methods given by distance education?

2- Does the undergraduate students have a significant effect on their attitudes towards the ‘Contemporary Art Practices’ course, which is carried out with active learning methods given by distance education?
3-Does the undergraduate students have a significant effect on the self-efficacy of the ‘Contemporary Art Practices’ course, which is carried out with active learning methods given by distance education?

Material and Methods

This section includes a research model, subjects, walkthrough, data collection tools, and data analysis techniques.

Research Model

In this study, single group pre-test and post-test experimental design, which are among the quantitative research approaches, were used. One-group pretest-posttest experimental design is one of the weakest patterns among the experimental patterns. However, as Creswell (2012) stated, it is the nature of the research to prefer a single group experimental pattern in researches where a new training module is developed and implemented.

Research Group

The research group consists of 14 students, 11 females and, 3 males who are students of different faculties at İzmir Katip Çelebi University in the spring semester of the 2019-2020 academic year and take the Contemporary Art Practices course within the scope of the elective course.

Table 1. Information about students

<table>
<thead>
<tr>
<th>Gender</th>
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<th>%</th>
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<tbody>
<tr>
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<td>79</td>
</tr>
<tr>
<td>Male</td>
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</tr>
<tr>
<td>Total</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Faculty of Pharmacy</td>
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<td>14</td>
</tr>
<tr>
<td>Faculty of Social Sciences and Humanities- Department of Media and Communication</td>
<td>6</td>
<td>42</td>
</tr>
<tr>
<td>Vocational School of Health Services / Department of Medical Services and Techniques</td>
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<tr>
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<td>14</td>
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<tr>
<td>Faculty of Health Sciences / Physiotherapy and Rehabilitation Department.</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Faculty of Health Sciences - Department of Nutrition and Dietetics</td>
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<td>8</td>
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<td></td>
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</tr>
<tr>
<td>2nd graders</td>
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<td>35</td>
</tr>
<tr>
<td>3rd graders</td>
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<td></td>
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<tr>
<td>4th graders</td>
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<tr>
<td>Total</td>
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<td>100</td>
</tr>
</tbody>
</table>

Data Collection Tools In this study, the literature was scanned as data collection tools (Aydede & Matyar, 2009; Saygı & Bilen, 2009) and expert opinions were obtained and the researcher; Attitude Survey consisting of 30 items related to Modern Art Practice Course, Self-
Efficacy Perception Questionnaire for Art Lessons consisting of 19 items and Achievement Test of Contemporary Art Practices Course have been developed.

\textbf{a. Attitude Questionnaire Regarding Contemporary Art Practices Course (AQRCAPC)}

In the research, the Attitude Questionnaire for Contemporary Art Practices Lesson developed by the researcher was used to measure the attitudes of the subjects. In the questionnaire development study, firstly, a composition with the subject of “Your Thoughts and Expectations Regarding Modern Art Practices Course” was written to 40 students who took elective art classes at İzmir Katip Çelebi University be to the basis of the formation of their items.

Content analysis was applied to these compositions. Based on the expressions determining students' attitudes towards the course, their opinions were determined. In addition to these, a 43-item scale was created by using the related literature. The attitude scale prepared for the pretest was applied to 30 students studying in the same department. Analyzes of the pretest application were examined in the statistics program. During these examinations, item-total test correlations and factor load values were examined. When looking at item-total test correlations, item-total test correlations were found to be appropriate to exclude items lower than 0.35 from the questionnaire. For this reason, the attitude scale for the Introduction to Art History Course with 43 items decreased to 30 items. The Cronbach Alpha reliability coefficient of the Attitude Scale for the Introduction to Art History Course with 30 items was 0.83.

\textbf{b. Self-Efficacy Perception Questionnaire for Art Classes (SEPPAC)}

Do you feel successful in Art Classes for students studying at İzmir Katip Çelebi University to create survey items? What behaviors do you want to occur so that you can feel successful? the titled composition was printed. Content analysis was applied to these compositions. A 32-point Likert-type scale was created using the literature on the subject. The scale was examined by two field specialist faculty members, an art history specialist, and an education science specialist. As a result of the opinions of the experts, the number of items in the scale was reduced from 32 items to 28 items. In the validity and reliability study of the questionnaire, the item total test correlations and factor load values were examined. While looking at item-total test correlations, it was considered appropriate to eliminate items with item total test correlations less than 0.35. Therefore, the Self-Efficacy Perception Scale for Art Courses with 32 items decreased to 19 items. The Cronbach Alpha reliability coefficient of the Self-Efficacy Perception Scale for Art Courses with 19 items was found to be 0.89.

\textbf{c. Contemporary Art Practice Course Achievement Test (CAPCAT)}

After this stage, a preliminary trial study of the Contemporary Art Practices Course achievement test consisting of 42 items was made. The KR20 formula was applied to calculate the reliability of the Contemporary Art Practices Course Success Test pretest form. As a result of
applying this formula, 23 items whose item discrimination power is less than 0.19 have been removed from the test. According to Tekin (2004: 249), items with item discrimination power index 0.40 and above; very good substances, items between 0.30-0.39 are very good items, items with 0.20-0.29 are items that need to be corrected in general and finally items that are 0.19 and less are very weak items and if not developed, they should be removed in the test. As a result of these arrangements, the item analysis of the 19-item Contemporary Art Practice Course Success Test was performed and the reliability coefficient of the test was examined with the KR-20 formula. KR-20 reliability coefficient of the developed test with 19 questions was found to be 0.816. The average of the difficulty levels of the items is 0.483. This result shows that the test is a medium difficulty test. The achievement test was carried out using the zoom and moddle programs by considering the distance education process.

Data Analysis

In the study, it was examined whether the data obtained had a normal distribution. For this, Shapiro-Wilk test was used. A relationship sample t-test was used to compare the data obtained before and after active learning activities. Analyzes were made using the statistical programs.

Process Steps of the Research

• In connection with the subject of the research; The attitude Scale of Contemporary Art Practices Course, Self-Efficacy Perception Scale of Art Courses, and Achievement Test of Contemporary Art Practices Course have been developed.

• The application process has been determined as 5 weeks. In the 5th week of the spring semester of the 2019-2020 academic year, the Attitude Scale for the Contemporary Art Practice Course, the Self-Efficacy Perception Scale for the Art Lessons, and the Contemporary Art Practice Course Achievement Test were applied. The academic achievement test was applied to the research group using the ‘moddle’ program in both the pre-test and post-test. To ensure the reliability of the exams in the distance education process, a certain amount of time was allowed for the questions, the program was prevented from going back and looking at the old questions through this program and this process was kept under the control of the researcher with the video zoom program ‘zoom’.

• Active learning is not just a single method or technique but is a broad repertoire of many methods and techniques designed to activate students in the learning process (Weimer, 2002). Active learning methods and techniques have an important place in effective classroom management by ensuring the permanence of what is learned. The fact that not every method or technique is suitable for all subjects made it necessary to diversify them (Cengizhan, 2016).
• For this reason, following the target and target behaviors determined under the content, the lessons were taught in the research group using active learning methods 'brainstorming, demonstration, speech ring, story making and Phillips 66' 2 hours a week. Lessons are taught in 'zoom' by the distance education process. Lessons are taught as 2 hours depending on the weekly lesson time.

• In this research, four different Contemporary Art Practices activities were carried out. These activities were carried out in terms of basic information about art, art movements, examples of artists' works, and application dimensions. These activities were carried out under the features of active learning techniques. The activities carried out are:

  Activity 1.

  Accompanied by a PowerPoint presentation, the researcher explained the basic concepts of contemporary art and art. They followed the subject from the pre-prepared worksheets of the students. For an object to be a work of art, it was ensured that each student shared his ideas about the subject with other group members when his turn came using the speech ring technique on what the conditions were, how art movements and groups formed. In this process, the members of the group were allowed to listen to their talking friends without interruption until their term was completed.

  Activity 2.

  For the information on different art movements to be permanent, the artists were asked to discuss the problem of copying in contemporary art by giving various examples. By using Phillips 66 technique, which is one of the active learning techniques, it is aimed to generate ideas and participate in the subject. By the Phillips 66 technique, which is the group discussion technique, students were asked to choose a chairman and a printer among themselves by creating 2 groups. A week before the application of this technique to students, resources, and worksheets related to the subject were sent by mail as pdf. The groups were given six minutes to discuss the topics during the lesson hours, and the different ideas that emerged were reported by the printer and sent to the researcher by e-mail. After completing the work of the groups, they made a short presentation using the zoom program.

  Activity 3.

  Reflection work was made with visual materials created inspired by instructional works and tactics used in active learning. The class was randomly divided into 3 groups, using the subject (the emergence of the word Art, the types of art and the branches of science dealing with art) and materials (drawing paper, pictures of the Impressionist period, pastel paint, watercolor, and colored pencils), and the technique was carried out with a reproduction technique. The works created in the course were exhibited in a virtual environment created on 'facebook'.

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Activity 4.

With the emergence of the ‘Dada art movement’, the groups were asked to complete a story left unfinished. The groups were given 15-20 minutes to work, and the researcher guided them. The stories were read by the group spokespeople in the zoom program. Students in other groups were asked to evaluate the stories read.

At the end of the 5th week, the Attitude Scale for the Contemporary Art Practices Course, the Self-Efficacy Perception Scale for the Art Courses and the Achievement Test of the Contemporary Art Applications were applied to the research group.

Findings and Comments

Whether the data obtained in the study shows normal distribution or not was analyzed in the SPSS package program with Shapiro-Wilk test and the results are presented in Table 2.

<table>
<thead>
<tr>
<th>Table 2. Scale data shapiro-wilk test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>AQRCAPC Pre-test</td>
</tr>
<tr>
<td>Post-test</td>
</tr>
<tr>
<td>SEPOAC Pre-test</td>
</tr>
<tr>
<td>Post-test</td>
</tr>
<tr>
<td>CAPCAT Pre-test</td>
</tr>
<tr>
<td>Post-test</td>
</tr>
</tbody>
</table>

When Table 2 is examined, it can be said that each data set shows normal distribution (p > 0.05). Since the normal distribution of pretest and posttest scores means that parametric tests (t-test) can be applied to the data, in this study, whether there is a significant difference between the students' AQRCAPC pre-test and post-test mean scores was examined using the related sample t-test technique and the results were presented in Table 3. It is given in.

Results for the First Sub-Problem

<table>
<thead>
<tr>
<th>Table 3. Correlated sample t-test results of the students' aqrcapc pretest and posttest average scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Pre- Test</td>
</tr>
<tr>
<td>Post- Test</td>
</tr>
</tbody>
</table>

As seen in Table 3, there is a statistically significant difference between the pre-test averages and the post-test averages according to the related sample t-test results [t (13) = -3.658, p = .004 <.05]. This difference is in favor of post-test averages. Therefore, it can be said that active learning techniques have a positive effect on students' attitudes towards Contemporary Art Practices course.
**Results for the Second Sub-Problem**

In the study, whether there was a significant difference between the students' pre-test and post-test mean scores of SEPOQAC scale was examined by using the related sample t-test technique and the results are given in Table 4.

**Table 4.** Correlated sample t-test results of the students' SEPOQAC scale pretest and posttest average scores

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>X</th>
<th>S</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test</td>
<td>14</td>
<td>48.57</td>
<td>3.21</td>
<td>13</td>
<td>-2.605</td>
<td>0.009</td>
</tr>
<tr>
<td>Post-Test</td>
<td>14</td>
<td>50.15</td>
<td>3.45</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When Table 4 is analyzed, it is seen that there is a slight difference between the pretest means and the posttest averages of SEPOQAC scale and this difference is statistically significant \( t(13) = -2.605, p = .009 <.05 \). When the average values are compared, it can be said that this difference is in favor of the post-test. Therefore, it can be said that active learning techniques positively affect students' self-efficacy levels related to art classes.

**Results for the Third Sub-Problem**

In the study, whether there is a significant difference between the students' CAPCAT scale pretest and posttest mean scores was examined by using the related sample t-test technique and the results are given in Table 5.

**Table 5.** Correlated sample t-test results of students' CAPCAT scale pretest and posttest average scores

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>X</th>
<th>S</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>14</td>
<td>35.48</td>
<td>3.18</td>
<td>13</td>
<td>-3.874</td>
<td>0.014</td>
</tr>
<tr>
<td>Post-Test</td>
<td>14</td>
<td>47.98</td>
<td>3.35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When Table 5 is examined, it is seen that there is a difference between the pretest averages and the posttest averages in favor of the posttest and this difference is statistically significant \( t(13) = -3.874, p = .014 <.05 \). Therefore, it can be said that active learning techniques affect students' academic success positively in the Contemporary Art Practices course.

**Results and Discussion**

Learning in the process of raising individuals of the 21st century is not a passive process; It should be considered that it is an effective, continuous, developmental and a process that requires the active participation of the learner. Therefore, today's students are expected to be active learners. In line with these changing roles; they need to know what, why, and how to learn, to take responsibility for their own learning, that is, to learn. In line with this understanding, the effect of active learning techniques applied in the distance education process on students' attitudes, self-efficacy, and academic achievement in the Contemporary Art Practices course was examined.
In this study, in which the effect of active learning approach on undergraduate students' attitude, self-efficacy, and academic achievement in the Contemporary Art Practices course were examined, the relationship sample t-test was used to compare the data obtained before and after active learning activities of the research group. According to the t-test results related to the first sub-problem of the research group, Contemporary Art Practices Course Attitude Questionnaire was obtained between the pre-test averages and post-test averages in terms of statistical significance \[t (13) = -3.658, p = .004 < .05\]. Therefore, it can be said that active learning techniques have a positive effect on students' attitudes towards Contemporary Art. The intense use of technology, which is an indispensable element of today, especially in the distance education process may have influenced this result. As a result of the research in Shaban (2017), in which students investigated the effect of using technological tools on the active learning process in learning activities, the technology showed that technology contributes to the increase in students' level of participation, supports their critical thoughts and encourages cooperation.

As Drexler (2010) puts it, effective integration of technology can have significant positive results in students' learning. For example, the use of technology can transform the traditional teacher-centered classroom environment into a student-centered environment. Also, the research results of Orak and Demirci (2018) examining the effect of active learning on students' level of interest in the course support these findings. They concluded that the students liked the art-supported active learning techniques and that this increased interest in the lesson. Many studies in the literature prove that the active learning approach is effective on success, attitude and permanence (Cooper et al. 1998; She & Fisher, 2003; Tavsancil, 2002). In the research, it is determined that there is a small difference between the pre-test averages and the post-test averages in favor of the post-test for the Self-Efficacy Perception Questionnaire for Art Lessons related to the second sub-problem \[t (13) = -2.605, p = .009 < .05\]. Therefore, it can be said that active learning techniques positively affect students' self-efficacy levels related to art classes. According to the research results carried out by Hyun, Ediger and Lee (2017) to increase the student participation of Active Learning Classes, it has been determined that active learning pedagogy activities are important factors that increase the satisfaction of students from individual and group learning processes. There are many types of research that active learning ensures the permanence of knowledge (Lin at al. 2011; Servetti, 2010). Therefore, it may have led to an increase in academic achievement due to the increased interest and persistence of students towards the lesson with active learning. In the study conducted by Virtanen at al. (2017), the relationships between active learning experiences and the acquisition of professional qualifications were investigated. It was concluded that the use of active learning methods is important for developing students' professional competencies. Besides, different studies in the literature support these findings (Kaasila & Lauriala, 2012; Kramarsky & Michalsky, 2009; Lynch et al., 2012).
The effect of the research on the achievements of the Contemporary Art Practices course, which is the third sub-problem, was examined, and as a result, it was observed that there was a difference between the pre-test averages and post-test averages in favor of the post-test and this difference was statistically significant \[ t (13) = -3.874, p = .014 < .05 \]. Therefore, it can be said that active learning techniques affect students’ academic success positively in the Contemporary Art Practices course. The findings of many types of researches related to active learning in different fields also support this result (Süzen, 2007; Günhan, 2006; Aydede, 2006; Özkal, 2000). Learning takes place only when students leave the passive listener position and become active participants (Hawtrey, 2007). This realization of learning is the basis of active learning. With active learning, thinking, processing, and learning by living instead of just listening takes place. This encourages students to be responsible for their own learning (Greene, 2011; Michel et al. 2009; Quinlan & Fogel, 2014).

Therefore, in this research, in which active learning methods are carried out, it is thought that students actively participate in the process by using technology and directing the process by taking responsibility may increase their academic success. With active learning, thinking, processing, and learning by living instead of just listening takes place. This encourages students to be responsible for their learning (Greene, 2011; Michel et al. 2009; Quinlan & Fogel, 2014). Therefore, in this research, in which active learning methods are carried out, it is thought that students actively participate in the process by using technology and directing the process by taking responsibility may increase their academic success. With active learning, thinking, processing, and learning by living instead of just listening takes place. This encourages students to be responsible for their learning (Greene, 2011; Michel et al. 2009; Quinlan & Fogel, 2014).

Based on the findings obtained in the research, researchers may be recommended:

- In order for the learning to be permanent in the course, learning environments should be created in which students will be remembered with the activities.
- It accommodates the content of the art course with many different techniques it contains in active learning methods. Therefore, different active methods should be used in a course as much as possible.
- Students' level of readiness should be considered.
- The results obtained in this study can help in developing the curriculum of general art history lessons.
References


Yunus Emre Institute Students' Views on the Distance Turkish Learning Portal

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Önder ÇANGAL²
Gaziantep University

Abstract

Only a few applications to teach Turkish as a foreign language through remote or distance learning platforms have been developed in recent years in Turkey. Distance Turkish Learning Portal (DTLP), developed by Yunus Emre Institute to teach Turkish remotely, is one of these applications. An unexpected interest in this practice was observed after the outbreak of the Covid-19 pandemic. However, the portal is still in the trial phase. For this reason, although user feedback is vital in order to improve the portal, no academic research on this issue has been conducted yet. In this context, the researcher aims to evaluate the Distance Turkish Learning Portal as regards students' opinions. For this purpose, a qualitative research model, which is frequently used in educational sciences, was used to collect data, and a subsequent case study was carried out for an in-depth evaluation of their beliefs. The methods were employed to effectively and reliably collect data on learners’ beliefs on the issue in question. Data was collected through a Google form that was shared with the participants. As a result of the research, it is understood that the participants enjoyed using the portal in that, firstly, it is free; secondly, it provides the opportunity to get to know Turkish culture, and finally, it also supports autonomous and self-learning. On the other hand, the technical infrastructure of the portal is insufficient, and there is no instructional or tutorial support, lack of interactive speaking features, besides the number of videos have been found to be inadequate by the users. At the end of the study, based on the findings, some suggestions were offered by the researchers to improve the Distance Turkish Learning Portal.

Keywords: Distance Learning Turkish, Learner Views, Language Teaching, Yunus Emre Institute


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Introduction

People have been trying to learn a foreign language to communicate with other cultures and civilizations since the dawn of history. They have wanted to learn languages for several purposes such as interacting with people of different nationalities. Language teaching activities have been carried out in various institutions and organizations to meet the need of people. Language teaching activities are divided into two categories as in-class (classroom) and out-of-class (extracurricular) activities.

The classroom environment is one of the most basic elements of the learning process. Learners both participate in learning activities in the classroom and find the opportunity to socialize with their peers who have similar goals. In-class practices at all levels of education, from kindergarten to higher education, lie at the core of all teaching processes.

In addition, developments in internet technologies around the world have enabled a new learning-teaching environment to find itself a place in the relevant literature. Platforms, also called virtual language learning environments, help learners learn languages regardless of time and space. In addition, thanks to such platforms, individual learning environments are offered to learners, and it is now possible to customize one's learning depending on personal traits and learning habits. Educational materials used in the process provide permanent learning, make the learner understand concrete and difficult issues more easily, save time, and interesting contents are being used and learned more easily (Gücükoğlu ve Türker, 2015, s. 448).

According to the research carried out by Hazer et al. (2011, p. 11-12), the increase in computer use at home causes an increase in the activities of people about their work-life in their homes, and people have started to 'convert' their homes into their offices. Based on this result, the researchers predict that more time will be devoted to computer-oriented activities in the future and that individuals will have to develop their computer literacy skills.

Since then, the use of computers and the Internet has increased gradually. However, the Corona Virus (COVID-19) epidemic, which broke out on December 1, 2019, in Wuhan, China, and spread all over the world, forced people to spend time in lockdown in their homes, and countries have started to take different measures to prevent the outbreak from getting worse. One of these measures is to make people stay at home and prevent them from getting out on the streets. This practice is carried out in different ways in different countries. While some countries have prohibited their citizens from leaving their homes at certain times, some countries have declared short or long-term lockdowns or curfews and imposed some sanctions on their citizens.

The fact that people stay in their homes also affect habits related to their computer and internet use. Many people prefer to use different websites, social media platforms or other...
applications in order to spend time in their homes without getting bored. On the other hand, those who have to go to work and those who can work from home continue their work on the Internet.

One of the sectors affected by the epidemic is the education sector. Countries in different parts of the world have had to make changes in their education systems. Schools have had to give a break in most countries with insufficient technical infrastructure for long and unresolved periods until schools are reopened in the unforeseeable future. In technologically developed countries, educational institutions have switched to online/distance education systems.

**Distance Education in Foreign Language Teaching**

“When distance learning is considered in its most general sense, it can be described that learning takes place without the need for learners to be [physically present] in traditional classroom settings” (Mutlu & Mutlu, 2014, p. 25). For this reason, distance education applications provide a significant advantage, especially for individuals who want to learn foreign languages. It is not usually possible for many people to learn the target language in the native country where the language is spoken. It is often costly to study at a language school abroad; therefore, most learners prefer to study in language courses in their own country. In these courses, individuals meet the target language only in the classroom environment and cannot find out-of-class learning environments where they can practice what they have learned. However, the important thing here is to practice the target language with the native speakers so that learning could be functional and the retention period might last longer. To meet this need, many language schools bring their learners together with native speakers, and learners have the opportunity to speak and practise with them via distance/online education platforms.

On the other hand, Behjat (2013, p. 1759) states that vocabulary knowledge of language learners from different fields of study can improve to different degrees when they use the Internet to improve their language skills. Nowadays, internet access has become easier worldwide, which also has an impact on language teaching. Indeed, the Internet is at the core of distance education tools. With distance education applications, learners can develop both their vocabulary and other language skills.

There are also some difficulties in employing distance/online education systems in distance language teaching. The biggest problem is the lack of face-to-face communication with learners’ peers and teachers. It is possible to develop, change, and increase the number of course contents, but this requires much additional work. Upon merging pedagogical approaches and modern technologies, it is possible to carry out a successful foreign language course (Trajanovic et al. 2007, p. 451).
Distance Learning Applications and Practises as to Teaching Turkish

Distance education studies can be carried out either synchronously or asynchronously. In synchronous learning environments, both the teacher and the learner could actively participate in teaching simultaneously. In asynchronous applications, however, a learner can usually start using the educational content pre-prepared for them. Although it is planned that the “Turkish Teaching Portal” examined in the article will have synchronous features in the long term, the portal is still an asynchronous one. For this reason, some applications that allow learning Turkish asynchronously are included in this section.

When looked at the applications and platforms of distance/online Turkish learning, it is seen that some websites are established to support Turkish learners, as well as direct language teaching websites. Examples of these sites are "turkishexplained.com" and "dibilimi.net". The first two websites are offered in both Turkish and English. On the "dibilimi.net" website, English is partially used. A paid membership is not required for all three websites, and they offer supplementary resources for Turkish learners.

“Turkish Explained” (https://turkishexplained.com) website consists of seven sections. These sections are named as the basics of Turkish language, adjectives, verbs, modal verbs, speaking, signs and links, respectively. The section called the basics of the language includes the alphabet, sound harmony, sounds and phonemes and grammar sections, and it is also possible to download electronic books from the site for a certain fee. On the site, grammar rules are explained in English, and then it is aimed to reinforce the subject with sample sentences about that specific grammar rule.

There is a section called “I Learn Turkish Step by Step” within the website of “dibilimi.net” (https://dibilimi.net). There are some grammar rules, reading and listening texts in six units to assist users in learning Turkish. Grammar rules are explained in Turkish, and then examples of the rules, multiple-choice tests and gap-filling exercises are offered to users. The website also includes grammar reference resources, dictionaries and visual materials sections.

When we look at the websites of distance learning Turkish, Yaşar University's “I am learning Turkish”, “My Mother Tongue Turkish” of Anadolu University and “Distance Turkish Learning Portal” of Yunus Emre Institute come to the fore.

Yaşar University's “I Learn Turkish” site was designed as an adaptive massive open online course (Adaptive MOOC) developed within the scope of the “Differentiated Distance Education of Turkish as a Foreign Language” project within the scope of TÜBİTAK 3501 Program. The project, which takes the individual differences into account in teaching Turkish throughout the world and aims to create an education system that differs according to the readiness levels of the learners, is limited to
the A1 level only. While preparing the site, the designers combined the contents of Yunus Emre Institute and TÖMER. The site has 53 sections, including dictionary for rules, a vocabulary section, forum and virtual meeting room to teach Turkish to foreigners. The system has English, Arabic, Russian and French language support (Yaşar University, 2016).

Anadolu University launched the Distance Turkish Teaching Program (TSP) in 2007. The program was prepared for both foreigners who are over 17 years of age and for Turkish people whose native language has not improved just because they live abroad (Pilancı et al., 2015, p. 1281). “In the program, each language level consists of 12 units; 11 different learning portals including study, video, book, workbook, assignments, simultaneous counselling services (synchronous), asynchronous counselling services (asynchronous), sample test and oral and written exam” (Şen, 2016, p. 419) were being offered, but later on, Anadolu University ended the TSP program and launched the ”My Mother Tongue Turkish” project. The main language Turkish site could be entered via typing the address ”turkce.anadolu.edu.tr” using Google, Facebook and Microsoft accounts or by just creating a new profile. It is possible to learn Turkish at A1, A2, B1, B2 and C1 levels on the site. While A1 level is presented to the learners as 7 units, the other levels consist of 8 units. Topics prepared using animated characters are presented to users via a video player applet. When users complete the task, they go to the next stage via using the video player, and when the activities for skills are completed, the unit ends. In practice, the students are allowed to write comments and discuss the lessons in the section called ”canteen”, through which they can also communicate with each other.

Yunus Emre Institute has prepared the Distance Turkish Learning Portal to provide a language learning environment for those who want to learn Turkish, independent of time and location. The portal's home page can be accessed through the addresses of ”learnturkish.com” and “turdce.yee.org.tr”. The portal offers Turkish, English, Russian and Arabic language support. The site, which aims to teach Turkish from A1 level to C2, does not have any applications for C2 level yet. The portal, the purpose of which is to improve the reading, listening, speaking and writing skills of the users, aims to teach Turkish to users through fun. The more the users progress in the system, the more they gain points, and a ranking [the league of fame] is made among these users. In the ”Words” section, users are given the word and image, and the pronunciation of the word is read aloud simultaneously. Learners can add the words they have difficulty in learning to their personal glossaries/dictionaries and repeat these words whenever they want, which makes it easier for learners to learn the words that they do not know. There is a dictionary section on the portal, too. The portal, which aims to increase the competitive edge among the learners with the option of adding friends via the portal, is planned to offer ”learning coach” support and private lessons to the users in the future.
Theoretical Framework

Purpose of the Study

In the discipline of teaching Turkish to foreigners, applications related to distance education are very few. Some of the programs mentioned above have been developed in recent years, yet the number is limited, and also the number of total active users is still quite small. The reason for these low numbers could be that these applications are still in their trial versions. For this reason, although the user feedback is very important in terms of improving the applications, academic research is not seen to have been made in this field yet. Considering the importance of developing technology and distance education each day experienced in today's world, it is, therefore, crucial to prepare "content-wise quality" distance education applications for teaching Turkish to foreigners as soon as possible. In this context, the aim of the research is to evaluate the Distance Turkish Learning Portal developed by Yunus Emre Institute to teach Turkish online, in line with the students' opinions. For this purpose, the research questions have been formulated as follows:

“What are the opinions of the students using the Yunus Emre Institute Distance Turkish Teaching Portal about the website in question?” Within the framework of this main problem statement, the answers to the following sub-problems are sought in the study:

1. In what ways do the learners find the Yunus Emre Institute Distance Turkish Learning Portal weak?
2. In what ways do the learners find the Yunus Emre Institute Distance Turkish Learning Portal strong?
3. According to the learners, are the assessment and evaluation practices in the Yunus Emre Institute Distance Turkish Learning Portal useful?
4. According to the learners, are the videos in the Yunus Emre Institute Distance Turkish Learning Portal useful in improving their Turkish?

Method

Research Methodology

A qualitative research model, which is frequently used in educational sciences, was used in this study. The open-ended questionnaire was administered to learn about participants’ beliefs about Yunus Emre Institute’s Turkish Teaching Portal for learning Turkish. Accordingly, the case study, which is one of the techniques used in the qualitative research model, was taken as the basis in the study.

According to Köse (2017, p. 109), the purpose of this type of research is to examine a particular situation in depth and reveal detailed results as this model is widely used especially in the
field of educational sciences. In this context, the thoughts of the learners using the portal in question will be studied in depth. User feedback is very important for the correction and improvement of the portal. After determining the learners’ expectations of the portal and the problems in the system, the upcoming improvements will make the portal functional leading to a more useful system.

In addition, correspondence technique was used to collect data in the research. Correspondence is the technique of collecting data through written communication. Letters, questionnaires, written tests, etc. are commonly used tools to collect such data” (Karasar, 2019, p. 221).

**Universe and Sample**

Students who benefit from Yunus Emre Institute Turkish Teaching Portal constitute the universe of the study. In this universe, 132 learners who responded adequately to the correspondence tool constitute the sample of the research. Each individual responding to the questionnaire was coded as “Participant 1 (P1), Participant 2 (P2) …” and numbered accordingly. These codes, which are included in the quotations in the findings section of the research, show to which participant the statement belongs. The data on the gender of the participants are as follows:

**Table 1. Data on the gender of the participants**

<table>
<thead>
<tr>
<th>Gender</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>76</td>
<td>57.6</td>
</tr>
<tr>
<td>Male</td>
<td>56</td>
<td>42.4</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

Seventy six of the participants are female (57.6%) and 56 (42.4%) are male. The data on the age groups of the participants are as follows:

**Table 2. Data on the age groups of the participants**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20</td>
<td>9</td>
<td>6.8</td>
</tr>
<tr>
<td>21-25</td>
<td>54</td>
<td>40.9</td>
</tr>
<tr>
<td>26-30</td>
<td>25</td>
<td>18.9</td>
</tr>
<tr>
<td>31-35</td>
<td>18</td>
<td>13.6</td>
</tr>
<tr>
<td>36-40</td>
<td>15</td>
<td>11.4</td>
</tr>
<tr>
<td>41-50</td>
<td>7</td>
<td>5.3</td>
</tr>
<tr>
<td>50+</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

Nine (6.8%) of the participants are 18-20 years old; 54 (40.9%) of them are 21-25 years old; 25 (18.9%) of age 26-30; 18 (13.6%) were 31-35 years old; 15 (11.4%) of 36-40 years old; 7 (5.3%) are between the ages of 41-50 and 4 (3%) are over the age of 51. The data on participants’ level of education are as follows:
Table 3. Data on participants’ level of education

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>27</td>
<td>20.5</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>71</td>
<td>53.8</td>
</tr>
<tr>
<td>Master’s</td>
<td>30</td>
<td>22.7</td>
</tr>
<tr>
<td>PhD</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

Twenty seven of the participants (20.5%) are high school students; 71 (53.8%) Bachelor of Arts or Science, 30 (22.7%) Master’s and 4 (3%) hold PhD degrees. The data on the Turkish levels of the participants are as follows:

Table 4. Data on Turkish levels of the participants

<table>
<thead>
<tr>
<th>Level of Turkish</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>49</td>
<td>37.1</td>
</tr>
<tr>
<td>A2</td>
<td>26</td>
<td>19.7</td>
</tr>
<tr>
<td>B1</td>
<td>31</td>
<td>23.5</td>
</tr>
<tr>
<td>B2</td>
<td>15</td>
<td>11.4</td>
</tr>
<tr>
<td>C1</td>
<td>11</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

Forty nine of the participants (37.1%) are at A1 level; 26 (19.7%) are at A2 level; 31 (23.5%) are at B1 level; 15 (11.4%) stated that they knew Turkish at B2 level and 11 (8.3%) at C1 level. The Data on the duration of participants' use of the Turkish Teaching Portal is as follows:

Table 5. Data on the duration of participants' use of the Turkish Teaching Portal

<table>
<thead>
<tr>
<th>Duration of usage</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>66</td>
<td>50</td>
</tr>
<tr>
<td>6-12 months</td>
<td>19</td>
<td>14.4</td>
</tr>
<tr>
<td>1-2 years</td>
<td>38</td>
<td>28.8</td>
</tr>
<tr>
<td>2-3 years</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>3 years or more</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

Sixty six of the participants (50%) have spent time on the website between 0-6 months; 19 (14.4%) for 6-12 months; 38 (28.8%) for 1-2 years; 6 (4.5%) stated that they have been using the Turkish Teaching Portal for 2-3 years and finally 3 (2.3%) for 3 years and more. The data on the usage frequency of the Turkish Teaching Portal by the participants are as follows:

Table 6. Data on the usage frequency of the Turkish Teaching Portal by the participants

<table>
<thead>
<tr>
<th>Frequency of usage</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>28</td>
<td>21.2</td>
</tr>
<tr>
<td>Usually</td>
<td>32</td>
<td>24.2</td>
</tr>
<tr>
<td>Occasionally</td>
<td>52</td>
<td>39.4</td>
</tr>
<tr>
<td>Rarely</td>
<td>14</td>
<td>10.6</td>
</tr>
<tr>
<td>Never</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>
Twenty-eight of the participants (21.2%) said they use the portal: Always; 32 (24.2%) usually; 52 (39.4%) occasionally; 14 (10.6%) reported that they rarely use the Turkish Teaching Portal, and lastly, 6 participants (4.5%) reported that they no longer use the portal.

**Limitations**

The research is limited to 132 learners who learn Turkish via Yunus Emre Institute Turkish Teaching Portal. Learners who could not be reached during the data collection process or who gave incomplete answers to the questionnaires were not included in the study sample in order to obtain reliable data. Again, the research was limited to the problem statement and finding answers to the sub-problems.

**Data Collection and Analysis**

Firstly, a questionnaire development study was carried out by the researchers for the research. As stated by Daşdemir (2019, p. 93), the survey is a data collection technique applied by asking written questions and receiving written answers. It is generally used in educational sciences in order to obtain written information about a situation or a condition, attitude, behaviour, existing knowledge and ideas or thoughts of the subjects/participants. Opinions were received from two field experts to check whether the questionnaire prepared by the researchers served the purpose of the research or not. The questionnaire was finalised with the feedback from the field experts. Since the questionnaire will appeal to users of all levels, it has been translated into English and Arabic by official translators to make it trilingual. Subsequently, an expert opinion was retaken on whether the questions were consistent and the translations were correct in all three languages. After the positive feedback, the questionnaire was transferred to the electronic media through the application of "Google Form".

There are two sections in the questionnaire: Part One, the demographic data and Part Two for the belief section. Finally, the link of the questionnaire was sent to Yunus Emre Institute, and the form was re-examined by the experts at the Institute and sent to the system users via e-mail. The form, which was kept in the electronic form for one week to be answered, was toggled off at the end of one week.

Descriptive analysis technique was used in the analysis of research data. "The data obtained in this type of analysis are summarised and interpreted according to the previously determined themes. In the descriptive analysis, direct quotations are often included to reflect the striking views of individuals interviewed or observed. The purpose of this type of analysis presents the findings to the reader in an organised and interpreted way" (Şahin, 2017, p. 190). Accordingly, the findings obtained from the learners are mainly dealt with in seven sections. Subsequently, the beliefs of the learners in each section were analysed by the researchers. Some of the learners’ beliefs are reported verbatim for authenticity.
Findings and Comments

In this part of the study, the opinions of the participants regarding the Yunus Emre Institute Distance Turkish Learning Portal are listed under subtitles.

Positive Aspects of Distance Turkish Learning Portal

Participants were asked "Positive Aspects of the Distance Turkish Learning Portal". The frequency and percentages table regarding the positive aspects of the Distance Turkish Learning Portal prepared based on the participants' responses are as follows:

Table 7. Frequencies and Percentages Regarding the Positive Aspects of the Turkish Learning Portal

<table>
<thead>
<tr>
<th>Theme</th>
<th>Codes</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Aspects of the Distance Turkish Learning Portal</td>
<td>Being independent of time and place</td>
<td>30</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>Being free of charge</td>
<td>2</td>
<td>16.6</td>
</tr>
<tr>
<td></td>
<td>Improving speaking and listening skills</td>
<td>16</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td>Individualized / Customized Learning</td>
<td>15</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>Effective Vocabulary Teaching</td>
<td>13</td>
<td>9.8</td>
</tr>
<tr>
<td></td>
<td>Gradual/Levelled Learning</td>
<td>11</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>No comments</td>
<td>10</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Being familiar with the Turkish Culture</td>
<td>9</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td>Improving reading and writing skills</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

According to Table 7, it is seen that user opinions are gathered in nine themes. 22.7 percent of the users see the Distance Turkish Learning portal as a positive feature to be used independent of time and place constraints. Some of the opinions from the users according to the first theme are as follows:

(P47) "I can study Turkish without having to leave home." (P118) " Easily reachable at any time, free and connected to Turkish culture." (P33) "Learning Turkish easily from any place online." (P2) " Adjusting according to one's levels, finding voice recordings, creating a competitive environment (points), being full of pictures and taking lessons in 24 hours when requested."

It is noteworthy that Yunus Emre Institute, which has started to focus on technology-based Turkish teaching in recent years, has opened the portal prepared by a large team of teachers for free, and also provided quality Turkish education without any cost to the users. On the other hand, Yunus Emre Institute's portal is one of the first websites in this field since there are few distance education applications prepared in accordance with foreign language teaching principles and methods for learning Turkish. It responds to a serious need with this aspect. Some of the opinions of the participants, who see the website is offered free of charge see this as an advantage:

(P42) "The opportunity to choose the time is perfect for me, and free education is also a good thing." (P57) "I will overcome my fear of learning a foreign language. This system is very
"good for me. I can learn by myself. I saved money for three years to learn English, but I don't have such a problem for Turkish." (P16) "Having a lecture in this organised way for free charging." (P21) "Learning is step by step and with each lesson there is its grammar.

Another advantage of the website for the users was its provision of personalised language learning opportunities. This has been stated as a positive feature of the portal by 12.1% of users. Likewise, 11.3% of users and 9.8% of users believed the website was effective in improving their speaking and listening skills respectively. Listening comprehension and oral production skills are among the most important elements of communication. In this context, it is noteworthy that the listening and speaking activities in the portal are found useful by the learners. Contrary to the courses held in the physical environment, the portal provides asynchronous and personalised learning opportunities and the vocabulary teaching activities repeatedly bring target words to the learners, which contributes to the retention of learning.

Levelled learning or learning in line with levels is one of the most important features brought by the Common European Framework of Reference for Languages. Accordingly, when a language is taught to the learner, it is necessary to act in a certain system and follow a sequence in the teaching of skills and grammatical structures. Language teaching is planned as six levels from A1 to C2 in the Turkish Teaching Portal. Of these, A1 and A2 are called basic level, B1 and B2 are intermediate level, C1 and C2 are high level. When one logs into the system, they can see that teaching can be carried out up to C1 level, but the level of C2 has not been activated yet.

When Yunus Emre Institute, Yedi İklim Türkçe [literally translated as: Seven Climate Turkish] sets are examined, it is seen that only focus is not the Turkish language teaching, but also the elements of Turkish culture are often offered to those who want to learn the language. A similar situation exists in the Distance Turkish Learning Portal. As a matter of fact, 6.8 per cent of users see the portal to promote Turkish culture as a positive feature.

In terms of improving their reading and writing skills, 4.5 per cent of users think that the portal is effective. When the portal is examined, it is seen that reading many texts are included. There are also writing activities through which users can practice their Turkish from the basic level.

When the comments of the users participating in the research are examined, it is seen that 122 participants mentioned the positive aspects of the portal, while 10 participants did not express their opinions in the question item. Based on this result, it can be said that 92.4 per cent of the users who used the portal and participated in the research found a positive feature in the portal, and thus were satisfied with the portal.
Negative Aspects of the Distance Turkish Learning Portal

Participants were asked about the "Negative Aspects of Turkish Learning Portal". The frequency and percentages table regarding the negative aspects of the Distance Turkish Learning Portal based on the answers of the participants are as follows:

Table 8. Frequencies and Percentages Regarding the Negative Aspects of Distance Turkish Learning Portal

<table>
<thead>
<tr>
<th>Theme</th>
<th>Codes</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Aspects of the Distance Turkish Learning Portal</td>
<td>No negative aspect</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Technical Deficiencies</td>
<td>7</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>Problems as to the recording of speaking skills</td>
<td>7</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>No interactive speaking option</td>
<td>3</td>
<td>9.8</td>
</tr>
<tr>
<td></td>
<td>No tutor support</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Some too high-level exercises</td>
<td>11</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>No comments</td>
<td>10</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Insufficient grammar teaching</td>
<td>9</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

The percentage of participants who do not think that the portal has a negative aspect is 25% while 20.4% of them complain about technical deficiencies. Some of the opinions of the participants regarding these complaints are as follows:

(P9) "It is slow, maybe due to the internet connection." (P40) [With broken Turkish:] "The website is very slow, usually gives an error when I reply to the last exercise or any other exercise, and I need to answer the whole lesson again, sometimes when I answer a course exercise or an exam-oriented exercise, maybe there is one more question, but I made 5 mistakes; I tried to answer this exercise it gives the same wrong score. Speech practice is usually not said here when the headset is well placed on the computer, and I am responding to other speech exercises. There is no response to my e-mails." (P123) "Sometimes, the website doesn't work." (P76) "Technical errors such as voice detention problems, bugs and glitches throughout the activities." (P80) "It is too slow to load, and sometimes it just hangs." (P85) "It took a lot of time to do each task there since it is a lot and the progress is so slow."

Participants' common complaint; the application sometimes works slowly, and sometimes it does not open; sometimes it suddenly gives an error message. Indeed, this type of systematic problems is often encountered. This situation is considered to have been caused by too many users simultaneously trying to log into the system. Due to the coronavirus pandemic, face-to-face education was interrupted in many countries around the world, and similarly, face-to-face education was also interrupted at the language centres of Yunus Emre Institute, and distance education was initiated. Thousands of users have been moved to the portal in a very short time, and due to this unprecedented
surge of users, problems have begun to surface because the technical infrastructure is not strong enough. Therefore, the portal needs to be updated or strengthened accordingly.

The portal is built on the development of four basic language skills. However, the tool used in teaching speaking skill is not functional enough. This tool may not work properly, based on the principle by which a user speaks Turkish through the microphone and the program analyses the speech, and the user is expected to utter the listed words and sentences with the correct pronunciation. The percentage of users complaining about this situation is 12.8%. Lack of interactive speech option and live tutorial support is also seen as deficiencies in the portal. Some of the user opinions on these themes are as follows:

(P37) "It would be better if there was a conversation section among the learners, I think. Learning alone is good. But learning with others is more useful. Maybe I can add a book, group chat and presentation feature." (P43) "An important deficiency of the program is that it is not a real speaking practice." (P80) "Some questions that require us to speak does not register what we say correctly. I also don't like the questions that require us to spell the answer letter by letter."

Eleven of the participants state that some exercises are above their current level, and nine of them say that their language teaching is insufficient. Participant number thirty-six (P36) states that when he reaches A2 level, he suddenly faced some subjects with which he could not cope, so his progress is slower when he levels up from A1 to A2.

The participant numbered thirty-three (P33) states that there is no reply to his e-mails, for example, he has not been informed whether he will be given a certificate when he completes the system. The same participant also says that he feels worried if the system or the site is to be closed and his efforts wasted.

When the responses are examined, it is seen that 122 participants have given negative opinions, and ten participants did not give a negative opinion regarding the use of Turkish Teaching Portal.

**Weaker Points to be Improved in the Distance Turkish Learning Portal**

Participants were asked if Yunus Emre Institute’s Distance Turkish Language Learning Portal has any aspects that need improvement. Frequencies and percentages related to the themes based on the opinions of the participants are as follows:
Table 9. Frequencies and Percentages Regarding the Weaker Points to be Improved in the Distance Turkish Learning Portal

<table>
<thead>
<tr>
<th>Weak Points to be Improved in the Distance Turkish Learning Portal</th>
<th>Codes</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No need for improvement</td>
<td>21</td>
<td>15,9</td>
<td></td>
</tr>
<tr>
<td>Need for better technical infrastructure</td>
<td>16</td>
<td>12,1</td>
<td></td>
</tr>
<tr>
<td>Need to add [speaking] club activities</td>
<td>15</td>
<td>11,3</td>
<td></td>
</tr>
<tr>
<td>Need for online tutorial support</td>
<td>13</td>
<td>9,8</td>
<td></td>
</tr>
<tr>
<td>Need for extra exams and activities</td>
<td>13</td>
<td>9,8</td>
<td></td>
</tr>
<tr>
<td>Need for mobile application</td>
<td>11</td>
<td>8,3</td>
<td></td>
</tr>
<tr>
<td>Need for enriching grammar exercise</td>
<td>10</td>
<td>7,5</td>
<td></td>
</tr>
<tr>
<td>No comments</td>
<td>10</td>
<td>7,5</td>
<td></td>
</tr>
<tr>
<td>Need for speaking skill recording</td>
<td>9</td>
<td>6,8</td>
<td></td>
</tr>
<tr>
<td>Need for increasing the videos in the system</td>
<td>8</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Need for offline feature</td>
<td>6</td>
<td>4,5</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>132</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

When we look at Table 9, we can see that 15.9 percent of the participants said "There is no need to develop the Distance Turkish Learning Portal." 12.1 percent of the participants expressed their opinion that the technical infrastructure should be improved. Demand for distance education has increased, especially during the coronavirus outbreak. The Distance Turkish Learning Portal users complain that they have problems in using the portal and that they experience freezes and hangs on the site from time to time, and as a solution to this, they suggest that the site should be technically improved and upgraded.

While 11.3% of the participants expressed their opinion as follows; "[Speaking] Club activities should be added." 9.8% of them stated that "online tutorial support" should be provided. Users need to interact with each other on the portal. Also, there was a demand from the users for the online tutorial support section, which is not available on the portal but yet given a section. In order for the users to practice in the language they learn, it is important for the function of the portal to provide the users with messaging or chat/speaking rooms similar to those on social media platforms, and to serve the users online, which will provide instant answers to the possible questions of the learners. Although there are end-of-section tests on the portal, the need to prepare extra exams and activities is expressed by users.

Smartphones have become indispensable for human life today. People can easily perform all their needs on the Internet thanks to smartphones, and even many people learn language through language applications. Among the Distance Turkish Learning Portal, 8.3% of users state that the portal's mobile phone application should be improved. Some of the participants' views are as follows:

(P22) "You should make a more useful application for the mobile phone." (P56) "When I use it on the phone, I do not get the sound recording correctly, and I have problems with the
writing sections, so it is necessary to develop the phone application." (P73) "First of all, the speaking questions don't work, when I talk nothing happens. Second, it does not work properly with iPad and phones. Third, most of the learners don't have a Turkish keyboard, so please add a Turkish keyboard to all the writing questions." (P103) "You should develop it to be a mobile application, you need to provide a tutor to answer our questions, and you need to work more on the speaking questions."

Keeping the grammar explanations short and making the explanations only in Turkish were found insufficient by the participants. When the application is examined, it will be seen that the sections related to grammar learning area are kept short. In this approach, the principle of offering Yunus Emre Institute's grammar teaching more intuitively in four basic language skills seems to be more productive. However, in this portal where the teacher is not active, it is understood that the participants have difficulty in understanding grammar topics. It would be advisable to review the grammar sections on the portal in this respect. Some of the opinions of the participants who expressed their views on the "enrichment" of grammar teaching section are as follows:

(P28) "I am saying clearly that I could not learn grammar from your website because I could not understand so I watched some other videos." (P47) You can support the site with the idea that there is a teacher explaining grammar in every level in detail." (P100) "Explanations and sections about teaching grammar should be developed. It is not enough." (P129) "The grammar part should be explained with more examples."

Ten of the users did not comment in this section. Nine of them said that it requires improvement in speaking skills, eight participants asked for an increase in the number of videos in the system, and the other six suggested making the internet use possible.

The Benefit of Videos on the Distance Turkish Learning Portal

The opinions of the participants on whether they find the videos in the Distance Turkish Learning Portal useful or not are as follows:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Codes</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit of Videos on the Distance Turkish Learning Portal</td>
<td>Beneficial</td>
<td>127</td>
<td>96,2</td>
</tr>
<tr>
<td></td>
<td>Not Beneficial</td>
<td>1</td>
<td>0,7</td>
</tr>
<tr>
<td></td>
<td>Cannot decide</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

The percentage of participants finding videos on the portal useful is 96.2%. Only one participant stated that the videos were not useful, while four participants stated that they could not decide. Some of the participants who think that the videos in the portal are useful are as follows:
"Yes, but they need to speak more slowly for me to understand the speech in the videos." (P46) "Yes, but with special [attention to] the pronunciation for learners." (P59) "Yes, but it does not seem to be at advanced levels. I remember it only available in A1 and A2."

Some participants (P43, P46) find the rate of delivery in the videos high. Besides, there are participants (P41, P59) who state that the number of videos in the application is insufficient. As the participants point out, the number of videos decreases as the application goes from basic to advanced. These videos not only help the target audience improve their speaking skills, but also help them gain cultural awareness.

**Benefits of End-of-the-Unit Tests in the Distance Turkish Learning Portal**

There are end-of-the-unit tests on the Distance Turkish Learning Portal. The participants were asked whether they found the end of the unit tests useful or not. The table of frequencies and percentages created based on the responses from the participants are as follows:

**Table 11. Frequency and Percentages Regarding the Benefits of End of the Unit Tests**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Codes</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits of End-of-the-Unit Tests</td>
<td>Beneficial</td>
<td>118</td>
<td>89.3</td>
</tr>
<tr>
<td></td>
<td>Not beneficial</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Cannot decide</td>
<td>11</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

When the opinions of the participants are examined, it is seen that 89.3 per cent of the participants find the end of the unit tests beneficial. Three of the participants find the end of the unit tests not beneficial, and 11 participants state that they are undecided on this matter.

Some of the opinions of the participants who found the end of the department tests useful are as follows:

(P39) "Yes, it is useful and shows if you are working well. However, it has a flaw, which is that the questions are taken as they are from the lessons, and I think this is not good." (P45) "Yes, but some speech tests are not good." (P103) "Yes, but the speaking parts need to be developed."

Speaking parts at the end of unit tests generally do not measure the users in speaking sub-skills such as fluency, vocabulary and accuracy. It is mostly based on pronunciation. One participant (P39), on the other hand, criticized the questions in the end-of-unit tests in the sense that the questions are directly taken from the content in the section.
Language Supports for the Distance Turkish Learning Portal

The Distance Turkish Learning Portal supports Turkish, English, Russian and Arabic languages. In the questionnaire, users were asked which languages they would like to add to the portal other than these languages. The table of frequencies and percentages created based on the answers given is as follows:

Table 12. Frequencies and Percentages Regarding the Languages Wished to be Added to the Distance Turkish Learning Portal

<table>
<thead>
<tr>
<th>Theme</th>
<th>Codes</th>
<th>( f )</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not necessary</td>
<td>96</td>
<td>72,7</td>
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</tr>
<tr>
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<td>6,8</td>
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<td>Malay</td>
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<td>5,3</td>
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<td>Persian</td>
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<tr>
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</tr>
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<td>Italian</td>
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<td>1,5</td>
<td></td>
</tr>
<tr>
<td>Urdu</td>
<td>2</td>
<td>1,5</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>4,5</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>132</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

The percentage of users who are satisfied with the language options available on the Turkish teaching portal is 72.7%. These people do not find it necessary to add a new support language. As 6.8% of users demand that French be added to the portal, 5.3% of them prefer Malaysian and 3% Kazakh language. Three people ask for Persian and German, and two for Italian and Urdu, while 4.5% of the users marked other languages.

Other Opinions about the Distance Turkish Learning Portal

Finally, the participants were asked if they had different opinions about the "Distance Turkish Learning Portal". In this section, 86 of the participants stated their opinions, while 46 participants did not fill in the questionnaire.

When the participants’ comments in this topic are examined, it is seen that they requested that the users who are successful in the application (P33 and P112) should be given certificates by the Institute. It is known that Yunus Emre Institute is not considering giving certificates to the online users at this stage. Besides, there are no course materials or books in PDF format. Some participants (P70, P121) who have addressed this issue have recommended uploading PDF files to the portal. Thus, in cases where there is no internet, learners can study Turkish through these files. In addition, there are also participants who recommend adding Turkish movies or cartoons (P43) and allowing users to upload videos to the system (P101). As in previous titles, the participants stated that the system is working slowly (P33) and they want to communicate with teachers for the topics they do
not understand (P112). Finally, one participant (P35) wrote that the course contents at C1 level could be divided into social sciences and science.

Some of the opinions that the participants would like to add are as follows:

(P33) "There are no replies for my e-mails. For example, I would like to know if I will have a certificate. Is there an end date and the site will close if I didn't finish? I will not take a certificate. So, I should retry to take a certificate. The site is so slow and it isn't well updated. It usually closes suddenly, and I am required to start the whole lesson again. Sometimes I get well marks like 94% it seems like 20% or 28% even if I repeat it. It sometimes seems I didn't complete the lesson even if I retried the whole lesson many times. There isn't coach support or anyone to ask when you are in a trouble." (P35) "After the B2 level, C1 levels should be different according to the learner. A separate program for science and social sciences will be given and enriched with appropriate content according to the department." (P43) "It would be great if Turkish movies and cartoons are added as full videos or short videos." (P70) "PDF course materials and books can be added to the system. (P101) "Videos and competitions can be organised with the videos that learners can shoot and upload to the system." (P112) "After each level is over, a certificate must be given. There is no information in the system. It would be nice if we could get a certificate." (P131) "Please add features that will allow you to communicate with a teacher for a reasonable fee and ask an expert teacher for unclear issues."

**Discussion and Conclusion**

When the studies in the world are examined, it is seen that the developments in technology are reflected in the language teaching processes. With the latest innovations, it is seen that the coined concepts of "(Integrative) Computer Assisted Language Learning" and "Mobile Assisted Language Learning" have begun to be used in the relevant literature. Web-based language learning/teaching, which emerged as an interdisciplinary study, has become more and more profitable, and various applications and websites have been developed for teaching Turkish to foreigners (Pilancı, 2015, pp.262-265). Jarvis & Krashen (2014, p. 5) also state that computer-assisted language teaching entered our lives in the 1960s, and today, technology-assisted language learning or mobile-assisted language learning has replaced computer-assisted learning.

With the inclusion of the internet and multimedia technologies in educational programs, learning has become possible for everyone at any time and from anywhere they like to access. Learners can access information through chat groups, e-mails, blogs and wiki and communicate with any other learners and their educators and teachers in these [virtual] environments. In this way, learners have the chance to continue the process not only in formal but also in informal environments
(Yayla, 2014, p. 128). The “Turkish Teaching Portal” developed by Yunus Emre Institute is important in terms of providing the opportunity to learn Turkish in informal environments with web support. The portal has tens of thousands of users in different countries of the world. According to the survey given to users, female users (57.6%) are more likely to use the portal than male users (42.4%). When we look at the age groups, it is seen that a significant portion (66.6%) of users using Yunus Emre Institute Distance Turkish Learning Portal are users who are aged 30 and under. However, it has been determined that the portal is not only used by people in a certain age range, but also accessed by learners from different age.

It is thought that high school graduate users are mostly university students. The number of undergraduate graduates among users has an important weight (53.8%). It is followed by graduate and high school graduates respectively, with only four graduates with a PhD degree using the portal. The use of the portal by educated people is an important piece of information that will work especially in B2 and for higher level content design. As a matter of fact, in groups where the audience of students in physical/face-to-face courses consists of uneducated (or less educated) people, textbooks can sometimes be too loaded for them because they might not be familiar with these concepts and definitions even in their native language, and much less so in another. In particular, such cases are encountered with the immigrants who came to Turkey to lead their lives and the immigrants who want to learn Turkish over the age of 40. In this context, the fact that educated people have an important place in the audience using the portal facilitates the selection of the text. However, it reveals the need for "Academic Turkish" especially for the students who will study at the levels of C1 and above.

The lives of the learners from different international backgrounds who came to Turkey for academic purposes can be classified into two periods: education in TÖMERs (Turkish Teaching Centres) and the time spent in the departments or in the faculties. In the first period, the entire group of learners has the purpose of learning only the language, while in the second period, the learner now becomes a language user and is educated with the medium of Turkish language, which is the language of the majority of native speakers. In TÖMERs, a student who speaks Turkish in general finds himself in an environment where Academic Turkish is used (Demir, 2017, p. 4). In this context, there is a need to determine "Academic Turkish" areas for C2 and later on to prepare the contents for the Distance Turkish Learning Portal.

More than half of the users (56.8%) are at the basic level. 34.9 per cent of the users are at a medium level, and 8.3 per cent are at a high level. When the language levels of the users are analysed, it is seen that the number of users decreases as their level gets higher. There is a similar situation in normal face-to-face courses. In order for learners to use the portal at advanced levels, activities should be designed in a way to motivate the learners and increase the use of the portal. A large number of people spend most of their time in their daily lives by having fun and sharing their status or pictures in
virtual environments. Therefore, the portal should become an environment where learners can interact and share with each other.

Half of the participants (50%) state that they have used the portal for the last 0-6 months. Since these participants are among the 1000 people who use the portal the most, it can be claimed that the promotion and usage of the portal have increased in recent months. It was determined that the profile of the participants was in line with the predictions, especially considering that people were constantly at home and turned to distance education platforms due to the pandemic.

Technology-based education has such features as providing lifelong virtual learning environments, being independent of time and space/location, and giving the opportunity to learn whenever you want to have access (Oran & Karadeniz, 2007, p.169). The computer and the internet are very useful in developing listening and reading comprehension, verbal expression, conversation skills and writing skills in language teaching. Thanks to the web-based distance/remote language teaching and learning technologies, it is now possible to effectively teach Turkish to foreigners having defined a good layout, design and preparation process (Pilancı, 2015, p. 266). According to Türker (2014, p.360-361), the portals for teaching Turkish for foreigners, which are prepared according to the e-learning model, provide equal opportunity to those who cannot participate in formal education, besides users learn Turkish according to their own learning speed without feeling time limitation and save costs such as transportation.

It has become easier to reach more people through Turkish teaching portals; to include pictures, graphics, videos, etc. in addition to the students’ book, in the course; to prepare individual education programs and to introduce cultural elements (Türk Toğrul & Toğrul, 2016, p.151). Such factors increase learner satisfaction. All of the participants using the Distance Turkish Learning Portal state that they are generally satisfied. The strengths of the Turkish Teaching Portal, which are determined based on the opinions of the participants, are as follows:

1. There is no time and space restriction.
2. The system can be used free of charge.
3. Users can equally improve their reading, listening, speaking and writing skills.
4. The learning process supports individual/customised learning.
5. Effective and memorable vocabulary teaching is realised.
6. There is a planned and levelled language teaching process, thanks to the levelled learning system.
7. Users have the opportunity to get to know Turkish culture better.

Self-learning is an important feature of the portal. People from different countries and nations of the world can attend the Turkish course quickly and at no cost. According to Pilancı (2015, p. 266),
the importance given to distance/remote learning and education has increased, and it offers diverse and rich learning environments, the opportunity to use different tools for language learning and teaching, bringing people from different countries together by removing the geographical and spatial barriers, and providing flexible lesson and teaching times. Thanks to its advantages, the interest in web-based Turkish teaching programs is increasing.

Social networks attract attention as tools that should be used in language learning processes with their features such as instant access to information and mutual interaction with learner participation at an international level. In these environments, it is possible for learners to develop four basic language skills, namely reading, listening, speaking and writing in the target language (Yayla, 2014, p. 129).

Although distance/remote learning and teaching applications have certain positive aspects, there are also some weaknesses. Pilancı et al. (2015, pp. 1291-1294) states that the weaknesses of distance education programs can be raised due to certain organizational problems, issues in creating course content, technical problems, problems regarding learning and teaching habits, accreditation problems and some regulatory administrative problems.

1. The infrastructure of the site is insufficient.
2. The tool used in speaking skill activities needs to be improved.
3. There is no possibility for interactive speaking.
4. Tutorial or coach support does not work.
5. Some exercises are above the level of learners.
6. Grammar teaching needs to be improved.

When the weaknesses of the Turkish Teaching Portal, according to the participants, are examined, it is seen that organizational problems, technical problems and problems related to creating content come to the fore.

There are ninety-four mobile applications in the App Store and Google Play that are designed to teach Turkish to foreigners. When the applications were examined, it was seen that most of the applications belonged to foreign developers and were prepared with commercial concerns, but the applications should be developed in terms of quality (Becel, 2015, p. 269). “Good examples and electronic resources should increase in order to establish standards for distance education of Turkish” (Ozan & Göçmenler, 2018, p. 147). For this reason, Turkish Teaching Portal alone would be insufficient to meet the needs in the field. The number of similar sites and applications should be increased. The increase in the quantity will be reflected in the quality over time, and quality applications for distance Turkish learning and teaching will emerge.
Yunus Emre Institute has adopted the principle of using the method of inductive learning instead of directly giving the grammar rules. Attention is also paid to this rule in language teaching coursebook sets. However, there is a tutor who teaches the lesson in actual classroom education, and often he/she exemplifies grammar rules by making the necessary explanations to the learners. In this context, it seems necessary to develop new methods on teaching grammatical structures in the Distance Turkish Learning Portal, which lacks tutorials or online live support.

The videos in the Turkish Teaching Portal are liked by the users, but the number of the videos is requested to be increased by the users. The enriched books prepared by Yunus Emre Institute and the activities of Anadolu University for teaching Turkish with distance education tools are ground-breaking activities (Ozan & Göçmenler, 2018, p. 130). In this context, the inclusion of both the content prepared for the books enriched by the Institute and also the animated films prepared by Anadolu University for the language use and situational contexts will make teaching fun. If the original content on the platforms, such as YouTube with millions of videos, are to be used in teaching provided that they are carefully evaluated by experts and chosen to serve the purpose, the interests and attention level of the learners will be kept alive and the most watched contents will be presented to the learners worldwide.

The end-of-unit tests on the Distance Turkish Learning Portal are useful to learners. Indeed, it is important for learners to test what they have learned before moving on to the new unit. In addition, the end-of-unit tests will serve the principle of repetition in learning.

The Turkish Instruction Portal is currently available in Turkish, English, Russian and Arabic, while users request the addition of French, Malay, Kazakh, Persian, German, Italian and Urdu languages to the portal.

The fact that it is still uncertain whether the participants can get a certificate at the end of the language teaching process or not is the complaint which is frequently voiced by the users. Considering that the system is used free of charge, it is important to give the opportunity to obtain certificates to the users who learn Turkish over the system by offering different options or privileges.

Suggestions

Analysing users’ beliefs of the Distance Turkish Learning Portal developed by Yunus Emre Institute, the following suggestions are presented to the stake-holders for the development and the improvement of the portal:

• As stated by many users and supported by the user profiles participating in the research (especially for those who have been using the portal for 0-6 months, which covers half of the participants), the number of users in the portal has unexpectedly increased in recent months. Due to
the increase in demand, a slowdown occurred in the system. The system should be updated, and the technical infrastructure should be strengthened. This will enable users to use the portal more efficiently.

  • The videos in the portal are handy for the users. However, video lengths are short and few in number. The number of videos in the portal should be increased. The lecture videos and Turkish films and cartoons shot by Yunus Emre Institute during the coronavirus outbreak and posted on the YouTube platform should be uploaded to the system.

  • Currently, users cannot communicate with each other on the portal. In order to create an interactive learning atmosphere, chat rooms should be established on the portal and speaking clubs or other similar events should be organised.

  • One of the points that the users directed our attention to is that they cannot get teacher/tutorial support for the subjects they do not understand. The ability to ask questions within the portal or an option to chat with a native speaker should be defined. The speakers of Turkish as volunteers can offer support in the portal as the native speakers of the language. This feature can be opened to users who want it for an affordable fee.

  • Grammar descriptions are outlined in the portal. In principle, Yunus Emre Institute teaches Turkish in a way that it is independent of memory-based language teaching. However, it seems that users need detailed grammar explanations. New content and videos must be uploaded to the system for lacking grammar topics. At this point, Turkish teaching videos prepared by the Institute mentioned above can be used.

  • The fact that the end-of-the-unit tests in the portal come directly from the sample sentences in the course contents makes the test seemingly easier. In this respect, the end-of-unit tests should be reviewed, while the writing and speaking sections of the tests should be developed to be more sensitive to the user errors.

  • Other support languages requested by users should be added to Turkish, English, Russian and Arabic language support by considering the target audience using the portal. Only 132 users participated in the research. In the selection of languages to be added to the portal, the countries where the system is actively used should be identified and their languages should be added to the system first. For the users who want to do extra activities, additional worksheets should be loaded in PDF format in line with the contents of the sections. In fact, workbook leaflets compatible with the Turkish learning portal should be prepared and made available to the learners over the system.
• Yunus Emre Institute, Seven Climate Turkish Language Teaching sets have been prepared according to levels A1, A2, B1, B2, C1 and C2. The Distance Turkish Learning Portal supports teaching up to C1 level. The portal should first support the C2 level. Then the content should be included in the "Academic Turkish" section, which should be developed by taking into consideration the needs of the target audience who will learn Turkish in order to study at Turkish medium universities. Every year thousands of foreigners come to Turkey, either via higher education scholarship or in the status of a special student, to study Turkish in one-year-long intensive preparatory school and then move on to their faculties to study their major. Especially those who come to Turkey via a scholarship from the Turks Abroad and Relative Communities (YTB) are subject to the Academic Turkish course after the Turkish preparatory school lessons. Those who succeed in passing the Turkish placement having come to study in Turkey start studying in their Turkish-medium departments. The possible changes to be realised in Academic Turkish on the portal will help the prospective students pass their language proficiency exams and enable them to study in their departments through the help of the portal's content. As it will take time to produce new content related to Academic Turkish, "Academic Turkish" books prepared by YTB can be made available on the portal in the first place.

• There is a section called "my friends" in the Distance Turkish Learning Portal, but this section has not been made available yet. The functionality of this section, sharing the success of users with each other, increasing the interaction opportunities between users on the portal will increase the time lengths that users spend on the portal, thus increasing the number of people who continue their education in A1 to C1.

• The Turkish Proficiency Exam (abbreviated as TYS) is simultaneously held in face-to-face physical sessions in different countries of the world. However, COVID 19 has revealed a new need for the field of teaching Turkish as a foreign language. This need is the development of online Turkish proficiency exams and end-of-the-course exams, which will reduce the space and time constraints relatively, as in TOEFL and IELTS exams. Portal users request certificates to be documented to prove that they have mastered Turkish. Here, there are two different solutions to be offered for this problem. First of all, it is not advisable to issue a proficiency certificate or another certificate to the users only showing the success rate of the online users in the portal. After the users have reached a certain level by completing the activities in the portal, the right to take the Yunus Emre Institute's Turkish Proficiency Exam for free or at a discount should be granted. Another way is to develop online Turkish Proficiency Exam (e-TYS), and if the exams can be implemented so long as online exam safety is guaranteed, students who learn Turkish free of charge via the "Turkish Instruction Portal" should be allowed to take the exam at the qualified exam centres in their own country for a certain fee. Those who succeed in this exam should be granted a certificate of their level in Turkish.
In the portal, it is planned that users can buy something from the market with the points they have earned and even they can send it to their friends within the system as a gift. However, this option is not currently active. Making the market service available will motivate those who use the portal, and the duration of their stay in the application will increase.

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Adaptation of the Perceived Self Efficacy Toward STEM Knowledge Survey into Turkish

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Abstract

This study aimed to adapt the Perceived Self Efficacy toward STEM Knowledge Survey, developed by Lee, Hsu, and Chang (2019), into Turkish to measure teachers' self-efficacy perceptions regarding STEM education. For this purpose, validity and reliability analyzes of the survey were made. Participants were 204 in-service teachers who were working in different branches and from various cities in Turkey. A confirmatory factor analysis was performed to investigate whether the survey showed a similar structure with six factors and 30 items as the original version. The study findings showed that the adapted survey consisted of six factors, namely, scientific inquiry, technology use, engineering design, mathematical thinking, and synthesized knowledge of STEM and attitudes toward STEM education. Also, the t-test results of 30 items in the survey were found to be significant. The Cronbach's Alpha reliability coefficient was calculated as .972. The results demonstrated that the Turkish version of the Perceived Self Efficacy toward STEM Knowledge survey consisting of 6 factors and 30 items was a valid and reliable measurement tool.

Keywords: STEM, STEM Knowledge Survey, Teacher, Scale Adaptation, Self-Efficacy

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Introduction

The teaching methods adopted in the education system change as a parallel to changes in the world. Nowadays, one of the most accepted education approaches is STEM education. STEM is an educational approach in which science, technology, engineering, and mathematics courses are conducted in parallel with each other (Corlu, Capraro & Capraro, 2014), and students are taught with an interdisciplinary approach (Meng, Idris & Eu, 2014). STEM education enables students to perceive the world by presenting the disciplines that are not independent and separate from each other like intertwined in daily life (Dugger, 2010). Students work on their everyday life problems using knowledge and skills from multiple disciplines in this educational approach (Honey, Pearson & Schweingruber., 2014).

The Importance of STEM in Education System

Students acquire 21st century skills via STEM education. These skills are defined in the literature as creativity, innovation, critical thinking, problem-solving, communication and collaboration, information literacy, technology, and media literacy (Kennedy & Odell, 2014). Individuals who acquire these skills with STEM education are trained as STEM literate individuals. STEM literacy refers to “the ability to identify, apply, and integrate concepts from science, technology, engineering, and mathematics to understand complex problems and to innovate to solve them” (Balka, 2011, p. 7). Tang and Williams (2019) have expressed STEM literacy as the development of STEM-related knowledge and skills of every individual in the society and the ability of individuals to participate in social problems related to STEM, to generate ideas, and make choices about them. NRC (2012) highlighted STEM education's reasons as a need to increase STEM literacy and engage students to pursue careers in STEM fields.

The importance of STEM education for society emerges when the above definitions of STEM literacy are considered. Thomas and Watters (2015) pointed out the importance of STEM education for the community as a needed international approach that supports science and technology development to address and solve many global problems such as climate change, reduced energy, water resources, and overpopulation. In this context, STEM education can be seen as the unique educational approach to enhance students’ thinking skills and knowledge for inquiry and investigation through using incorporating some or all of the four disciplines of science, technology, engineering, and mathematics (STEM) (Moore et al., 2014). STEM education establishes a relationship between real-world situations and academic content in science, technology, engineering, and mathematics and ensures the development of new economic, competitive conditions with STEM literacy (Tsyplos, Kohler & Hallinen, 2009). Raising students with STEM education means exposing them to use these four disciplines holistically for being successful innovators of the 21st-century labor market. It is stated that STEM literacy is essential for scientific leadership and economic growth in many countries.
(Lacey & Wright, 2009). Students are prepared for the 21st-century global economy with STEM education (Becker & Park, 2011).

**The Teachers’ Role in STEM Education**

Teachers play a dynamic role to educate students for STEM (Honey, Pearson & Schweingruber, 2014;) and to do this they need some competencies that are defined as the professional knowledge, professional skills, and attitudes-values required for them to perform profession efficiently which are also essential for successful STEM education (Dailey, Bunn & Cotabish, 2015).

Teachers’ self-efficacy defined as someone’s beliefs and perceptions about own capabilities (Bandura, 1997) is one of the most issue for the effectiveness of teachers’ instructional style and behavior. Self-efficacy also refers to one’s ability to task performance (Bandura & Locke, 2003). Teachers’ self-efficacy affects their teaching practices. Thus, high self-efficacy leads teachers to show better teaching performance (Unruh, 2019). The Ministry of National Education also has emphasized the importance of making self-assessment of teachers in the general proficiency document of the teaching profession (MEB, 2017). In this context, it is important to understand how teachers perceive themselves in STEM education because teachers’ self-efficacy towards STEM is a major effect on their teaching quality in STEM. It is asserted that persons who have high STEM self-efficacy perform better than the others who have low STEM self-efficacy (Rittmayer & Beier, 2009). Stohlmann, Moore and Roehrig (2012) emphasized the importance of quality STEM education for students' future success. Also, it is predicted that teachers’ quality teaching in STEM education leads to reduced anxiety in students (Wong & Maat, 2020).

Teachers are the key persons who bridge the gap between information and learning. Therefore, teachers should have knowledge and skills about STEM to train students about it. However, it is asserted that teachers have a poor understanding of what STEM is and how to teach it (Bartels & Rupe, 2019; Dare, Ring-Whalen & Roehrig, 2019). In this sense, it is vital to determine teachers’ STEM self-efficacy about how to effectively integrate STEM into their classroom practices and create engaging students’ STEM activities. However, determining teachers' self-efficacy perception knowledge positively impacts how to develop teacher training and teacher professional development (Lee & Tsai, 2010). Therefore, this study aims to adapt to the Perceived Self Efficacy toward STEM Knowledge survey developed by Lee, Hsu, and Chang (2019) into Turkish due to the absence of such a survey that can be used to measure teachers’ perceived self-efficacy about STEM in Turkey.
Method

This study was carried out for scale adaptation. In this context, the Perceived Self Efficacy toward STEM Knowledge survey has been adapted to Turkish.

Participants

Participants of the study were 204 in-service secondary school teachers who teach at different branches in Turkey.

Table 1. Demographic Variables of Participants

<table>
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<td>Design and technology</td>
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<td>21+</td>
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</tr>
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Data Collection Tool

In this study, the Perceived Self Efficacy toward STEM Knowledge survey developed by Lee, Hsu, and Chang (2019) to assess teachers' perceived self-efficacy and attitudes towards STEM education was adapted into Turkish. The researchers developed the original survey in line with the suggestions of three experts in STEM education during the development process. The survey consists of 30 items and is rated on 5-point Likert scales from 1 "strongly disagree" to 5 "strongly agree.". It has six factors: scientific inquiry, technology use, engineering design, mathematical thinking, synthesized knowledge of STEM, and attitudes toward STEM education. The Cronbach's alpha for each factor is .92,.91,.92,.91 and .89, respectively. The first factor (scientific inquiry) is about
measuring teachers' confidence while conducting scientific research, the second factor (technology use) refers to teachers' confidence while solving problems through technology, the third factor (engineering design) assessing teachers' confidence in integrating engineering into science activities, the fourth factor (mathematical thinking) refers to teachers' confidence in mathematical thinking while solving science problems, the fifth factor (synthesized knowledge of STEM) relates to teachers' confidence in integrating disciplines (math, technology, engineering) as solving science problems, the sixth factor (Attitudes toward STEM Education) is related to measure teachers' attitudes toward STEM education.

The Adaptation Process of the Survey

To adapt the survey into Turkish, we first contacted Lee, Hsu, and Chang (2019), who were developer the original survey via e-mail, and asked for permission to use the survey. The survey was then translated from English to Turkish by four experts, two of whom were in English Language Teaching department and the other two were in Science Education. After the survey was translated into Turkish, it was examined by two professors in the field of Turkish Language and Literature, checked by grammatical structure and Turkish grammar, and then necessary corrections were made. Later, the survey was re-checked by seven graduate students in terms of understandability and readability of the items in the survey. After the final version of the survey, a pilot study was conducted with 62 in-service science teachers to see how the survey works.

The Cronbach Alpha internal consistency coefficient was calculated for the reliability of the survey's factors and the whole. LISREL and SPSS package programs were used to analyze the collected data. Confirmatory factor analysis (CFA) was conducted to validate the survey’s factor structure.

Results

Reliability Analysis

Table 2. Reliability Analysis of Survey

<table>
<thead>
<tr>
<th>Factors</th>
<th>Total Item</th>
<th>Cronbach Alfa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Scientific Inquiry</td>
<td>5</td>
<td>.931</td>
</tr>
<tr>
<td>Factor 2: Technology Use</td>
<td>5</td>
<td>.942</td>
</tr>
<tr>
<td>Factor 3: Engineering Design</td>
<td>5</td>
<td>.912</td>
</tr>
<tr>
<td>Factor 4: Mathematical Thinking</td>
<td>5</td>
<td>.950</td>
</tr>
<tr>
<td>Factor 5: Synthesized Knowledge of STEM</td>
<td>5</td>
<td>.947</td>
</tr>
<tr>
<td>Factor 6: Attitudes toward STEM Education</td>
<td>5</td>
<td>.872</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>.972</td>
</tr>
</tbody>
</table>

Table 2 provides Cronbach Alpha values of survey’s factors that ranged between 0.872 and 0.950. The Cronbach Alpha coefficient for total survey was found .972. Both the reliability
coefficients of the factors and the full survey's reliability coefficient indicate that the survey is highly reliable, fulfilling the acceptable reliability criteria (Nunnally, 1978).

**Confirmatory Factor Analysis**

Confirmatory Factor Analysis (CFA) was used to determine the construct validity of factors in the adapted survey through the LISREL package program. The CFA was performed with first 6 factors and 30 items in the original survey. The results are presented in Figure 1.
As seen in the Figure 1, the values calculated for the model fit of the CFA result were found as $\chi^2 / df = 2.8$, NNFI = .89, RMSEA = .094. When these values are examined, it is seen that the survey has a proper model-data fit. Also, the DFA and $t$ values of the survey items were examined, and the results are given in Table 3.

**Table 3.** $t$ Values of the Items in the Survey

<table>
<thead>
<tr>
<th>Item No</th>
<th>$t$ Value</th>
<th>Item No</th>
<th>$t$ Value</th>
<th>Item No</th>
<th>$t$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.49</td>
<td>12</td>
<td>8.43</td>
<td>23</td>
<td>7.32</td>
</tr>
<tr>
<td>2</td>
<td>7.21</td>
<td>13</td>
<td>8.63</td>
<td>24</td>
<td>7.76</td>
</tr>
<tr>
<td>3</td>
<td>8.12</td>
<td>14</td>
<td>8.61</td>
<td>25</td>
<td>8.08</td>
</tr>
<tr>
<td>4</td>
<td>8.36</td>
<td>15</td>
<td>8.78</td>
<td>26</td>
<td>8.49</td>
</tr>
<tr>
<td>5</td>
<td>9.03</td>
<td>16</td>
<td>9.53</td>
<td>27</td>
<td>5.59</td>
</tr>
<tr>
<td>6</td>
<td>8.43</td>
<td>17</td>
<td>8.67</td>
<td>28</td>
<td>7.49</td>
</tr>
<tr>
<td>7</td>
<td>6.92</td>
<td>18</td>
<td>7.53</td>
<td>29</td>
<td>9.73</td>
</tr>
<tr>
<td>8</td>
<td>8.71</td>
<td>19</td>
<td>6.71</td>
<td>30</td>
<td>8.83</td>
</tr>
<tr>
<td>9</td>
<td>7.60</td>
<td>20</td>
<td>8.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>9.12</td>
<td>21</td>
<td>9.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>8.59</td>
<td>22</td>
<td>9.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 provides that the $t$ values of the items in the survey vary between 5.59 and 9.73. This finding points out that $t$-values are significant that means it is not necessary to remove items from the survey (Byrne, 2010).

Table 4 demonstrates that the Pearson correlation coefficient analysis that presents the relationship between the survey factors with each other and the total score.

**Table 4.** The Pearson Correlation Coefficient Analysis

<table>
<thead>
<tr>
<th>Factors</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
<th>Factor 6</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>1</td>
<td>.695**</td>
<td>.720**</td>
<td>.706**</td>
<td>.693**</td>
<td>.489**</td>
<td>.846**</td>
</tr>
<tr>
<td>Factor 2</td>
<td>1</td>
<td>1</td>
<td>.737**</td>
<td>.613**</td>
<td>.690**</td>
<td>.413**</td>
<td>.815**</td>
</tr>
<tr>
<td>Factor 3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>.741**</td>
<td>.810**</td>
<td>.488**</td>
<td>.890**</td>
</tr>
<tr>
<td>Factor 4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>.836**</td>
<td>.522**</td>
<td>.522**</td>
<td>.882**</td>
</tr>
<tr>
<td>Factor 5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>.593**</td>
<td>.694**</td>
<td>.921**</td>
</tr>
<tr>
<td>Factor 6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

** p<.01

The findings in Table 4 indicate that there is a significant and positive intercorrelations between the overall and factor’s scores ($p < .01$).

To determine the items’ discrimination values in the survey, item-total score correlations were calculated for each item. Then, for each item in the survey, 27% of upper and subgroup comparison was made, and the difference between item scores between groups was determined by $t$-test. Findings regarding the analyzes are presented in Table 5.
Table 5. Values Related to Item Analysis of the Survey

<table>
<thead>
<tr>
<th>Factors</th>
<th>Item No</th>
<th>Item-No. Total Score Correlation</th>
<th>t value (Bottom 27%, Top 27%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Inquiry</td>
<td>1</td>
<td>.710</td>
<td>9.383*</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>.786</td>
<td>12.719*</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>.736</td>
<td>11.226*</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>.741</td>
<td>11.086*</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>.771</td>
<td>12.980*</td>
</tr>
<tr>
<td>Technology Use</td>
<td>6</td>
<td>.691</td>
<td>10.491*</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>.741</td>
<td>12.482*</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>.765</td>
<td>11.858*</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>.733</td>
<td>11.919*</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>.742</td>
<td>11.907*</td>
</tr>
<tr>
<td>Engineering Design</td>
<td>11</td>
<td>.766</td>
<td>12.370*</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>.753</td>
<td>12.208*</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>.776</td>
<td>12.820*</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>.764</td>
<td>13.115*</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>.771</td>
<td>13.195*</td>
</tr>
<tr>
<td>Mathematical Thinking</td>
<td>16</td>
<td>.796</td>
<td>11.232*</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>.767</td>
<td>11.485*</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>.882</td>
<td>13.201*</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>.881</td>
<td>13.722*</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>.836</td>
<td>14.863*</td>
</tr>
<tr>
<td>Synthesized Knowledge of STEM</td>
<td>21</td>
<td>.828</td>
<td>15.519*</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>.777</td>
<td>14.807*</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>.866</td>
<td>17.030*</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>.856</td>
<td>16.687*</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>.853</td>
<td>15.334*</td>
</tr>
<tr>
<td>Attitudes toward STEM Education</td>
<td>26</td>
<td>.642</td>
<td>8.862*</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>.557</td>
<td>7.245*</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>.471</td>
<td>6.048*</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>.596</td>
<td>9.369*</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>.543</td>
<td>6.775*</td>
</tr>
</tbody>
</table>

Table 5 demonstrates that the item-total score correlations of the items in the survey vary between .471 and .882. This finding indicates that the item-total score correlations of the items are positive and at acceptable values. It is because of the item-total item correlation having a value of .30, or higher indicates that the items are discriminatory and are items to measure the same behavior (Büyüköztürk, 2014). The t value of the difference between the item average scores of the lower 27% and upper 27% groups was calculated for each item in survey. Table 5 represents that the lower-upper group t value for each item is significant (*p < .05). The Turkish version of the survey is presented in Appendix 1.

Discussion, Conclusion and Recommendations

Today, when traditional teaching methods are insufficient for effective and meaningful learning, new teaching approaches are emerging. For teachers to apply these new teaching
approaches, their competencies and attitudes towards these methods should be positive. The education approach that can keep up with the recently developing and changing world standards has been accepted as STEM education. Previous research highlights the positive correlation between teachers’ self-efficacy in STEM knowledge and their STEM teaching. (Nadelson, 2013).

It was hypothesized in this study that adaptation of "the Perceived Self Efficacy toward STEM Knowledge survey" into Turkish will contribute to the literature in measuring teachers' self-efficacy perceptions and attitudes towards STEM education in Turkey. In the study of adapting the survey to Turkish, the survey's construct validity and reliability were calculated. Then, Confirmatory Factor Analysis (CFA) was performed through structural equation modeling. CFA results of the survey, whose original form consisted of 6 factors, also stated that the fit indices of the survey showed acceptable fit, and the Turkish form of the survey consisted of 6 factors and 30 items. In summary, it was concluded that the survey, which was adapted to Turkish, is valid and reliable so that researchers can use it.

The high level of teachers’ self-efficacy towards STEM knowledge is a factor that directly affects their performance in STEM education. A teacher's high STEM self-efficacy means that that teacher can apply STEM effectively in his/her lessons. Thus, it is thought that the scale adapted into Turkish will contribute to the determination of the level of STEM self-efficacy of teachers and to make more efficient studies on STEM education in line with studies’ results.

References


Byrne, B. M. (2010). *Structural equation modeling with AMOS: basic concepts, application and programming*. Taylor and Francis Group.


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Appendix 1

STEM BİLGİSİ ÖZYETERLİK ALGİSİ ÖLÇEĞİ

Bilimsel Araştırma

1) Bilimsel sorgulamanın nasıl yürütüldüğünü bilirim.
2) Bilimsel sorgulama etkinliklerinin nasıl tasarlandığını bilirim.
3) Bilimsel sorgulama etkinliklerinin derste nasıl yürütüldüğünü bilirim.
4) Bilimsel sorgulama hakkında yeterli bilgiye sahibim.
5) Öğrencilere bilimsel sorgulama yoluyla sorunları/problemleri çözmeleri için nasıl rehberlik edileceğini bilirim.

Teknoloji Kullanımı

6) Bir bilimsel etkinliğin problemlerini çözmek için teknolojiyi kullanabilirim.
7) Bilimsel sorgulama etkinliklerini yörettebilmek için teknolojiyi kullanabilirim.
8) Bir bilimsel etkinliğin problemlerini çözmek için teknolojiyle ilgili bilgilere nasıl ulaşıldığını bilirim.
9) Bilimsel sorgulama yürütürken karşılaştığım problemleri çözmek için teknolojiyi kullanabilirim.
10) Bilimsel etkinliklerin içeriğini teknolojik kaynaklarla nasıl bütünleştireceğini bilirim.

Mühendislik Tasarımı

11) Bilimle ilgili etkinlikler için teknoloji hakkında yöntemsel bilgiyi bilirim.
12) Bilimsel konularla ilgili teknolojinin nasıl tasarlandığını ve üretildiğini bilirim.
13) Bilimle ilgili problemleri çözmek için uygun materyallerin ve araçların etkili bir şekilde nasıl kullanılacağını bilirim.
14) Mühendislik tasarım döngüsünü kullanarak bilimsel sorgulama etkinliklerini planlamayı bilirim.
15) Mühendislik tasarımını bilimsel etkinliklerle bütünleştirebilirim.

Matematiksel Düşünme

16) Bilimsel etkinliklerdeki gözlemsel verilerin nicel veri biçiminde nasıl tanımlandığını bilirim.
17) Bilimsel etkinliklerdeki verileri matematiksel istatistiklerle analiz edebilirim.
18) Bilimsel sorgulamayı yürütürken matematiksel düşüncenin nasıl kullanıldığını bilirim.
19) Bilimsel sorgulama etkinliklerinde yer alan matematiksel düşünce kavramlarını bilirim.
20) Bilimsel problemleri çözmek için matematiksel bilgileri sistematik olarak uygulayabilirim.

Sentezlenmiş STEM Bilgisi

21) Bilimsel etkinliklerde çeşitli problemlerin çözümünde matematiksel düşünceyi, tasarım yapmayı ve teknoloji desteğini kullanabilirim.

22) Bilimsel etkinliklerde belirli bir model tasarlamak için internette nasıl arama yapılacağını, basit materyallerin nasıl kullanılacağını ve uygun yapının nasıl hesaplanacağını (maksimum uzunluk, ideal genişlik vb.) bilirim.

23) Bilimsel problemleri çözmek için teknolojiyi, mühendislik tasarımını ve matematiksel düşünceyi aynı anda nasıl kullanacağını bilirim.

24) Tek bir bilimsel problem çözümünde teknoloji, mühendislik ve matematiği bütünleştiren çeşitli yolları kullanabilirim.

25) Bilimsel sorgulama etkinliklerinde uygun mekanik yapıları tasararken bilimsel bilgi ve matematiksel düşünceyi kullanabilirim.

STEM Eğitimine Yönelik Tutumlar

26) Sınıfta fen öğretimine matematiksel düşünce, teknoloji kullanımı ve mühendislik tasarımını bütünleştirmeye istekliyim.

27) Matematiksel düşünce, teknoloji kullanımı ve mühendislik tasarımını fen öğretimi ile bütünleştirildiğinde öğrenciler daha iyi öğrenir.

28) Öğrencilerin gelişimi için matematiksel düşünce, teknoloji okuryazarlığı ve mühendislik tasarımını fen öğretimi ile bütünleştirilerek çok önemlidir.

29) Sınıfımda STEM eğitimi kullanıyoruz için mutluyum.

30) Bilimsel sorgulamada teknoloji okuryazarlığı, mühendislik tasarımını ve matematiksel düşünce öğretim ile bütünleştirilerek öğrencilerin gerçek yaşam problemlerini çözmelerine yardımcı olunabilir.
Effect of the Lesson Study Practice on Students’ Academic Achievements in Life Sciences Course

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İlker KÖSTERELİOĞLU²
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Abstract

The aim of this research is to examine the effect of the lesson study practice on the academic achievements of primary school students in the Life Sciences Course. The study was performed with quantitative research method by using a quasi-experimental design, namely, the pretest-posttest control group design. The research was conducted with the participation of six primary school teachers and 167 third-year students who were enrolled at six different sections in two different primary schools at the center of Ağrı province of Turkey. The participants were selected through purposive sampling method. As the data collection tool, the academic achievement test which was prepared by the researchers was utilized. The practice of the lesson study took seven weeks and was performed in the context of achievements referred to in the Life Sciences Course Instruction Program in relation to ‘Life at Our Home’ unit. At the primary school with relatively low socio-economic and academic achievement levels, there was an increase in the academic achievements of the experimental groups in association with the practice of lesson study whereas there was no statistically significant difference in the control group. At the primary school with relatively high academic achievement and socio-economic levels, there was a statistically significant increase in the academic achievements of both the experimental groups and control group. Upon the analysis of research findings, it was found that there was a significant improvement in students’ academic achievements in association with the practice of lesson study practice particularly at schools with low level of academic achievements.

Keywords: Lesson Study, Professional Development, Primary School Teacher, Life Sciences Course

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Introduction

The need for good quality education and instruction required that teachers as the primary building blocks of the education systems should continuously take part in in-service education activities. Lalitha (2005) defines the teacher education as activities organized for developing teachers’ knowledge base, skills and understanding for the purpose of enhancing their thinking and classroom behaviors. Guskey (2000) perceives it as a continuous and systematic process which is consciously designed and aspires to enhance the individual’s professional knowledge, skills and attitude with a view to improving students’ learning outcomes. During professional development activities performed at schools individually and in groups, teachers transform the school into a learning setting collectively in a cooperative environment through efforts to reach certain results, exchange information, find common solutions to problems, overcome communication challenges, solve school problems and so on (Kösterelioğlu & Akın Kösterelioğlu, 2008). Lieberman (2000) stated that the professional development was an integral part of the daily school life and there should be continuity in professional organizations. A good quality professional development process will enhance the quality of teacher’s practical activities and subsequently will have positive effect on the learning process of students (Borko, 2004).

In this conjunction, professional development models were put forward for raising the quality of education and instruction and accordingly for developing teacher qualifications. Departing from teachers’ competencies in content knowledge, professional knowledge and pedagogical content knowledge, it is discerned that professional development models recommended for teachers are concentrated on a highly broad area such as fundamental goals of education, structure of the instruction program, instruction materials and equipment, technology and technological materials, students’ perception, achievement and learning styles and the atmosphere of the instruction setting (Kop, 2003; Tekin, 2004; Gaible & Burns, 2005; Yadigaroğlu, 2014; Kaleci, 2018; Meral Kandemir, 2018; Yar Yıldırım, 2018). One of these professional development models is the ‘Lesson Study’ which emerged in Japan (Yoshida, 1999) and became popular across the world today.

Lesson study is the literal translation of the Japanese word jugyokenkyu to English. Jugyokenkyu is formed of the combination of the Japanese words jugyo (lesson or instruction) and kenkyu (studying or researching) (Lewis, 2000). In English resources, it is expressed as ‘Lesson Study’ or ‘Research Lesson’ (Murata & Takahashi, 2002; Fernandez, 2002; Lewis, Perry & Murata, 2006). As per the literature review, the concept of lesson study was used in Turkey in 2008 for the first time (Eraslan, 2008). When the lesson study is literally translated into Turkish, its literal translation does not exactly correspond to the lesson study. As the teachers exchange information by coming together as a group and prepare a course plan in cooperation with each other under this
practice, it brings the concept of ‘collective work’ (“imece” in Turkish) to mind. That is why, the concept of ‘Lesson Study’ is termed as ‘Collective Work for the Course’ (“Ders İmecesi” in Turkish).

Lesson study was implemented in Japan as of the 1960s onwards until today in both in-service training programs and undergraduate and graduate schools for the purpose of developing the content knowledge (Fernandez & Yoshida, 2004; Takahashi & Yoshida, 2004). In the USA, Fernandez and Yoshida performed the study lesson practices for the first time in consultation with Stigler in Los Angeles in 1994 (Fernandez & Yoshida, 2004). In this respect, the lesson study became even more popular across the world together with the book co-authored by Stigler and Hiebert, ‘The Teaching Gap: Best Ideas From the World’s Teachers for Improving Education in the Classroom’ (Stigler & Hiebert, 2009), and was studied by researchers in different countries for the last two decades and found areas of practice in different cultural contexts as a new professional development approach (Lewis, 2000; Takahashi & Yoshida, 2004; Lee, 2008; Isoda, 2010; Murata, 2011; Bütün, 2012; Ylonen & Norwich, 2013; Karadimitriou, Rekalidou & Moumoulidou, 2014; Cumhur, 2016; Shimizu, 2019; Sato, Tsuda, Ellison & Hodge, 2020).

The lesson study is a comprehensive and well-structured process which comes to the forefront for promoting the professional development of teachers in relation to the development of teaching practices (Fernandez, Cannon & Chocksi, 2003). It is an approach in which teachers plan the instruction process as a group for a common goal and make evaluations by carrying out this process together (Fernandez & Yoshida 2004). As for Lewis (2002), it is a long-lasting professional development activity which extends over a certain time period and in which teachers move towards a common goal. As well as supporting the professional development of teachers by allowing them to work in cooperation, it is an approach which is effective also in combining the theory with practice (Murata, 2011). As noted by Takahashi and Yoshida (2004), it is a cyclical professional development approach which is based on cooperation, respect for ideas and collective production and in which the instruction process is collectively planned and practiced and the process of the lesson is monitored and evaluated so that teachers or prospective teachers can ensure that the students obtain the most ideal and effective outputs. Yoshida (1999) asserts that the lesson study is a professional development approach which is exercised in groups, develops ideas about how a good instruction will be and focuses directly on developing instruction activities and on student learning in discussions. The lesson study is the name of the professional development process in which systematic and cooperative in-class practices are analyzed and revised (Murata & Takahashi, 2002). While professional development programs are in general organized as response to teacher needs, the lesson study can be defined as the entire set of processes which are planned solely on the basis of student learning and in which participant teachers are cognitively, socially, affectively and kinesthetically developed.
By working on a series of lessons collectively, teachers get involved in planning these lessons, and implementing, observing and evaluating them in the real classroom setting in the context of the lesson study (Lewis & Tsuchida, 1997; Fernandez & Yoshida, 2004). Yoshida and Jackson (2011) designated the stages of the lesson study process as the preparation of a detailed lesson plan, participants’ observation of the practice of the lesson and, following the observations, discussion on learning and instruction aspects of the lesson. Even if the modes of practice of the lesson study vary on the basis of the cultural differences, the fundamental stages and elements of the process do not change (Murata, 2011).

Lesson study activities begin with the meeting of teachers for planning the lesson and specifying goals which will ensure that students learn and are developed (Fernandez & Yoshida, 2004; Lewis et al., 2006). The lesson study groups are in general comprised of three to six teachers from the same branch of study (Cerbin & Kopp, 2006; Back & Joubert, 2011). In the planning stage, teachers read books and articles about the topic of the lesson which they prepare (Weeks, 2001), and exchange ideas about how they can most effectively plan the lesson upon examining their previous observations on students, teacher manuals, course books and other books relevant to the lesson (Fernandez & Yoshida, 2004). At this stage, points which the students have difficulty in learning, likely errors, students’ answers and reactions should be predicted in advance, student’s style of thinking should be taken into consideration, and solutions to these situations should be developed and instructional measures should be taken by teachers (Fernandez & Yoshida, 2004; Ono & Ferreira, 2010; Murata, 2011). Besides, teachers have exchanges also about instruction strategies which serve their goals in relation to the lesson which they prepare (Fernandez, 2002). In the instruction of the topic, it is essential that teachers know and identify what type of materials they will use and what type of methods are recommended for the instruction of the topic. A well-planned relationship between the topic and its content is essential to the effective execution of the lesson study practice (Takahashi & Yoshida, 2004). It is asserted that experts called ‘knowledgeable others’ partake in the lesson study activities, and these experts help teachers go beyond their borders in terms of content, instruction program and instruction knowledge and form a deep understanding, and they also support teachers in the planning stage (Lewis & Tsuchida, 1998; Yoshida, 1999; Takahashi & Yoshida, 2004). It is stated that, as these experts offer guidance when discussions come to a deadlock and sometimes raise new questions for discussion, the productivity of the lesson study process is enhanced (Takahashi, 2013; Takahashi & McDougal, 2016). The first stage of the lesson study is concluded when the lesson plan which is prepared in a detailed format and on which all participants agree is in place (Fernandez & Yoshida, 2004). This stage was characterized as the lesson planning stage in which lesson goals and data collection plan were in place, which contained predictions about student thoughts and in which instruction approach and instruction materials were specified (Lewis et al., 2006). Rather than making
a very good plan, the primary goal of this stage is to create a plan which will assure that students better understand the lesson (Murata, 2011).

After the lesson plan is prepared, implementation of the lesson plan in the classroom comes next. The course which is practiced in the classroom is called ‘research lesson’ (Lewis, 2002). When one of the teachers from the group teaches the lesson in the classroom, the remaining teachers observe the students and take notes (Fernandez & Yoshida, 2004; Lewis et al., 2006). Observer teachers take detailed notes about the lesson by using the lesson plan and other documents (observation form, worksheet and so on.) which were previously prepared (Fernandez, 2002; Lewis, 2002; Fernandez & Yoshida, 2004). At this stage, observing teachers evaluate the answers given by students, examine to what extent the goals of the lesson are reached, take note of the unexpected situations and student behaviors and gather facts about students’ learning, thinking and class participation (Fernandez & Yoshida, 2004; Hart, Alston & Murata, 2009). The focal point in observations in the implementation stage is not the teacher who teaches the lesson, rather, it is the instruction activities which are prepared collectively by group members and responses which are given by students to these activities (Takahashi & Yoshida, 2004; Saito, 2012). As per Cerbin and Kopp (2006), the focal point of the observation should be how students learned the lesson, not what students learned. During the lesson, the observers avoid having communication for any instruction or help with the teacher and students who are occupied with the lesson (Takahashi & Yoshida, 2004; Doig & Groves, 2011). Research lesson is recorded by the observers by means of observation notes, video records, photos, audio records, student works and so on (Weeks, 2001; Lewis, 2002). Instructors from out of the group (teachers, academicians, school administrators and so on.) can also be invited by group members to this lesson (Doig & Groves, 2011). Murata (2011) characterized this stage as the stage of observing the lesson and gathering data about the learning and development of students. In the context of the lesson study, observer teachers have the chance to observe situations which they are unable to observe when they teach the lesson themselves and which give ideas about how students think, how students react, what students talk with each other about and under what circumstances students are confronted with setbacks and so on (Lewis, 2000).

In the last stage of the lesson study, teachers in the group come together for evaluating the lesson which they observed. This stage is called as reflection and development by certain researchers (Lewis & Tsuchida, 1998; Weeks, 2001). Teachers share their observations, criticisms and recommendations in relation to the lesson (Fernandez & Yoshida, 2004; Doig & Groves, 2011). If possible, this meeting is held on the same day in the classroom where the research course is practiced. Thus, the participants are enabled to remember and express their observations regarding the lesson more easily. (Yoshida, 1999; Takahashi & Yoshida, 2004). First of all, the teacher who taught the lesson as per the plan makes evaluations. Points on which the plan succeeded and failed are discussed,
and what the problems are is identified. Subsequently, other teachers also express their views by relying on their observations (Lewis, 2000; Takahashi & Yoshida, 2004; Doig & Groves, 2011). Guest observers’ evaluations, if any, on the lesson are received following the group members (Doig & Groves, 2011). Not the teacher who teaches the lesson but the research lesson itself is at the center of discussions to be held. In other words, the goal of the discussion is not to present feedback or recommendation to the teacher who teaches the lesson but to exchange views and recommendations as to how to develop the research lesson (Takahashi & Yoshida, 2004; Doig & Groves, 2011; Saito, 2012). Teachers make changes in the plan by taking into consideration the problems encountered in the practice of the plan. In general, necessary changes are made by paying attention to student misunderstandings which are noted down during observations (Weeks, 2001). Murata (2011) described this stage as reflecting the thoughts on the lesson by means of utilizing the collected data. Also, this is the stage which provides knowledge and experience essential to the next cycle of the lesson study. After the discussion of the lesson, certain groups can put an end to their efforts if they wish to do so. Besides, occasionally, joint decisions which are made during the evaluation of the lesson are reflected on a new plan, and preparations are put in place for repeating the lesson in a different section of the class.

After the end of the evaluation stage, teachers have the renewed version of the lesson plan which is based on classroom observations and includes all changes in the original plan (Fernandez, 2002). Another teacher from the group practices the renewed plan in his/her classroom. Other group members attend again the lesson in order to observe this renewed practice of the lesson (Yoshida, 1999; Weeks, 2001 Fernandez, 2002; Fernandez & Yoshida, 2004). Having different teachers and students provides teachers with more comprehensive knowledge and experiences. By coming together once again, teachers make evaluations and exchange views on the lesson which is prepared and practiced according to the renewed lesson plan. In this meeting held in a format similar to the first one, group members and, if any, other observers submit their views and have a discussion on differences observed in the second practice of the lesson, reasons for these differences and effectiveness of the changes made in the lesson plan. In general, there is scarcely any group that prefers to prepare the same lesson again for a third time. In practice, this is also highly unlikely due to time pressure as the next lessons in the curricula should be taught. The process comes to an end with an updated lesson plan which reflects all changes which group members agree to make in the research lesson (Fernandez & Yoshida, 2004).

In a nutshell, the first stage of the lesson study which begins with setting the goals is completed with the production of a detailed lesson plan by virtue of teachers’ intensive efforts and the cooperation between them. At the second stage, the lesson plan is practiced in a classroom in which one of the teachers in the group is responsible for teaching. During the implementation stage, other
teachers make observations and take notes on student learning and on the effect of the practice. Lastly, after the implementation stage, teachers discuss and make evaluations on the plan. Shortcomings of the plan and certain aspects in need of revision are identified, and the lesson plan is reorganized.

Lesson study is an approach which aspires to raise the student achievement by improving instruction practices (Novakowski, 2006, cited by Meral Kandemir, 2018). Although it stems from the idea that teachers learn through the instruction process, its aim is to facilitate the student learning rather than teacher’s professional development (Isoda, 2010). The lesson study process assures that teachers focus particularly on students’ learning processes (Yarema, 2010). Moreover, the practice which supports student-based approaches allows students to be active throughout lessons (Baki, 2012). Students are at the core of all activities of the lesson study (Takakashi & Yoshida, 2004). Lesson study is a professional development activity which places the student at the center and incorporates the activity-based instruction (Fernandez, 2002).

Upon the review of the relevant literature, it is discerned that there are several studies which explore the effect of lesson study practice on teachers from different perspectives. The main goal of a professional development program should be to enhance the instruction quality and hence to contribute to student development. In this context, this study aimed to examine the effect of lesson study on students’ academic achievements in the framework of ‘Life at Our House’ unit of the Life Sciences Course. The lesson study approach practiced in this research is also important in terms of providing teachers their professional competencies in a learning organization that will support each other, apart from in-service training. By coming together of teachers to increase the educational quality in schools, and presenting the results of taking responsibility in decision processes with experimental data will contribute to the literature.

**Method**

**Research Design**

In order to evaluate the effect of lessons, which were prepared with the lesson study, on the student achievement, this study utilized the pretest-posttest control group design which was categorized under the quasi-experimental designs within the context of experimental studies which had quantitative approach. Quasi-experimental models are preferred in cases when controls necessitated by experimental models cannot be put in place or sufficiently practiced (Karasar, 2016). In this design, experiment and control groups are selected from previously-created groups. As the random assignment cannot be used in the selection of experiment and control groups, this process is called quasi-experimental design. Pretest-posttest designs are the preferred method to compare participant groups and measure the degree of change occurring as a result of treatments or
interventions (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2012). The design of this research was shown in Table 1.

Table 1. Research Design used in Research

<table>
<thead>
<tr>
<th>School</th>
<th>Group</th>
<th>Pretest</th>
<th>Process</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>Experiment A1</td>
<td>UAT</td>
<td>Lesson Study</td>
<td>UAT</td>
</tr>
<tr>
<td></td>
<td>Experiment A2</td>
<td>UAT</td>
<td>Lesson Study</td>
<td>UAT</td>
</tr>
<tr>
<td></td>
<td>Control A</td>
<td>UAT</td>
<td>Standard Instruction</td>
<td>UAT</td>
</tr>
<tr>
<td>School B</td>
<td>Experiment B1</td>
<td>UAT</td>
<td>Lesson Study</td>
<td>UAT</td>
</tr>
<tr>
<td></td>
<td>Experiment B2</td>
<td>UAT</td>
<td>Lesson Study</td>
<td>UAT</td>
</tr>
<tr>
<td></td>
<td>Control B</td>
<td>UAT</td>
<td>Standard Instruction</td>
<td>UAT</td>
</tr>
</tbody>
</table>

UAT: Unit Achievement Test

Participants

Participants of this study was composed of six primary school teachers (n=6) and 167 third-year students (n=167) who were enrolled at six different sections in two different primary schools at the center of Ağrı province of Turkey in the school year of 2019-2020. Purposive research method was conducted in this research (Büyüköztürk et al., 2012). While selecting the study group, firstly, necessary permissions were obtained from the National Education Directorate of Ağrı Province, and then, 21 schools with characteristics deemed eligible for being covered by the research (to have minimum three third-year sections) were selected by the researcher from among schools in the list received from the National Education Directorate of Ağrı Province. Later, meetings were held with the principals of 21 schools that were on the list. At the end of these meetings, eight school principals refused to host the study whilst thirteen school principals agreed that the researchers could meet third-year teachers to introduce the study. During the meeting with the classroom teachers, the stages of the lesson practice, how long these stages will take, the time interval of this study, the scope of the subject, and how to hold other meetings with the teachers in the coming days, were mentioned. In short, after the introduction of the research procedure, teachers were informed that the participation in the research was on a voluntary basis. At the end of the meetings, three schools from which three teachers would voluntarily participate in the research were identified. From among these schools, two schools were selected for conducting the research by paying attention to certain aspects such as the socio-economic level, perception of success level across the province and geographical location within the province. School A, located in the suburb of city, was choosen as a school with a low socio-economic and success level; School B was choosen as a school with a high socio-economic and success level. The principle schematic diagram of study group is as shown in Figure 1.
Figure 1. Study Group

Socio-economic levels of School A and School B are as shown in Table 2.

Table 2. Socio-economic characteristics of students of School A and School B

<table>
<thead>
<tr>
<th>Income Level of the Family</th>
<th>School A %</th>
<th>School B %</th>
<th>Mother’s Education Level</th>
<th>School A %</th>
<th>School B %</th>
<th>Father’s Education Level</th>
<th>School A %</th>
<th>School B %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>5</td>
<td>0.0</td>
<td>No education</td>
<td>30.4</td>
<td>4.4</td>
<td>10.7</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>30</td>
<td>6.2</td>
<td>Primary Sch.</td>
<td>65.0</td>
<td>46.9</td>
<td>72.8</td>
<td>22.0</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>50</td>
<td>37.4</td>
<td>High School</td>
<td>4.6</td>
<td>28.5</td>
<td>15.0</td>
<td>37.4</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>12.5</td>
<td>51.6</td>
<td>Undergraduate</td>
<td>0.0</td>
<td>18.8</td>
<td>1.5</td>
<td>36.6</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td>2.5</td>
<td>4.8</td>
<td>Master Progr.</td>
<td>0.0</td>
<td>1.4</td>
<td>0.0</td>
<td>3.8</td>
<td></td>
</tr>
</tbody>
</table>

Data Collection Tools

The achievement test which was prepared by researchers in relation to ‘Life at Our Home’ unit of the Life Sciences Course was utilized as pretest and posttest practiced for the purpose of identifying students’ academic achievements. The Life Studies Instruction Program was examined for the content validity of the prepared achievement test, and 28 multiple-choice questions were prepared to measure the relevant achievements. These questions were practiced in written format to twelve randomly-selected third-year primary school students in Hamur district of Ağrı province, and students were invited to ask their teachers about the questions which they failed to understand, and in the end, the feedback that each question was understood by students in accordance with the purpose of tentative question proposals was received from students. Steps were taken to receive the opinions of experts (measurement-evaluation and program development) on 28 questions, and four questions were excluded from the achievement test and necessary changes were made in certain questions as per the expert opinions. Table 3 indicates the targeted achievements addressed by the achievement test made up of 24 questions was prepared for the reliability study.
Table 3. Achievements of ‘Life at Our Home’ Unit as Per the Achievement Test

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Question No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student compares the characteristic features of family elders’ childhood period to those of his/her childhood period.</td>
<td>1, 18, 19</td>
</tr>
<tr>
<td>The student gives examples which indicate the importance of neighborhood relationships to his/her family and himself/herself.</td>
<td>2, 10, 21</td>
</tr>
<tr>
<td>The student draws the sketch of the place where his/her home is located.</td>
<td>6, 16, 20</td>
</tr>
<tr>
<td>The student fulfills duties and responsibilities assigned to him/her at home.</td>
<td>3, 4, 8</td>
</tr>
<tr>
<td>The student gives examples showing that tools and technological products used at home improve our lives.</td>
<td>14, 23, 24</td>
</tr>
<tr>
<td>The student makes unique recommendations on the effective and efficient use of resources at home.</td>
<td>11, 15, 22</td>
</tr>
<tr>
<td>The student gives examples demonstrating that having a good plan improves his/her personal life.</td>
<td>7, 9, 17</td>
</tr>
<tr>
<td>While meeting his/her own demands and needs, the student makes efforts to avoid exerting pressure on his/her and family’s budget.</td>
<td>5, 12, 13</td>
</tr>
</tbody>
</table>

The achievement test which was prepared after certain changes were made was practiced to 457 students who were third-year students at primary schools in the school year of 2018-2019. On the basis of answers given by students to test questions, item analysis was performed. Following the analysis, the KR-20 reliability coefficient was calculated as 0.84 for the achievement test. Item difficulty index (Pj) and item discrimination index (rjx) values were calculated for each item of the test. The distinctiveness of the items as a result of item analysis are classified as very good if the distinctness index is 0.40 or greater, and quite good if between 0.30-0.39. If the index is between 0.20-0.29, item can be used with expert opinion. If the index is negative or less than 0.20, then item is evaluated as very weak and it isn’t included in the research (Turgut, 1992; Tekin, 2000 cited by Akbulut & Çepni, 2013). The distribution of difficulty index between 0.20 and 0.80 is taken into account as a criterion for the items that make up the test (Kline, 1986 cited by Elbay, 2020). Upon the review of item discrimination and item difficulty values for the achievement test of ‘Life at Our Home’ unit, two questions were excluded from the achievement test as item distinctness values of these questions were less than 0.20. By paying attention to the content validity, six questions which corresponded to six other targeted achievements but had low item difficulty index values, in other words, six questions which were too easy for the participant students, were also excluded from the achievement test, and hence, an achievement test which contained a total of 16 questions and assigned two questions to each targeted achievement was prepared. As per the item analysis, item discrimination and item difficulty index values were demonstrated in Table 4 for each item of the achievement test which included 16 items.
Table 4. Item Discrimination Index (rjx) and Item Difficulty Index (Pj) Values for the Achievement Test of ‘Life at Our Home’ Unit

<table>
<thead>
<tr>
<th>Question No</th>
<th>Item Discrimination Index Value (rjx)</th>
<th>Item Difficulty Index Value (Pj)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.283</td>
<td>.77</td>
</tr>
<tr>
<td>2</td>
<td>.509</td>
<td>.78</td>
</tr>
<tr>
<td>3</td>
<td>.476</td>
<td>.75</td>
</tr>
<tr>
<td>4</td>
<td>.317</td>
<td>.49</td>
</tr>
<tr>
<td>5</td>
<td>.569</td>
<td>.76</td>
</tr>
<tr>
<td>6</td>
<td>.422</td>
<td>.63</td>
</tr>
<tr>
<td>7</td>
<td>.462</td>
<td>.77</td>
</tr>
<tr>
<td>8</td>
<td>.496</td>
<td>.77</td>
</tr>
<tr>
<td>9</td>
<td>.326</td>
<td>.51</td>
</tr>
<tr>
<td>10</td>
<td>.393</td>
<td>.78</td>
</tr>
<tr>
<td>11</td>
<td>.512</td>
<td>.79</td>
</tr>
<tr>
<td>12</td>
<td>.321</td>
<td>.56</td>
</tr>
<tr>
<td>13</td>
<td>.344</td>
<td>.54</td>
</tr>
<tr>
<td>14</td>
<td>.498</td>
<td>.65</td>
</tr>
<tr>
<td>15</td>
<td>.333</td>
<td>.58</td>
</tr>
<tr>
<td>16</td>
<td>.454</td>
<td>.66</td>
</tr>
</tbody>
</table>

According to the results of item analysis, it is discerned that, in the final version of the achievement test composed of 16 questions, the third item was the most difficult (Pj=.49) whereas the eleventh item was the least difficult (Pj=.79), and the fourth item was the best in discriminating between examinees (rjx=.57). Finally, KR-20 reliability coefficient was calculated as 0.81 for the achievement test. In addition, the average difficulty of the achievement test was determined as Pj=.67 and the distinctness index of the test was rjx=.42.

Experimental Procedure

After selecting the schools where the research would be conducted, a seminar was organized for introducing the lesson study to participant teachers. Then, the achievement test was practiced to the experimental groups and control groups as pretest. On dates on which teachers agreed in cooperation, each stage of the lesson study was set in motion. The planning stage was scheduled to be held on Thursday for School A and on Monday for School B. The instruction of the lesson, namely, the implementation stage of the lesson study, was scheduled to be held on Tuesday for Experiment A1 and Experiment B1 and on Wednesday for Experiment A2 and Experiment B2. Observer primary school teachers were free as their sections had foreign language course and hence the routine instruction and education activities were performed without any disturbance or interruption at schools. In the immediate aftermath of the implementation stage, the discussion stage was put in place and the lesson plan was reorganized in light of teacher observations. After the lesson study practice was implemented for seven consecutive weeks, the achievement test was practiced to the experimental and control groups once again as posttest.
Data Analysis

In the analysis of data, SPSS 22.0 software was employed. Kurtosis and skewness values, Kolmogorov-Smirnov and Shapiro-Wilk normality tests and histograms were utilized in the normality analysis of collected data (Büyüköztürk, 2019). As per the results of normality tests, One-way analysis of variance (ANOVA) and Paired samples t-test which were parametric tests were practiced to data groups with normal distribution (p>.05) whereas Kruskal Wallis H Test and Wilcoxon Signed Rank Test were used for data groups with non-normal distribution (p<.05) (Büyüköztürk, 2019).

Results

Scores obtained by the experimental groups and control group from achievement tests practiced as pretest and posttest at School A were analyzed through One-way ANOVA, and results of analysis were exhibited in Table 5.

Table 5. One-way ANOVA Results

<table>
<thead>
<tr>
<th>Test</th>
<th>Group</th>
<th>N</th>
<th>(\bar{x})</th>
<th>Sd</th>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean of Squares</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Exp. A1</td>
<td>23</td>
<td>7.87</td>
<td>3.00</td>
<td>Between Groups</td>
<td>9.0</td>
<td>2</td>
<td>4.5</td>
<td>.406</td>
<td>.668</td>
</tr>
<tr>
<td></td>
<td>Exp. A2</td>
<td>24</td>
<td>8.67</td>
<td>3.61</td>
<td>Within Groups</td>
<td>746.9</td>
<td>67</td>
<td>11.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control A</td>
<td>23</td>
<td>7.96</td>
<td>3.36</td>
<td>Total</td>
<td>755.9</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>Exp. A1</td>
<td>23</td>
<td>10.70</td>
<td>2.99</td>
<td>Between Groups</td>
<td>203.4</td>
<td>2</td>
<td>101.7</td>
<td>8.469</td>
<td>.001*</td>
</tr>
<tr>
<td></td>
<td>Exp. A2</td>
<td>24</td>
<td>12.21</td>
<td>3.72</td>
<td>Within Groups</td>
<td>804.7</td>
<td>67</td>
<td>12.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control A</td>
<td>23</td>
<td>8.09</td>
<td>3.63</td>
<td>Total</td>
<td>1008.1</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p<0.05

There was no statistically significant difference between groups of School A in terms of the pretest scores (p>.05). It was determined that the level of students’ knowledge in relation to ‘Life at Our Home’ unit was close to each other before the practice of the lesson study. On the other hand, upon the examination of posttest scores, it is ascertained that there was a statistically significant difference between scores obtained from the achievement test (p<.05). In order to find between group differences, post-hoc Tukey test was used. As a result of Tukey test, it was found that there were statistically significant differences between ExperimentA1 and ControlA groups in favor of ExperimentA1 group (p<.05) and between ExperimentA2 and ControlA groups in favor of ExperimentA2 (p<.05). It was observed that there was a statistically significant increase in the academic achievement test scores in the classes where the lesson study was applied compared to the control group. Upon the calculation of effect size for pretest and posttest (Kilmen, 2015), it was determined that, at School A, the effect size of the pretest (\(\eta^2_{\text{pretest}}=.011\)) was small whilst the effect size of the posttest (\(\eta^2_{\text{posttest}}=.201\)) was large. The lesson study practice explains 20% of the variance in the level of student achievements in the experimental groups. In this respect, effect of the lesson study practice on student achievements is statistically large.
Scores obtained by experimental groups and the control group at School B from the achievement test practiced as pretest and posttest were analyzed through Kruskall Wallis H Test, and results of analysis were displayed in Table 6.

**Table 6. Kruskall Wallis H Test Results**

<table>
<thead>
<tr>
<th>Test</th>
<th>Group</th>
<th>N</th>
<th>(\bar{x})</th>
<th>Sd</th>
<th>Mean Rank</th>
<th>(X^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Exp. B1</td>
<td>32</td>
<td>11.84</td>
<td>1.14</td>
<td>39.75</td>
<td>5.350</td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>Exp. B2</td>
<td>33</td>
<td>11.91</td>
<td>3.19</td>
<td>53.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control B</td>
<td>32</td>
<td>11.84</td>
<td>3.96</td>
<td>53.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>97</td>
<td>11.87</td>
<td>2.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>Exp. B1</td>
<td>32</td>
<td>14.16</td>
<td>2.00</td>
<td>47.08</td>
<td>.376</td>
<td>.829</td>
</tr>
<tr>
<td></td>
<td>Exp. B2</td>
<td>33</td>
<td>14.24</td>
<td>2.09</td>
<td>48.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control B</td>
<td>32</td>
<td>14.03</td>
<td>2.90</td>
<td>51.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>97</td>
<td>14.14</td>
<td>2.34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was no statistically significant difference between pretest and posttest scores obtained from the academic achievement test at School B (p>.05). It was determined that the level of students’ knowledge at School B in relation to ‘Life at Our Home’ unit was close to each other both before and after the practice.

To identify whether there was any statistically significant difference in pretest and posttest scores obtained by experimental groups and control groups from the achievement test, Paired Samples T Test was practiced to Experiment A1, Experiment A2, Control A, Experiment B1 and Control B groups, and results were shown in Table 7.

**Table 7. Results of Paired Samples T Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>N</th>
<th>(\bar{x})</th>
<th>Sd</th>
<th>Df</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp. A1</td>
<td>Pretest</td>
<td>23</td>
<td>7.87</td>
<td>3.00</td>
<td>22</td>
<td>6.316</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>23</td>
<td>10.70</td>
<td>2.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exp. A2</td>
<td>Pretest</td>
<td>24</td>
<td>8.67</td>
<td>3.61</td>
<td>23</td>
<td>4.623</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>24</td>
<td>12.21</td>
<td>3.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control A</td>
<td>Pretest</td>
<td>23</td>
<td>7.96</td>
<td>3.36</td>
<td>22</td>
<td>.230</td>
<td>.820</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>23</td>
<td>8.09</td>
<td>3.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exp. B1</td>
<td>Pretest</td>
<td>32</td>
<td>11.84</td>
<td>1.14</td>
<td>31</td>
<td>7.400</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>32</td>
<td>14.16</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control B</td>
<td>Pretest</td>
<td>32</td>
<td>11.84</td>
<td>3.96</td>
<td>31</td>
<td>5.180</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>32</td>
<td>14.03</td>
<td>2.90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p<0.05

It was found that the positive difference between posttest and pretest scores obtained from the achievement test by Experiment A1, Experiment A2, Experiment B1 and Control B was statistically significant (p<.05) whereas the positive difference between posttest and pretest scores obtained from the achievement test by Control A was not statistically significant (p>.05).

To identify whether there was any statistically significant difference in pretest and posttest scores obtained by Experiment B2 from the achievement test, the Wilcoxon Signed Rank Test was utilized, and results were indicated in Table 8.
Table 8. Results of Wilcoxon Signed Rank Test

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp. B2</td>
<td></td>
<td></td>
<td></td>
<td>-5.023</td>
<td>.000*</td>
</tr>
<tr>
<td>Negative Rank</td>
<td>0</td>
<td>.00</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Rank</td>
<td>32</td>
<td>16.50</td>
<td>528.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p<0.05

It was found that posttest scores of Experiment B2 were higher than its pretest scores, and the difference between pretest and posttest scores was statistically significant [Z=-5.023, p<.05].

**Discussion, Conclusion and Recommendations**

This study explored the effect of lesson, which was prepared with lesson study in the context of ‘Life at Our Home’ unit of the third-year primary school Life Sciences Course, on students’ academic achievements. In association with the instruction of ‘Life at Our Home’ unit with the lesson study, there was a statistically significant increase in student achievement at the school with low academic achievement level as compared to the student achievement before the practice of the lesson study and vis-à-vis other lessons taught by teachers individually without the lesson study according to study results. This is an expected result as the lesson study aims to develop a better perspective about how the students learn best (Lewis et al., 2006). As it is to be inferred from this point, participant teachers incorporated the necessary measures into the lesson plan by observing how students learned better. Thus, the students who learned better did better in the achievement test at the end of the process. In the study by Meyer (2005), it was ascertained that the lesson study practices had a positive effect on students with low achievement levels. In the research conducted by Hoong, Fwe, Yvonne, Subramaniam, Zaini, Chiew and Karen (2010), it was found that teachers collectively developed the lesson plan on a topic on which students had low achievement levels and, in association with the practice of instruction with lesson study, there was a significant increase in students’ achievements in the lesson and in their interest in the topic of the lesson. In the research by Wright (2009), it was asserted that the lesson study had a positive effect on student achievements. Also in certain studies, it was put forward that the lesson study helped the students (Eraslan, 2008; Elipane, 2011) and students’ knowledge and abilities were enhanced and their beliefs were shaped in the positive direction in conjunction with the lesson study (Cheng & Yee, 2012; Lewis, Perry, Friedkin & Roth, 2012). Murata (2011) argued that the professional development of teachers was promoted by the lesson study and this was directly proportionate to the student achievement (Murata, 2011). In certain studies, the participant teachers reported that the lesson study enhanced the student achievements (Kaya, 2018; Kükey, 2018).

At the school with relatively high socio-economic and academic achievement level, it was found that there was a statistically significant increase in students’ achievement levels alongside both the instruction with the lesson study and the instruction provided by teachers individually without the
lesson study. It is an expected outcome that, irrespective of the practiced learning strategies, the presentation of new knowledge and skills to students will expand their existing knowledge base to upper levels. In the master thesis by Serbest (2014) which focused on the lesson study practices and used the meta-analysis method, it was ascertained that lesson study practices had positive effect on student learning and enhanced student achievements. In a study, it was discerned that expected results in terms of knowledge and skill levels were reached in relation to the lesson topic by virtue of lesson study practices (Baki, Erkan & Demir, 2012). There are also studies asserting that the lesson study had positive effect on student learning (Tepylo, 2008; Kneal & Beypinar, 2015). Moreover, the lesson study practice enables students to learn in a meaningful sense (Pektaş, 2014). By virtue of a practice in which the focus is placed on student learning and comprehension (Yoshida, 1999), it is an expected result that students’ academic achievements are enhanced.

It is stated that the lesson study practices promote the communication both between the student and teacher and between students (Baki, Erkan & Demir, 2012; Budak, 2012). There are studies indicating that the increased communication between students was positively associated with the academic achievement (Theodora, 2001; Dollard, & Mahoney, 2010). Moreover, it is alleged that the lesson study activated the students mentally (Baki, 2012) and encouraged them to participate in the lesson more effectively (Meyer, 2005; Baki, Erkan & Demir, 2012; Özdemir-Baki, 2017). It can be suggested that encouraging the students to participate in the lesson had positive effect on student achievements since it acted as the basis of learning by doing. Besides, it was asserted that, along with lesson study practices, teachers made more use of student-oriented instruction strategies in lessons (Ceppi-Bussmann, 2006; Yoshida & Jackson, 2011; Budak, 2012; Bütün, 2012; Richit & Ponte, 2017). It was put forward that teachers would be able to raise students’ achievement levels by developing instruction strategies (Lewis, Perry, Friedkin & Roth, 2012; Bozkış, Kablan, Pak, Özdişçi, Özdemir, Aydin & Boğazliyan, 2017). It was found that the lesson study contributed positively to the process that teachers got to know their students better (Chassels & Melville, 2009; Lewis, Perry & Hurd, 2009; Ni Shuilleabhain, 2015; Gözel, 2016; Özdemir-Baki, 2017). Sisofo (2010) emphasized that the use of student thoughts on which the lesson study process focused would make the instruction more effective and productive. It was stated that the lesson study was successful in attracting the student attention to the lesson, enabled the development of positive attitudes and raised student motivation (Eraslan, 2008; Corcoran & Pepperell, 2011; Budak, 2012).

Yoon, Duncan, Lee, Scarloss and Shapley (2007) examined studies addressing the effect of professional development of teachers on student achievements. It was asserted that promoting the professional development of teachers had a modest effect on student achievements. It is perceived that the results obtained through this current study are in parallel to the relevant literature. Serbest (2014) states that the lesson study cycle can be repeated twice or three times so that results effective in
promoting student achievements can be obtained through the lesson study practices. The research by Darling-Hammond, Wei, Andree, Richardson and Orphanos (2009) highlighted that professional development programs should last long rather than having a short time frame so that they could have positive repercussions on student achievements. The lesson study is a professional development approach generally with a long-term perspective which can be planned from the start of the education and instruction process until the end. This practice which developed the teacher cumulatively in a long time frame and with a cooperative spirit also paved the way for significant increase in student achievements.

In conclusion, it was found that there was increase in students’ academic achievements in third-year sections where the lesson study practice was practiced in relation to the achievements of ‘Life at Our Home’ unit of the Life Sciences Course. It was discerned that the lesson study practice gave rise to a statistically significant difference in student achievements especially at the school with low social and academic levels. Departing from this point, it is projected that the lesson study will help to reduce differences in achievement levels of students in the country.

Upon the review of research findings, it was discerned that the use of lesson study by teachers especially at schools with low academic achievement levels affected students’ academic achievements significantly. Thus, by virtue of establishing lesson study groups at all schools, especially at schools with low academic achievement levels, if teachers make plans in cooperation in all courses well-suited to the lesson study, observe the lessons, indicate how the lesson can be taught better in the context of recommendations based on reflective thinking arising from observation results and the lesson study process is spread across the entire school year, students will be more developed academically. Moreover, the effect of lesson study groups, which will be formed by the teacher responsible for each branch of study, on students’ academic achievements can be analyzed by researchers. Furthermore, as well as the cognitive development of students, how the lesson study influences affective and social development of students can be addressed through new studies.

References


Takahashi, A. (2013). The role of the knowledgeable other in lesson study: Examining the final comments of experienced lesson study practitioners. Mathematics Teacher Education and Development, 16 (1) 4-21.


Teacher Candidates’ Value Perceptions and Their Opinions on the Acquisition of Values in Education Faculties*

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Abstract

This research aims to determine teacher candidates’ value perceptions and their opinions on the acquisition of values to teacher candidates, in education faculties. In the research, a survey model was used to describe an existing situation. In this context, a questionnaire was applied to 2274 teacher candidates. Research results show that the value perceptions of male teacher candidates are lower than female teacher candidates. The value perceptions of teacher candidates who chose the teaching profession because they had to, were lower than those who preferred it because they loved it. Perceptions of teacher candidates about the acquisition of values are low in the sub-dimensions of understanding and empathy, and medium in the other sub-dimensions. Teacher candidates’ perceptions of the values that teachers should have are quite high in all sub-dimensions. Despite this, the scores regarding the acquisition of the same values in education faculties are statistically significantly lower and middle levels. These results indicate that the values cannot be gained enough in education faculties. Various suggestions were made in line with the research findings and results, and recommendations were made for future research.

Keywords: Teacher Training, Teacher Candidates, Value Perception, Acquisition of Values, Teaching Profession.

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Introduction

The concept of moral education was at the forefront before the concepts of values education and character education that used today had yet to be formed in ancient times. It was considered very important that moral values be acquired to individuals through indoctrination (Althof & Berkowitz, 2006, p. 496). The concept of value was first used in the Social Sciences in the early twentieth century. It is derived from the Latin word “valare”, used in the sense of being valuable or strong (Bilgin, 1995, p. 83). Schwartz (1999) who is one of the researchers who have important works on values, describes the concept of value as “an actor that helps to choose behaviors or actions, to evaluate the events and individuals, to explain behaviors or actions” and identifies it as “guiding principles in people's lives at a different level in the degree of materiality that serves as desirable goals”. Williams (1979, p. 27), defined values as “standards by which members of a culture determine and share what is good or bad, what is desired or undesirable, what is beautiful or ugly”. In summary, the value is our belief and acceptance of what, which, and how behaviors are “good,” “beautiful,” “right,” and “sacred.”

Values are used as criteria in determining accepted behaviors within society. Thus, individuals can understand how to express their thoughts and how best to show their behavior (Fichter, 1990). Therefore, the phenomena of social unity, order, peace, and success are only possible with the adoption of common values. In this respect, values are very important for both individuals and societies. Value education is also called moral education or character education in different disciplines. Some studies emphasize the importance of teacher role in value teaching, while some studies emphasize the education of teacher candidates in value teaching. Guy, Spalding, and Westcott (1961) stated that since values are part of the education system, teacher candidates must be endowed with this subject.

Today, developments in the field of science, technology, industry, and economics have significantly affected the educational process and have been instrumental in the emergence of some social problems. One of these social problems is the loss of value. For teachers who have a very strategic role in the education process, values and acquiring values are one of the important issues that are focused (Unal, 2011). When people were asked, “what's the role of a teacher?” question, they can answer that the role of the teacher is to convey information to prepare children for the future or to improve their mental abilities. However, in addition to passing on information, all teachers are teachers of values education (Straughan, 1988). To raise good citizens, schools need to offer basic and universal values such as honesty, respect for differences, responsibility, fairness, democracy. Teachers have an important role in modeling these values (Yildirim, 2009). Professional values, which are the basis of a profession, are formed by the reflection of personal values and derive their origin from professional ethical values (Horton et al. 2007; Keskin & Yildirim, 2006; Lin & Wang, 2010).
Professional values are acquired to individuals through education specific to the profession (Sabanciogullari & Dogan, 2012).

Several studies have shown that teachers are an indispensable part of values education (Brady, 2011; Veugelers, 2000). Furthermore, Halstead and Xiao (2010) found that students learned values formally and informally from school. Students specifically take the teachers as a model. The teacher is the person emulated by the students in many ways, such as his / her way of reasoning, perception, and interpretation of events, personality, manner, and dress. Hansen (1995) found that teachers informally give moral concepts to their lessons and convey values about how to treat other people and how students should behave. Veugelers, (2000) emphasized the importance of the teacher's role in value teaching. Berkowitz and Bier (2005) found that, intentionally or unintentionally, teachers convey values through role modeling. Guy, Spalding, and Westcott (1961) emphasize that since values are part of the education system, teacher candidates must have sufficient skills in values education. Another study (Milson & Mehlig, 2002) reveals that teachers who have received moral development training during their undergraduate education have high self-sufficiency in teaching character education. Also, Mei-ju, Chen-Hsin, and Pin-Chen, (2014) found that character education can increase the bond between parents and children and significantly affect children's character development.

The impact of globalization on societies is increasing rapidly. This effect also affects the values of societies positively or negatively. It is observed that societies change rapidly in spiritual, moral, humanitarian, etc. values. Children observe and model the behavior of adults, but when children start socializing and go to school, they can learn both positive and negative behavior from their environment. At this point, the teacher shapes children's behavior and is a core element of the system in character education (Anderson, 2002). It cannot be expected to succeed in acquiring values for children only by modeling teacher behaviors. Teachers are required to have the values mentioned to carry out value transfer within the scope of a program. Halstead and Xiao (2010) found that students learn values formally and informally from school. Therefore, the values that teachers have and the correct (within a curriculum) transfer of these values to students is very important. A study was carried out in the literature on the perceptions of values of teacher candidates and the degree to which these values are acquired in the faculties of education. Determining the values of teacher candidates for the teaching profession and acquiring these values in education faculties is considered very important. It is thought that this research will make an important contribution to the literature on the subject.
Problem Statement

What are the perceptions of the teacher candidates about the teaching profession and their views about the acquisition of these values in the education faculties?

Sub-Problems

1. Is there a significant difference in teacher candidates’ perceptions of value for the teaching profession according to the gender variable?

2. Is there a significant difference in teacher candidates’ perceptions of value for the teaching profession according to the reason for the preference variable?

3. Is there a significant difference between teacher candidates’ perceptions of value for the teaching profession and their views on the acquisition of values in education faculties?

Method

Research Model

In the research, a survey model was used to describe an existing situation. Survey models are research approaches that aim to describe a past or present situation as it exists. The event, individual, or object that is the subject of research, is attempted to be defined in its circumstances and as it is. No attempt is made to change them in any way, to influence them. There is something to be known and it is there. The important thing is to be able to observe and identify it appropriately (Karasar, 2016, p. 109).

Research Sample / Study Group

The population of the research consists of the primary education departments of the faculties of education in Turkey. Considering that it is important to acquire values for primary education students who are still in development age, primary education departments were preferred in sample selection. The sample of the study consists of the third and fourth grade, elementary mathematics, science, classroom, and social studies teaching students who are studying in the education faculties of universities selected from different geographical regions. In the selection of samples, one university was selected from seven geographical regions of Turkey by the cluster sampling method. Universities selected from the regions were determined by random sampling. It is aimed that the selected universities will be inclusive of the teacher candidates who live in different geographical regions and have different perspectives. The increase in experience of the faculty and departments that the students are studying as they approach their senior year has been instrumental in the selection of third and fourth-grade students. The demographic characteristics of the participants were presented in Table 1.
Table 1 provides demographic characteristics of the participants; university, geographic region, student ratio from the region where the university is located, gender, and several students. When the distribution of teacher candidates according to universities is examined, the highest attendance is at Dicle University and the lowest attendance is at Yıldız Technical University. The participation rate of female teacher candidates was 74% and the participation rate of male teacher candidates was 26%. The total number of students participating in the study is 2274. Participation in surveys is voluntary. Data were collected during the spring period of 2017.

Research Instruments and Procedures

Scales that were developed by Demir, (2018) were used as a data collection tool in the research. The first part of the first scale is “demographic features” and the second part is the “Value Perception Scale for the Teaching Profession” and the third part is “The Scale of Acquiring Values for the Teaching Profession in the Faculty of Education”. The value perception scale for the teaching profession” consists of 40 items and eight factors. These factors are; ” Being moral and honest, Efficient use of resources, Empathizing, Respect for the republic, Liking the profession and being open to learning, Understanding, Patience, Respect for national values (history, religion, language, independence). Scale items are in the type of 5 points Likert scale, in the form of Disagree, Agree with a little, Agree at a moderate level, Agree to a large extent, completely agree. The internal consistency coefficient (Cronbach's Alpha coefficient) for the entire scale have been found as .89. The internal consistency coefficient of the sub-factors was found to be .71 and over. The total variance was described as 58.67%. The Scale of Acquiring Values for the Teaching Profession in the Faculty of Education” is a 40-item, 5 points Likert type scale with parallel questions to the other scale. Using the "Value Perception Scale for the Teaching Profession" scale developed by the researcher, it was aimed to determine the value perception levels of teacher candidates specific to the teaching profession. During the development of this scale, values specific to the teaching profession were
determined by literature review and examining the compositions of teacher-teacher candidates. The resulting 75 values specific to the teaching profession were ranked in order of importance by 217 teachers and pre-service teachers who were applied professional value ranking questionnaire. Scale questions were prepared over 10 values with the highest average (Being moral, being honest, efficient use of resources, empathizing, respect to the republic, liking the profession, and being open to learning, understanding, being patient, respect for national values). With the scale of "The Scale of Acquiring Values for the Teaching Profession in the Faculty of Education" developed by the researcher, it was aimed to determine at what level the values specific to 10 teaching professions with the highest average are gained in education faculties.

**Data Analysis**

The data obtained from 2274 teachers were analyzed with SPSS 21.0 software. Personal information about the participants in the study was resolved with frequency and percentage. In the comparative analysis of data with the feature of continuous variables, parametric test assumptions were tested first. For this purpose, the normal state of the distributions was examined. It is deemed appropriate to evaluate the examinations for the assumption of normality not with a single method, but together with methods such as Kolmogorov-Smirnov and Shapiro-Wilk, arithmetic means, mode, median, skewness and kurtosis coefficients, histogram with the normal distribution curve, stem-and-leaf graph (Demir, Saatçioğlu & İmrol, 2016). In this context, arithmetic means, mode, and media being equal or close, skewness and kurtosis coefficients close to 0 within ± 1 limits are shown as evidence for the existence of normal distribution (Kirk, 2008; McKillup, 2012; Tabachnick & Fidell, 2013). This situation showed that it is appropriate to use parametric test statistics that accept normality assumption in data analysis. In the data analysis (t) test, variance analysis, LSD, and Games Howell tests were performed. Eta-squared (η²) coefficient shows how effective the independent variable has on the dependent variable. This value takes a value between 0 and 1. In addition value .01 small, .06 medium and .14 are considered as high level effect size (Cohen, 1988).

**Findings**

**Distribution of Value Perception Level Scores by Gender**

The t-test results of the teacher candidates according to the gender variable to determine whether there is a significant difference between “Being moral and honest”, “Efficient use of resources”, “Empathizing”, “Respect to the republic” “Liking the profession, and being open to learning”, “Understanding”, “Being patient”, “Respect for national values” and “General average” sub-dimensions and the levels of value perception is shown in Table 2.
Table 2. Value Perception Level Scores and T-Test Results by Gender Variable

<table>
<thead>
<tr>
<th>Value perception</th>
<th>Gender</th>
<th>n</th>
<th>$\bar{x}$</th>
<th>S</th>
<th>df</th>
<th>t</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being moral and honest</td>
<td>F</td>
<td>1686</td>
<td>4.50</td>
<td>.52</td>
<td></td>
<td>2272</td>
<td>3.30</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>588</td>
<td>4.41</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
<td>.005</td>
</tr>
<tr>
<td>Efficient use of resources</td>
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* P< .05 significant

In Table 2, according to the gender of teacher candidates, a significant difference was identified in the "Being moral and honest", “Efficient use of resources”, “Being patient”, “Respect to the republic”, “Liking the profession, and being open to learning”, “Understanding” and “Respect for national values” sub-dimensions and “general average” sub-dimension. In the sub-dimension of “Empathizing," there was no significant difference between genders. When the score distributions and T-test results were examined, the value perceptions of female teacher candidates in all sub-dimensions other than “Empathizing" were higher than male teacher candidates. Besides, considering the eta-squared value ($\eta^2$), it was observed that perceptions of value that were high in favor of female teacher candidates had a low-level effect in all lower dimensions.

**Distribution of Value Perception Level Scores by Reason for Preference Level**

The t-test results of the teacher candidates according to the reason for preference variable to determine whether there is a significant difference between “Being moral and honest”, “Efficient use of resources”, “Empathizing”, “Respect to the republic” “Liking the profession, and being open to learning”, “Understanding”, “Being patient”, “Respect for national values” and “General average” sub-dimensions and the levels of value perception is shown in Table 3.
Table 3. Value Perception Level Scores and Analysis of Variance Results by Reason for Preference Level Variable

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<th>s</th>
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* P< .05 significant

In Table 3, LSD and Games Howell tests were conducted to determine which groups caused the difference between pre-service teachers’ sub-scale mean scores. Significant differences were determined in all sub-dimensions out of “Understanding” according to the reason for the preference level of the teacher candidates. When the score distributions and Anova results of the teacher
candidates are examined according to their reason for preference level, teacher candidates value perceptions who chose the teaching profession because they love the teaching profession were higher in all sub-dimensions except "understanding" and "respect to the republic" than teacher candidates who prefer teaching because it is compulsory. Furthermore, when the eta-squared value ($\eta^2$) is taken into account, it is observed that the reason for the preference level variable has a low impact on all sub-dimension scores of the teacher candidates.

The $t$-test results of the scores of teacher candidates regarding their perceptions of value for the teaching profession and their views on acquiring values in education faculties

The distribution of the scores regarding the value perceptions of the teacher candidates on: “Being moral and honest”, “Efficient use of resources”, “Empathizing”, “Respect to the republic”, "Liking the profession, and being open to learning”, “Understanding”, “Being patient”, “Respect for national values,” and “general average” sub-dimensions and acquiring values in the education faculties are given in Table 4.

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<td>2274</td>
<td>2.90</td>
<td>.75</td>
<td></td>
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</tbody>
</table>

* $P<.05$ significant

In Table 4, a significant difference was determined between the teacher candidates' perceptions of value for the teaching profession and their views on the acquisition of values in education faculties in all sub-dimensions. When the $t$-test results of teacher candidates' values perception for the teaching profession and their views on acquiring values in education faculties were examined, it was concluded that the teacher candidates' perceptions of the values that teachers should have had been quite high in all sub-dimensions ($\bar{x}_{\text{min}}=4.33$-$\bar{x}_{\text{max}}=4.74$) and that the teacher candidates' perceptions of acquiring values in education faculties were lower than the teacher candidates'
perceptions of values ($\bar{x}_{min}=2.44-\bar{x}_{max}=3.36$). When eta-squared results [$\eta^2=(.50-.81)$], all sub-dimensions, and the overall average are taken into account, it is observed that there is a high-level of effect between the teacher candidates' value perception scale for the teaching profession and the scale of acquiring values in education faculties.

The research reveals that although the perceptions of value specific to the teaching profession of teacher candidates are at a high level, there is a lack of value teaching in the education faculties, which is very important because their perceptions of value acquisition are at a medium and low level. This deficiency can be said to be since the teacher candidates acquire values indiscriminately during the formal education process and the lack of value teaching within a program in the faculties of education.

**Results and Discussion**

In this study, it was observed that there was a significant difference in value perceptions of teacher candidates in all sub-dimensions other than “Empathizing” and that female teacher candidates' value perceptions were higher than male teacher candidates. Similarly, female teachers' perceptions of value for the teaching profession were also higher in the “General average” sub-dimension. For example, Akin and Ozdemir (2009) have concluded that women have a higher level of democratic values than men in the “Solidarity” dimension in their studies in which the democratic values of teacher candidates are examined in terms of various variables. It was determined in the research of Firat and Acikgoz (2012) on the perceptions of primary school teachers towards value systems, that the perceptions of values in the sub-dimensions of Success, Hedonism, Universality, Traditionalism, and Security were higher in favor of female teachers. Using the same scale as Firat and Acikgoz (2012), Uncu (2008) determined that female teachers' perceptions of values in the sub-dimensions of Success, Hedonism, Self-direction, Universality, Benevolence, and Security were higher than male teachers. Gumrah's (2015) study on professional values showed that there were no significant differences between nursing students' Professional Values of Nurses Scale “Necessity”, “Mobilization” and “Autonomy” sub-dimension scores and the gender of the students. However, female students' "Human dignity" and "Security" sub-dimension scores and scale total scores are statistically significantly higher than male students' scores. In another study in which the perception of the women on gender are more positive concluded that women's vocational school students' perceptions of the value of “Family”, “Working-occupation”, “Religious” and “Scientific” dimensions, are more than male students (Bolat, 2011).

Dilmac, Bozgeyikli, and Cikili (2008) found significant differences in the perceptions of values according to gender in favor of men in the dimensions of “Universality” and “Self-direction” and in favor of women in the dimension of “Power”. Similarly, in the study of Keskin and Saglam
(2014), teacher candidates’ views on having human values according to gender there is a significant
difference in favor of women classroom teacher candidates in the “Intellectual values”, “Spirituality
and freedom values” dimensions. Kösoy & Daşdemir (2019), in their study with senior teacher
candidates, reveal that values education affects the universalism, benevolence and security value
tendencies of female candidates and their value tendencies are high. Despite these consequences,
Sezgin (2006), which compared the individual and organizational values of teachers, did not find any
differences according to gender. A similar study concluded that gender variables are not effective on
individual and organizational values (Posner, 1992). In Tunca's (2012) value perception survey with
classroom teachers, there was no significant difference in value perceptions relative to gender.
Similarly, research on the democratic values of teachers (Oguz, 2011; Yazici, 2011; Yılmaz, 2011)
found no significant difference between the democratic values of female and male teacher candidates.
Investigating the value preferences of classroom teachers, Ozturk (2014) found that gender is not
determinative in value perception. The relationship between the perception of value and gender in the
literature has conflicting results.

In the study, it was determined that the perceptions of the "General Average" values of the
teacher candidates who chose the teaching profession because they liked the teaching profession were
higher than the pre-service teachers who chose the teaching profession because they had to. Gümrah's
(2015) research on professional values of the nursing students, "Human Dignity", "Safety" and
"Autonomy" sub-dimension scores of the Nurses' Professional Values Scale are compared, the
difference between them is not statistically significant. On the other hand, the "Obligation", "Acting"
sub-dimension scores and scale total scores of the students whose reason to choose the profession are
"ideal" are statistically significantly higher than the scores of the students whose reason for choosing
the profession is the guidance of their relatives. Here, the "ideal", which is the reason for choosing the
profession, can be interpreted as willingly and fondly choosing the profession and supports the results
of the research.

According to the results obtained, it was concluded that the perceptions of the teachers
towards the values that teachers should have are quite high in all the sub-dimensions, although their
views on the acquisition of the same values in education faculties are lower. In the studies, teachers
stated that they feel inadequate in values education and that they are not educated about values
(Çetingöz, 2015; Ogelman & Sarıkaya, 2015; Katılımş & Balcı, 2017; Ülavere & Veisson; 2017). In
addition, as a result of Şahin (2013) research; Social studies teacher candidates stated that the
education of values given at the university was insufficient. In his 2014 study with teachers, Çelebi
(2014) found that the value perception averages of teacher candidates were high. Values are
phenomena that affect the beliefs, attitudes, and behavior of individuals. Values, which are one of the
factors leading to the behavior of individuals, are first shaped by the family and then by the means of
school, social environment, and other factors. Values vary from community to community. In some societies, behavior that is considered unacceptable can be accepted naturally in other societies. For example, in a society where the perception of “honesty” is low, it is natural to lie, while in a society where it is high, it can be seen as a shame. Societies’ perceptions of value vary in the different classes within them, but there are also values that the whole society accepts as common, such as patriotism. Common/universal values, which play a very important role in the orderly conduct of social life, should be given to individuals in a planned way.

Having awareness of an individual's behavior requires first knowing that behavior. Therefore, for the individual to behave in accordance with social values, it is necessary to have knowledge about the values that lead to the behavior (Aydin & Gurler, 2013, p. 32). The individual should be informed about choosing the right-wrong or good-bad situation of a behavior. In particular, children who are in the process of forming personality and character should be explained why they should do the good/right thing and why they should not do the wrong/bad thing. Children can make sense of the prohibitions in their minds and keep up with the social order if it is explained that negative thoughts and behaviors harm them and others (Çileli, 1986, p. 110). Otherwise, individuals make a haphazard sense of values or mimic the generally accepted perceptions of value around them.

The teaching of values can be carried out through formal or hidden programs, but it should be noted that the teacher carries out the education activities in the classroom (Genc & Eryaman, 2008). The research reveals that although the perceptions of value specific to the teaching profession of teacher candidates are at a high level, there is a lack of value teaching in the education faculties, which is very important because their perceptions of value acquisition are at a medium and low level. This deficiency can be said to be due to a lack of value teaching within a program in education faculties.

**Recommendations Based on Research Results**

- As a result of the research, it was concluded that values are acquired at medium and low levels in education faculties. Therefore, teachers' value education can be supported through in-service training.

- It has been seen that the education faculties are insufficient to acquire values for the teacher candidates. Values education should be included in education curriculums in education faculties.

- The impact of social differences on values can be explored in-depth with studies involving observation and interview methods and problems and solution suggestions can be put forward.
The results of the research are aimed at teacher candidates. Research can be done on the determination of the value perceptions of the lecturers, which are considered to have a high decisive role in the acquisition of values in the faculties of education.

Based on similar research on values, program development studies can be carried out to acquire values and its effectiveness can be revealed through observation.

Moreover, the high perception of value does not mean that value will turn into attitude and behavior. Therefore, the degree to which teacher candidates or teachers convert values into behavior can also be examined.

Considering that values are decisive in directing the behavior of individuals, value perception and value acquisition studies can be done for other professional groups other than the teaching profession and the results can be compared with other professional groups.

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The Impact of POW + C-SPACE Strategy on Story Writing Skills of Turkish Students with Specific Learning Disabilities

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Abstract

Since specific learning disabilities (SLD) are widely observed among students with special needs, it is considered in the high-incidence disabilities category of special education. Students with SLD experience academic problems in reading, writing and mathematics, and difficulty in written expression is among their prominent characteristics. The aim of this study is to determine the effect of the Pick my idea-Organize my notes-Write and say more + Characters-Setting-Purpose-Action-Conclusion-Emotions (POW + C-SPACE) strategy developed on the basis of self-regulated strategy development (SRSD) on story writing skills of students with SLD in Turkey. In this quantitatively designed study, pretest - posttest experimental design with control group was used, and the participants consisted of 23 students with SLD at middle school level. The results indicated that the change between pretest and posttest story writing skills scores of participants in the experimental group was statistically significant compared to the change in the scores of participants in the control group. In addition, the change between pretest and posttest self-regulation scores and attitude for writing scores were statistically significant compared to the difference in the scores of students in the control group. Findings manifested that the POW + C-SPACE strategy had positive impact on the story writing skills of the students with SLD in Turkey. Teachers of students with SLD need to be trained on POW + C-SPACE strategy and future research is needed with different samples of students with SLD and teachers by using various research methods.

Keywords: Self-Regulated Strategy Development, Story Writing Skill, Writing Difficulty, Specific Learning Disabilities, POW + C-SPACE Strategy

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Introduction

Education of students with special needs, defined as special education, is one of the most important educational issues of the Turkish state (Melekoğlu, 2014). The positive approach of the state regarding provision of special education services has been reflected in educational statistics of Ministry of National Education (MoNE). The number of students receiving special education in formal education system was 141,248 in 2010-2011 school year (MoNE, 2011). In the last 8 years, this number has increased by 150% and reached 353,610 in 2017-2018 school year (MoNE, 2018).

There are various categories of special education, including intellectual disabilities, autism spectrum disorder, visual impairments, hearing impairments and specific learning disabilities, in Turkey (Cavkaytar, 2017). Although the number of students in each special education category is not officially reported, specific learning disabilities (SLD) is a rapidly developing category in special education in Turkey (Çakiroğlu, 2018; Öğülmüş, 2015).

Specific Learning Disabilities

There have been critical developments in the area of SLD with a history of approximately 60 years since 1960s in the world and 40 years since 1980s in Turkey. As a result of those developments, many changes have been made in the definition and classification of SLD (Çakiroğlu, 2018). While being defined as a biologically rooted neurodevelopmental disorder according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM 5; American Psychiatric Association [APA], 2013), SLD is stated to be a disorder that is seen at mild, moderate and severe levels in reading, written expression and mathematics. Besides, students with SLD is defined as individuals in need of special education and support education services due to difficulty, which arises in one or more of the information retrieval processes required to understand and use the language in written or oral language, in listening, speaking, reading, writing, spelling, attention or mathematical operations in special education services regulation of 2006 (MoNE, 2006). Since students with SLD experience difficulties in various areas of academic skills, their prevalence among all students in educational systems is high.

Incidence of SLD varies between 5% and 15% according to various resources. In fact, it can be implied from a calculation based on the minimum value that approximately 1 million students suffer from SLD in Turkey with a total student population of 18 million in formal education (Çakiroğlu, 2018). However, there is no official report on the number of students with SLD in education system of Turkey. As a matter of fact, diagnostic problems are the biggest among the problems regarding the students with SLD in Turkey. The leading cause of this problem is that there is no diagnostic tool to be used to identify students with SLD. In fact, there are two stages of evaluation of all individuals with special needs in Turkey. The first stage consists of the medical evaluation conducted at hospitals, and the second stage consists of the educational evaluation carried
out at the Guidance and Research Centers (GRC). A health board report for the disability is issued if an individual is diagnosed with a disability after the medical evaluation is completed, and the type and institution of education to be provided for the individual are determined after the educational evaluation in GRCs (Görgün, 2015). There are various standardized tests and formal and informal assessment tools used to evaluate these students in countries such as United States of America (USA) with great progress in SLD research. The Oral Reading Skill and Reading Comprehension Test - II (SOBAT – II; Melekoğlu et. al., 2014), the Word Reading Test (KOBİT; Babür, Haznedar, Erçetin, Özerman, & Çekelek, 2011) and the Anadolu-Sak Intelligence Scale (ASIS; Sak et. al., 2016) are some tools that can be used for evaluation of students with SLD in Turkey, and those evaluation tools were used in this study. However, aforementioned evaluation tools have not been widely used in GRCs for SLD assessment.

**Academic Difficulties of Students with SLD**

Students with SLD need to experience continuous difficulties in reading, writing and mathematics in school to be diagnosed. Reading disorder (dyslexia) indicates difficulties in reading skills, including phonemic awareness, phonics, vocabulary, fluency and comprehension, in the context of SLD (Cortiella & Horowitz, 2014). Additionally, many students with SLD experience difficulties in written expression (Pierangelo & Giuliani, 2006), and writing difficulties (dysgraphia) is defined as a neurological disorder that manifests itself with writing difficulties (Flanagan & Alfonso, 2011). Furthermore, mathematical difficulty (dyscalculia) is the difficulties that the individual experiences in arithmetic operations, four operations problems, measurement and other mathematical fields because of the number perception disorder. Similar to reading and mathematical difficulties, writing difficulties can also negatively affect academic life of students (Prater, 2006). Many students with SLD have difficulty in writing skills. Therefore, it is important to develop and provide effective writing strategies for use of those students with SLD to accommodate their needs. Teaching the skill of story writing, which is a genre especially included in the Turkish language curriculum and attracts students’ interest at primary school level, constitutes the starting point of this study.

In this study, the POW + C-SPACE strategy is discussed, which was developed to use to help the students with SLD to gain story writing skills. Within this process, the relevant literature was thoroughly reviewed, and it was seen that this strategy was evidence-based and prominent. This strategy developed based on the self-regulated strategy development (SRSD) model will be shared with teachers and researchers to be used in teaching story writing to the students with SLD.

**SRSD and POW + C-SPACE**

Different strategies are required since students with writing difficulties can learn the strategies that are easily acquired by their peers only when they are more intensely and clearly explained. The
SRSD model, which was developed in this direction, was first used in 1982 by Harris and Graham in order to meet the needs of the students with severe learning disabilities. It is seen that this model has been used in teaching of many writing skills thereafter (Adkins, 2005; Albertson & Billingsley, 1997; Almadani, 2013; Asmara, 2016; Ballard & Glynn, 1975; Chalk, Hagan-Burke, & Burke, 2005; Chenard, 2014; De La Paz & Graham, 2002; Delano, 2007; Fischer, 2002; Glaser & Brunstein, 2007; Graham, 2006; Graham, Harris, & Mason, 2005; Graham, McKeown, Kiuhara, & Harris, 2012; Graham & Perin, 2007; Harris, Graham, & Mason, 2006; Hauth, 2012; Lane et al., 2008; Mason, Harris, & Graham, 2002; Mason, Snyder, Sukhram, & Kedem, 2006; Meyers, 2015; Nashville, 2010; Rogers & Graham, 2008; Rumsey & Ballard, 1985; Schnee, 2010; Shora, 2015; Sperger, 2010; Staal, 2002; Tracy, Reid, & Graham, 2009; Valasa, 2015; Zumbrunn, 2010; Zumbrunn & Bruning, 2012). Five meta-analysis studies have been conducted based on the SRSD model so far. The first meta-analysis was conducted by Graham (2006). All strategy teaching studies were discussed in this study. Comparisons were made using the values of effect size and percentage of the non-overlapping data (PND). Consequently, it was found that the effect of strategy teaching was strong on the writing skills of students. The second study was conducted by Graham and Perin (2007). In this study, strategy teaching and all other studies based on writing were discussed. The study included a total of 107 studies, and while 19% (20/107) of them were about strategy teaching, 40% (8/20) of the strategy teaching studies were based on the SRSD model. As a result of the research, it was revealed that the writing studies using the SRSD model were more effective than the other intervention approaches. The third meta-analysis study was conducted by Rogers and Graham (2008). In this study, 88 single-subject studies were examined. It was concluded that the effect size of the studies performed based on the SRSD model was large. The fourth study was conducted by Graham et al. (2012). In this study, 115 studies based on writing interventions were analyzed. As in the other meta-analysis studies, the effect size of the studies performed using the SRSD model was found to be large.

This study is thought to be important as it aims to meet the needs of students with SLD, especially in the field of writing difficulty. Hence, the aim of this study is to examine the effect of the POW + C-SPACE strategy on the story writing skills of the students with SLD. For this purpose, answers are sought to the following questions:

1. Is there a significant (within-group and between-groups) difference between the story writing skills scores of the students in the experimental group and the story writing skills scores of the students in the control group according to a comparison based on the POW + C-SPACE strategy?

2. Is there a significant (within-group and between-groups) difference between the self-regulation skills scores of the students in the experimental group and the self-regulation
skills scores of the students in the control group according to a comparison based on the POW + C-SPACE strategy?

3. Is there a significant (within-group and between-groups) difference between the attitude-toward-writing scores of the students in the experimental group and the attitude-toward-writing scores of the students in the control group according to a comparison based on the POW + C-SPACE strategy?

4. What are the opinions of the students, the teachers and the parents about the effect of the POW + C-SPACE strategy on the story writing skills and the attitude toward writing (social validity)?

**Method**

In this quantitatively designed study, pretest - posttest experimental design with control group was used. When determining the study group, first, sufficient number of students with predetermined characteristics were aimed to be reached. Students who had been diagnosed with SLD by a general hospital affiliated to the Ministry of Health and who were taught at special education and rehabilitation centers affiliated to MoNE were the target population. As a result of the searches by the researchers, two institutions were determined where students in sufficient number and with required characteristics could be reached in the province of Eskişehir. Total number of the SLD diagnosed students was 81 who attended the two institutions. After the necessary pre-interviews with the institutions’ officials, the necessary permission for legal practice was obtained of 43 parents from the institution A, and of 38 parents from the institution B.

When determining the study group, the method of criterion sampling was used. Within this method, it is aimed to study all of the cases which meet a series of pre-determined criteria (Geçer & Özel, 2012). Therefore, the sample must consist of persons, events, objects or cases with certain characteristics (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2010). In this study, the minimum criteria for the students are (a) being diagnosed with SLD, (b) attending the 4th, 5th, 6th, 7th or 8th grade, (c) having 70 or a higher general intelligence score at ASIS, and (d) a written permission given by their family for participating in the research. Thirteen students from the institution A and 10 students from the institution B were included in the study. The institution A was designated as the experimental group, and the institution B was designated as the control group randomly. The findings regarding the equivalence of the experimental group and the control group were obtained from the following resources.

*The Oral Reading Skill and Reading Comprehension Test - II (SOBAT - II):* It is an evaluation test to measure the oral reading and reading comprehension skills of children with SLD. Covering the
age range of 7 – 14, the test consists of two interchangeable parallel test forms with equal difficulty. Each form includes original texts prepared at various levels, and reading comprehension questions for these texts. Within the test, 13 increasingly getting more difficult texts are read orally by the child while the administrator keeps time, meanwhile, the reading errors are recorded and five questions are addressed to the child for each text after each reading. By this means, the parameters of the oral reading rate, reading accuracy and reading comprehension are evaluated by the test. Within the evaluation, the individual’s score of the reading rate and the number of correctly read words determine their reading fluency score, and their score of the answers to the questions determines their reading comprehension score (Melekoğlu et al., 2014).

**Word Reading Test (KOBİT):** It was developed to (a) measure the word reading skill, which is a key factor to learning how to read, of children studying at the primary school level, and (b) follow up and evaluate the progress of the word reading skill. KOBİT includes two sub-tests developed as lists of meaningful and nonsense words. Each sub-test includes equivalent parallel forms. The sub-tests within KOBİT consist of words listed one under the other from easy to difficult by taking into consideration the grammatical and phonetic characteristics of Turkish language. The meaningful words sub-test measures the child’s reading level by detecting the rapidly read words automatically by them without the need for phonetic coding. The list of meaningful words includes 104 real words. The parallel form of this sub-test includes the same number of words with equivalent characteristics. The other sub-test, which is the nonsense words test, measures the children’s knowledge of phonetic coding used while reading the unknown words by them. This sub-test consists of 63 nonsense words that are nonexistent in the written or spoken language. This sub-test also includes a parallel form with equivalent characteristics. KOBİT is implemented individually. It is a test that is easy to implement and evaluate. The child is expected to read the words on the list within 60 seconds correctly, rapidly and orally. What is important in the practice is the number of the words read correctly within 60 seconds. Implementation of only one form of each sub-test takes 5 minutes on an average. The relationships of the subtests with each other and with the total test scores ($r = .90-.97 \ p < .001$) and content validity were found to be high. It was determined that the difficulty and distinctive feature of the item was at an acceptable level. It was found that the test-retest and Cronbach alpha coefficients related to reliability were over .85 and the correlation between test equivalent subscales with each other, total test scores and word reading speed was over .75 (Babür et al., 2011).

**Anadolu-Sak Intelligence Scale (ASIS):** Anadolu-Sak Intelligence Scale is an individual intelligence scale that objectively measures the general intelligence, and the main components that constitute the general intelligence. While the individual implementation of the scale for the children aged 4 – 12 takes 25 – 45 minutes, its scoring takes three minutes. Consisting of seven sub-tests, ASIS provides eight different profiles of performance.
General Intelligence Index
Verbal Potential Index
Visual Potential Index
Memory Capacity Index
Verbal IQ
Visual IQ
Verbal Short-Term Memory Index
Visually-Spatially Operating Memory Index

Within the analyses made, internal consistency reliability coefficient of ASIS is median .91 for the Sub-tests, and median .97 for the components scores. These values indicate a perfect level of internal consistency. The sub-tests and components scores reliability coefficients were found to be .81 minimum, and .99 maximum. Especially since the reliability coefficients of General IQ, Verbal IQ, and Visual IQ are .99, .99 and .97, it is indicated that diagnoses based on these scores will also be quite reliable.

Within the test retest reliability study of ASIS, an increase of .3 standard deviation occurred in the general intelligence index (GIQ), .25 standard deviation in the verbal intelligence (SZE), .3 standard deviation in the visual intelligence (GZE), and about .3 in the memory capacity index (BKE). However, these increases are quite low. Since ASIS is a new test for children and it is very difficult to remember the items of many sub-tests, these may be considered to be the two most important causes of diminishing the effect of learning.

Forty-five record forms of ASIS were randomly selected among the norm practices for calculation of the interscorer reliability. Then, two practitioners trained in ASIS scored the 45 forms individually and calculated the sub-test totals. The interscorer reliability of ASIS was calculated based on the correlations between the sub-test scores. According to the analysis, the reliability coefficients of six sub-tests were found to be 1.00, and the reliability coefficient of SAN, which is the longest sub-test, was found to be .96. The perfect level of correlation coefficients suggests that the interscorer error variance of ASIS is 0 in six sub-tests, and its interscorer reliability is very high (Sak et al., 2016).

The student and family information forms, the Anadolu-Sak Intelligence Scale (ASIS), the Oral Reading Skill and Reading Comprehension Test – II (SOBAT – II), and the Word Reading Test (KOBİT) were administered to a total of 81 students. In addition, the educational evaluation and health reports provided by GRC for each student were examined in detail. The Anadolu-Sak
Intelligence Scale (ASIS) was implemented by field specialists who work at the Research and Application Center for the Education of Gifted providing service within Anadolu University. According to the scores obtained from ASIS, while the average intelligence score of all participants is 88.96, the average intelligence score of the participants in the experimental group is 92.15, and the average intelligence score of the participants in the control group is 84.80. It was evaluated whether there was a significant difference between the intelligence scores of the participants in the experimental group and the control group. Firstly, in order to evaluate the distribution of the scores obtained from ASIS, the Shapiro-Wilk test of normality was applied and it was determined that the scores did not exhibit a normal distribution (W=.846, p<.05). Therefore, the Mann-Whitney U test, which is a nonparametric test was used to evaluate the difference between the intelligence scores of the participants. According to the results of the Mann-Whitney U test, the two groups have similar characteristics in respect of their intelligence scores (U=48.5, p>.05).

SOBAT and KOBİT were administered by the authors and two doctoral students in the department of special education. All the test administrators received trainings in advance. Besides, it was evaluated whether there was a significant difference between the scores obtained from SOBAT – II and KOBİT applied to all of the participants within the experimental group and the control group. The Shapiro-Wilk test of normality was conducted to evaluate the distribution of the reading fluency scores obtained from SOBAT – II, and it was found that the scores did not exhibit a normal distribution (W=.832, p<.05). Therefore, the Mann-Whitney U test was used. According to the results of the Mann-Whitney U test, the two groups have similar characteristics in respect of their reading fluency scores (U=40.0, p>.05). The Shapiro-Wilk test of normality was performed in order to evaluate the distribution of the scores obtained from KOBİT, and it was determined that the meaningful words reading scores did not exhibit a normal distribution (W=.879, p<.05), but the meaningless words reading scores exhibited a normal distribution (W=.949, p>.05). The Mann-Whitney U test was used for the meaningful words reading scores. According to the results of the Mann-Whitney U test, the two groups have similar characteristics in respect of their meaningful words reading scores (U=37.0, p>.05). The independent samples t test, which is a parametric test, was used for the meaningless words reading scores. According to the results of the t test applied, the two groups have similar characteristics in respect of their meaningless words reading scores (t=1.59, p>.05).

In addition, some demographic data were collected with the information form developed by the researchers in order to have more information about the students within the study group. According to the data obtained with the information form, it was seen that most of the students had a study room at home, allocated time for reading a book every day even if just a bit, allocated little time for sports every day, but more time for games, television and computers, the families rarely bought a
newspaper, nearly half of the families had a bookcase at home, none of the students had membership to a library, none of them was a subscriber of a magazine, none of the families had a disabled individual at home, the mothers and the fathers were alive, and finally the families had an average of two or three children.

**Measures**

Three different data collection tools were used in this study. The attitude-toward-writing scale (YAYTÖ; Susar Kırmızı, 2009) and the self-regulation scale (ÖDÖ; Uygun, 2012) were administered by the authors both to the experimental and the control group before and after the experiment by giving the necessary instructions. The data provided by the story writing skill rubric (ÖYBER) were obtained by scoring the stories written by the students by the researchers. The necessary descriptions regarding the data collection tools used in the research are included below.

**Attitude-Toward-Writing Scale (YAYTÖ)**

The Attitude-Toward-Writing Scale (YAYTÖ) was developed by Susar Kırmızı (2009) in order to determine the attitudes of 4th and 5th graders at primary schools toward writing. The factor analysis was conducted in order to determine the construct validity of YAYTÖ in the process of development. Consequently, after elimination of 18 items, the scale includes a total of 34 items, 17 of which are within factor one, five of which are within factor two, eight of which are within factor three, and four of which are within factor four. A rating of five was established with the Likert-type scale as “Completely Appropriate, Quite Appropriate, Partially Appropriate, A Little Appropriate, and Not Appropriate At All”.

The variance of the items which are gathered under four factors is 59.28%. The factor eigenvalues of the items vary between .50 and .86. After the determination of the scale’s sub-scales, its entire reliability analysis was made using the Cronbach Alpha reliability coefficient, the Spearman-Brown correlation coefficient, and the Guttman Split-Half reliability formula, and it was determined that the Cronbach Alpha reliability coefficient was .90. In the reliability analysis made according to the Split-Half model, the scale was divided into two groups of 17 items. The alpha value of the group one was found to be .93, and the alpha value of the group two was found to be .78. The coefficient of the correlation between the two groups was found to be .68. This means that there is a positively linear relationship between the two groups (Equal-Length Spearman-Brown=.5286, Guttman Split-Half=.5129, Unequal-Length Spearman-Brown=.5286). The factor one was named as *The Affective Attitudes toward Writing*, the factor two as *The Personal Efforts to Improve Oneself in Writing*, the factor three as *The Behavioral Attitudes toward Writing*, and the factor four as *Self-Evaluation in Respect of Writing*. 
The lowest factor eigenvalue is .51, and the highest is .86 regarding the 17 items included within the factor one (Cronbach’s Alpha=.93). The lowest factor eigenvalue is .53, and the highest is .84 regarding the 8 items included within the factor two (Cronbach’s Alpha=.71). The lowest factor eigenvalue is .50, and the highest is .78 regarding the five items included within the factor three (Cronbach’s Alpha=.82). The lowest factor eigenvalue is .52, and the highest is .65 regarding the seven items included within the factor four (Cronbach’s Alpha=.60).

The weighted raw score that could be obtained by each student from the scale is at least 34, and at most 170. It is interpreted that a low total score indicates that the students’ attitude toward writing is positive, and a high total score indicates that the students’ attitude toward writing is negative.

**Self-Regulation Scale (ÖDÖ)**

The Self-Regulation Scale (ÖDÖ) for writing was developed by Uygun (2012) in order to determine the levels of self-regulation skills of the primary school 5th graders regarding writing. The method of factor analysis was performed in order to test the construct validity of the assessment tool. When eliminating the items that failed to assess the same purposes or statements in the assessment tool, firstly the unrotated Principal Components Analysis (PCA) was used, and then the Varimax Vertical Rotation Technique. In determining the scale’s number of factors, it was firstly considered whether the eigenvalue number was bigger than 1. The total item scores correlation was examined for the scale’s reliability. As a result of the analysis made accordingly, 13 items were removed from the scale of which the total item scores correlation was .30, and then the number of the items was reduced to 26. The scale’s reliability coefficient is .87. The scale is Likert-type, and it is reversely scored as 3-2-1 for the positive statements, and as 1-2-3 for the negative statements. The scale used in the actual application includes a total of 19 items, of which 18 are positive and one is negative. The lowest score is 19, and the highest score is 57 that can be obtained from the scale.

**Story Writing Skill Rubric (ÖYBER)**

The Story Writing Skill Rubric (ÖYBER) was developed as a curriculum based measurement tool by the researchers. A pool of items was created theoretically based on the strategy content and the principal components. Firstly, the necessary arrangements were made by taking the opinions of two academicians in linguistics in respect of language and form. Then, the opinions of 12 academicians, 4 postgraduate and 5 graduate students working in special education were taken for the validation of scope and appearance. The rubric was put into its final form based on the opinions taken. The rubric includes eight sub-themes, which are (1) subject, (2) character, (3) time, (4) environment, (5) objective, (6) action, (7) conclusion, and (8) situation. Among the sub-themes, while the character, the action and the conclusion include three items each, the subject, the time, the environment, the
objective, and the situation include one item each. The total number of the items is 14. Each item is evaluated by the user as inadequate, should-be-improved, and adequate. The score value is 0 for the option of inadequate, 1 for should-be-improved, and 2 for adequate. The user can obtain a performance score in percentage through the formula “Total score obtained x 100 / 28”. The interscorer consistency was checked by simultaneously evaluating the 50 stories written by the students within the study group by two field specialists. The Kappa and the correlation analysis were performed in order to determine the interscorer consistency. The high correlation between the scores of the scorers found by the Kappa analysis revealing the interscorer agreement is accepted to be an indicator of consistency. According to this, the scores obtained from the first and the second scorers are consistent (Kappa (κ)=.624; p=<.05). The correlation between the scores of the two scorers was found to be positively significant by 98.6 % (p=<.05).

Procedure

In this research, the POW + C-SPACE strategy developed by Harris, Graham, Mason and Friedlander (2008) based on SRSD model was used to teach story writing skills to the students in the experimental and the control groups. The practitioner was the first author. The parents and the teachers were provided with the necessary information about the strategy before starting to implement. The classes were determined which were suitable for the application by making the necessary interviews with the officials of the institutions, and the necessary arrangements were made by the researcher in advance. The application lasted a total of 16 course hours in four weeks, being two class hours a day, and two days a week. The courses were planned to last in 40 minutes based on the state of the students, and they were realized as planned. Each course was conducted according to the objectives and the student outputs provided in Table 1.

Table 1. Course Objectives and Student Outputs

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Courses</th>
<th>Objective</th>
<th>Student Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Week</td>
<td>4 courses</td>
<td>The students will meet each other and the practitioner, and get information about the application. The course materials will be distributed by the practitioner. The objective of teaching of the POW + C-SPACE technique will be discussed. The students will learn the story parts, and memorize the reminder of the POW + C-SPACE technique.</td>
<td>The students meet each other and the practitioner. They get information about the application. The students learn the story parts. They memorize the reminder of the POW + C-SPACE technique.</td>
</tr>
<tr>
<td>2. Week</td>
<td>4 courses</td>
<td>The students review the reminder and the parts of the POW + C-SPACE method. The students check their level of performance by finding the parts of a story written before. In this course, the teacher models the use of the POW + C-SPACE method in planning and story writing. The students and the teacher together write a story by using the POW + C-SPACE method.</td>
<td>The students tell the POW + C-SPACE reminder and parts of the story orally. The teacher becomes a model to the students by using the POW + C-SPACE method. The students attend a course where the teacher becomes a model. The students tell the reminder and parts of the POW + C-SPACE orally. The students write a story including all parts of POW + C-SPACE together with the teacher.</td>
</tr>
</tbody>
</table>
2. Week

| 4 courses | The students start to write stories including all story parts with the help of the teacher. The students memorize the reminder and the parts of POW + C-SPACE. They plan and write their own stories with the help of the teacher. | The students write the parts of a story and the reminder of POW + C-SPACE. They plan and write a story including the six parts of POW + C-SPACE. The students record the story parts in the POW + C-SPACE reminder, and plan and write a story including the character, the environment, the objective, the action, the conclusion and the situation. |

3. Week

| 4 courses | The students memorize the reminder and the parts of POW + C-SPACE. They plan stories with the help of the teacher, and create their own notes and write their own stories. The students learn how to work in pairs while planning a story. | The students write a story including all the parts of POW + C-SPACE. They plan a story on a blank piece of paper without a reminder chart. The students work in pairs to write a story, and attend a course realized by modelling. |

4. Week

| 4 courses | The students memorize the reminder and the parts of POW + C-SPACE. They plan and create their own notes and write their own stories. The students learn how to work in pairs while planning a story. | The students write a story including all the parts of POW + C-SPACE. They plan a story on a blank piece of paper without a reminder chart. The students work in pairs to write a story, and attend a course realized by modelling. |

Data Analyses

In this research, since the experimental group and the control group exhibited a normal distribution according to the Kurtosis and the Skewness values, the independent samples t test, which is a parametric test, was used in the between-groups evaluations, and the dependent samples t test was used in the within-group evaluations in order to determine whether there was a significant difference between the scores of the pretests and the posttests of the experimental group and the control group. Since the significant differences between the averages of the samples are not a certain indicator of a strong relationship between the independent and the dependent variables (Büyüköztürk, Çolak-Bokeoğlu, & Köklü, 2016), while \( d = t \sqrt{\frac{N_1+N_2}{N_1N_2}} \) was used as the Cohen’s \( d \) formula in the cases where the independent samples t test analysis was used, \( d = \frac{t}{\sqrt{N}} \) was used in the cases where the dependent samples t test analysis was used in order to calculate the size of the effect of the independent variable on the dependent variable (Cohen, 1988). The \( d \) value obtained as a result of the calculations was interpreted as follows: .20 small effect size, .50 medium effect size, .80 large effect size (Cohen, 1988).

The social validity data obtained through the questions of the semi-structured interviews were analyzed using the frequency analysis, which is a type of content analysis. In this method, incidence of the elements is revealed by rating (numbers and percentages) in order to understand the intensity and significance of a certain element (Bilgin, 2006). In this study, firstly the principal elements were determined based on the research questions. Sub-elements were created from the statements which were suitable for the determined elements, and frequencies and the percentages of them were provided. In addition, they were supported with sections from the participants’ own statements.

Results

According to the results obtained from the research, the pretest scores for the story writing skill of the experimental group is lower than that of the control group. While there is no significant
change observed between the pretest and the posttest scores of the control group where no post-experimental application was performed, a statistically significant change was seen for the experimental group when both the within-group pretest and posttest scores and the between-groups pretest and posttest scores differences were compared following an application of eight sessions and four weeks in the experimental group. When the same application was conducted for the control group, again a significant change appeared between the ÖYBER posttest and follow-up test scores. In addition, when the effect size of the change between the ÖYBER between-groups pretest and posttest scores differences and between the control group ÖYBER posttest and follow-up test scores were calculated, it was determined that the POW + C-SPACE strategy had a great effect on the story writing skills. Consequently, the POW + C-SPACE strategy is quite effective in improving the story writing skills.

The change between the between-groups ÖDÖ pretest scores and the control group ÖDÖ pretest-posttest scores was not found to be statistically significant. The change between the experimental group ÖDÖ pretest-posttest scores was found to be statistically significant. The change between the control group ÖDÖ pretest-posttest scores is statistically significant compared to the change between the control group ÖDÖ pretest-posttest scores, and the effect size is large. The change between the control group ÖDÖ posttest and follow-up test scores was found to be statistically significant. The effect size of the change between the control group YAYTÖ posttest and follow-up test scores is large. Consequently, the POW + C-SPACE strategy affects the self-regulation skills positively.

Table 2. Statistical Analysis Results

<table>
<thead>
<tr>
<th></th>
<th>Exp. (n=13)</th>
<th>Control (n=10)</th>
<th>T</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖYBER Pretest</td>
<td>21.31</td>
<td>27.00</td>
<td>-3.73</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>ÖYBER Posttest</td>
<td>33.54</td>
<td>28.00</td>
<td>-13.08</td>
<td>-2.12</td>
<td>.00</td>
</tr>
<tr>
<td>ÖYBER Control Group</td>
<td>34.30</td>
<td>20.00</td>
<td>-6.94</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>ÖYBER Posttest Scores</td>
<td>12.23</td>
<td>1.00</td>
<td>9.79</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>ÖDÖ Pretest</td>
<td>39.15</td>
<td>43.20</td>
<td>-1.80</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>ÖDÖ Posttest</td>
<td>48.77</td>
<td>42.50</td>
<td>-5.26</td>
<td>.742</td>
<td>.00</td>
</tr>
<tr>
<td>ÖDÖ Control Group Follow-up Scores</td>
<td>49.80</td>
<td>4.40</td>
<td>-4.38</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>ÖDÖ Pretest-Posttest Scores Between-Groups</td>
<td>9.62</td>
<td>6.59</td>
<td>-7.0</td>
<td>2.98</td>
<td>4.58</td>
</tr>
<tr>
<td>YAYTÖ Pretest</td>
<td>101.54</td>
<td>101.10</td>
<td>-0.04</td>
<td>.97</td>
<td></td>
</tr>
<tr>
<td>YAYTÖ Posttest</td>
<td>124.54</td>
<td>103.20</td>
<td>-2.63</td>
<td>-.63</td>
<td>.02</td>
</tr>
<tr>
<td>YAYTÖ Control Group Follow-up Scores</td>
<td>120.70</td>
<td>18.26</td>
<td>-2.17</td>
<td>.06</td>
<td></td>
</tr>
</tbody>
</table>
YAYTÖ Pretest-Posttest Scores Between-Groups

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>Change</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23.00</td>
<td>31.57</td>
<td>2.10</td>
<td>10.57</td>
</tr>
</tbody>
</table>

There is no statistically significant difference between the YAYTÖ between-groups pretest scores and the control group pretest-posttest scores. The change between the experimental group YAYTÖ pretest-posttest scores is statistically significant compared to the change between the control group YAYTÖ pretest-posttest scores, and the effect size is large. The change between the control group YAYTÖ posttest and follow-up test scores is not statistically significant. There is a positive change between the control group YAYTÖ posttest and follow-up test scores. Consequently, the POW + C-SPACE strategy affects the attitude toward writing positively.

According to the social validity results of the research, while the students, the parents and the teachers stated that the POW + C-SPACE strategy improved the story writing skill, the teachers and the parents stated that the strategy improved the students’ imagination. The students stated that they noticed their mistakes and deficiencies in their stories, and the parents stated that their children learned how to proceed when writing a story, they had less writing errors, they started making more logical and longer sentences when writing a story, and it affected their other writing-related assignments positively. The teachers stated that their students started planning before writing a story, they checked what they wrote by themselves, and it contributed to their reading comprehension skills. Consequently, according to the opinions of the students, the parents and the teachers, the POW + C-SPACE strategy positively contributes to the story writing skills.

While the students stated about the effect of the POW + C-SPACE strategy on the attitude toward story writing that they loved writing a story and they could write a story, the parents stated that the strategy brought a positive attitude to their children, and the teachers stated that the students became more interested in story writing and more self-confident in story writing. Consequently, according to the opinions of the students, the parents and the teachers, the POW + C-SPACE strategy positively affects the attitude of students toward writing.

According to all of the results obtained from the research, the POW + C-SPACE strategy improved the story writing skills of the students with SLD. At the same time, it positively contributes to their self-regulation skills and attitude toward writing.

**Discussion**

The fact that the POW + C-SPACE strategy was able to help the students to overcome the limitations they experienced during the writing process as demonstrated by the current study has led the researcher to do this study. The lack of a strategy that can be used in the teaching of writing skills to students with learning difficulties, particularly in Turkey, is another factor.
In addition, writing difficulty is one of the main areas where students with SLD experience primary difficulties (Akçin, 2009; Bender, 2004; Smith, 2004).

In this study, the students in the experimental and control group were evaluated from the perspective of, story writing skills, self-regulation and attitude towards writing by using POW + C-SPACE strategy. The results of this study evaluating the impact of a strategy developed on the basis of SRSD model are in line with the results of studies in literature (Adkins, 2005; Albertson & Billingsley, 1997; Almadani, 2013; Asamara, 2016; Ballard & Glynn, 1975; Chalk et al., 2005; Chenard, 2014; De La Paz & Graham, 2002; Delano, 2007; Fischer, 2002; Glaser & Brunstein, 2007; Graham, 2006; Graham et al., 2005; Graham & Perin, 2007; Graham et al., 2012; Harris et al., 2006; Hauth, 2012; Lane et al., 2008; Mason et al., 2002; Mason et al., 2006; Meyers, 2015; Nashville, 2010; Rogers & Graham, 2008; Rumsey & Ballard, 1985; Schnee, 2010; Shora, 2015; Sperger, 2010; Staal, 2002; Tracy et al., 2009; Valasa, 2015; Zumbrunn, 2010; Zumbrunn & Bruning, 2012). Therefore, it can be stated that the POW + C-SPACE strategy develops students' writing skills, writing attitudes and self-regulation skills, and it is practical, functional and effective.

Beyond these the most important limitation of this study is its focusing on just story writing skill. The effectiveness of the POW + C-SPACE strategy can be re-tested and designed for other writing skills with different student groups. According to the results of the research POW + C-SPACE strategy can be used by teachers in order to improve students' attitudes towards writing, story writing and self-regulation skills as individual and group activity. For further studies research design of this study can be changed using alternative methods such as action or case study. And finally, by developing new strategies on the basis of SRSD similar studies can be held in different writing areas for students with SLD.

References


Analysing the Role of External Policy Interventions in Explaining the Trend of School Educators’ Intrinsic Motivation

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Aksaray University

Abstract
This study investigated the role of external policy interventions in explaining the trend of school educators’ professional intrinsic motivation. Through the explanatory sequential design of the mixed study, we first described the trend in the intrinsic motivation of a total of 1470 school educators between 2012, 2014, 2016 and 2018 by four-legged cross-sectional sub-studies. Then, we collected retrospective narrative data to give meaning the trend. We analyzed the data by descriptive statistics (F and $\eta^2$ tests) and content analysis. At the end of the study, we found out a negative significant trend in educators’ intrinsic motivation as the years progressed. Past experiences of educators indicated the meaningful role of external policy interventions in generating this trend.

Keywords: Policy Interventions, School, Trend, Intrinsic Motivation, Mixed Study

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Introduction

An intrinsically motivated employee is a very important feature of organizational development. Creative, sensitive, flexible, and deeply knowledgeable people can make invaluable contributions to the work life. In the educational area, intrinsically motivated teachers can lead to a significant improvement in students’ learning in very diverse settings (Viennet and Pont, 2017). Professional intrinsic motivation of educators in school (PIMES) is a significant contributor for innovative practices at school level. Therefore, the educational administration tries to improve PIMES. However, external interventions may have reverse effect on it. Although intrinsic motivation (IM) is an internal process, it is also susceptible to external interventions. The Motivation Crowding Theory argues the influence of external interventions on employees’ intrinsic motivation (Frey and Jegen, 2001). In line with this theory, studies, involving participants from different industries, pointed out the effect of the external intervention on the IM (e.g., Deci, Koestner, and Ryan, 1999; Jacobsen, Hvitved, and Andersen 2014; Pedersen, Andersen, Jensen, Waldorff and Jacobsen, 2018). Schools are mainly professional organizations, and educators in school tend to act autonomously in teaching-learning process. Any external intervention to this process can be perceived as a threat by educators. This assertion has a significant meaning for developing and implementing the educational policies. Literature review displays the research gap in addressing the role of policy interventions in forming the PIMES. This study aims at investigating the role of educational policy interventions (EPI) in forming the PIMES.

Intrinsic Motivation of Educators

Intrinsically motivated people in a particular profession has the potential to commit original and valuable works in an organization. Intrinsic motivation (IM) has a more powerful effect on effort and outcomes than the extrinsic one has (Cerasoli, Nicklin and Ford, 2014). Controlling an individual’s behavior by outer sources refers to external motivation; on the other side, the IM describes personal control over his/her behavior. In addition, extrinsic motivation is influential for the routines but it is not for tasks requiring creativity (Buchanan and Huczynski, 2017; Demir, 2019; Dönmez, 2013; Lunenburg and Ornstein, 2012; Robbins and Judge, 2015; Ryan and Deci, 2000; Ryan and Deci, 2017; Schermerhorn, 2012).

According to Ryan and Deci (2017), IM works based on enjoying the activity itself and employee has enthusiasm and attention. It refers to paying attention, goal setting, autonomy, competence, and mastery. Theoretical basements of intrinsic motivation are summarized in Table 1. It indicates the main elements of intrinsic motivation such as recognition, affiliation, and self-actualization (Buchanan and Huczynski, 2017; Demir, 2019; Robbins and Judge, 2015; Ryan and Deci, 2000; Ryan and Deci, 2017; Schermerhorn, 2012). Educational administrators can improve educators’ intrinsic motivation, by
satisfying educators’ high-level psychological needs such as recognition, autonomy, enthusiasm, and self-efficacy.

**Table 1. Summary of the theoretical basements of intrinsic motivation**

<table>
<thead>
<tr>
<th>Source</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical needs, hygiene factors</td>
<td>Adequate amount of wage (Maslow, Alderfer), workplace conditions, material, equipment etc. satisfaction (Herzberg, Vroom)</td>
</tr>
<tr>
<td>Security</td>
<td>Working in secure condition (Maslow, Alderfer), obeying the rules (Herzberg), having job security (Herzberg)</td>
</tr>
<tr>
<td>Social interaction, affiliation</td>
<td>Having good relationship with colleagues and administrators (Maslow, Ryan and Deci), good communication (Alderfer), cooperation, helping each other, sharing (McClelland), enjoying her/his job (Herzberg)</td>
</tr>
<tr>
<td>Recognition, autonomy, having authority and power, equity, fair treatment</td>
<td>Being appreciated (Vroom, Maslow, Herzberg) and recognition (Maslow, Herzberg), achievement, development (McClelland), managing, leading, competing (McClelland), having enthusiastic goals (Herzberg, Vroom, Locke), equity and equality (Adams)</td>
</tr>
<tr>
<td>Self-actualization</td>
<td>Autonomy (McClelland, Herzberg, Vroom, Pink, Ryan and Deci), carrying out individual goals (Maslow, Herzberg), being creative and productive (Alderfer), improving yourself through continuous learning new things (Herzberg), self-efficacy (Vroom, Pink), enjoying what s/he does (Herzberg), value of the expecting result (Vroom)</td>
</tr>
</tbody>
</table>

Pink (2009) stated that motivation, as a reactive indicator, should be treated as a *symptom of a problem*. Recent studies suggested that bureaucratic and authoritative directions may harm IM (Gajardo and Grau, 2019; Viennet and Pont, 2017). Similarly, Jensen, Kjeldsen and Vestergaard (2019) found a negative effect of regulatory policy intervention on medical practitioners’ motivation in a three-wave panel survey. External interventions such as EPI threat employee's IM (Friedman and Dougney, 2012; Jacobsen et al., 2014; Jensen, et al., 2019). In addition, instability and irrelavence of educational policies also diminish educators’ IM (Karabağ Köse, Taş, Küçükçene and Karataş, 2018). Brain, Reid, and Boyes (2006) argued that the success of an EPI depends heavily on educators’ enthusiastic and genuine effort. Thus, it seems that EPI and PIMES interact with each other.

**EPI and PIMES**

The last two decades we witnessed many educational reforms nurtured from The New Public Management across the world. These reform movements proposed the new administrative approach based on accountability, autonomy, leadership, and self-evaluation. Theoretically, they empower the professional structure in the school (Schleicher, 2018; Viennet and Pont, 2017). However, some reform acts led to unintentional results. Beside other reasons, one of the basic problems, they argued, is improper practice that can trigger reactive behaviors (Buldu and Er, 2016; Darling-Hammond, 2010; Ehren, Gustafsson, Altrichter, Skedsmo, Kemethofer, Huber, 2015; Fullan, 2011; Schleicher, 2018; Viennet and Pont, 2017). Furthermore, recent studies reported that the policymaking process as disregarding the educators in school, cause educators' negative reaction (Brain, et al., 2006; Buldu and Er, 2016; Lin and Miettinen, 2019; TEDMEM, 2018; Viennet and Pont, 2017). Ignored educators
may lose their enthusiasm to transfer policy into practice. According to Schleicher (2018), motivation is in the invisible part of the failure of much educational reform.

**Previous Studies**

Despite an increasing number of studies focused on the motivation of educators in school, however few of them focused directly on IM. The most related studies investigated university students’ IM in the 14-week semester at four points in Germany (Bieg, Reindl and Dresel, 2017) and Arizona-USA (Hanus and Fox, 2015). Although they found a stable score of IM, Scherrer and Preckel (2019) found a significant mean-level decline in students’ IM in 1.6-year average time by a meta-analysis of longitudinal studies. They emphasised time-duration as a significant variable for IM. Accordingly, results of the prior one-time quantitative designs (descriptive survey and correlational) (Abos et al., 2018; Bektaş, 2010; Helvacı and Başın, 2013; Kiran and Sungur, 2018; Skaalvik and Skaalvik, 2018; Töre, 2020) were different from those of longitudinal studies (Bieg et al., 2017; Hanus and Fox, 2015; Praetorius, Lauermann, Klassen, Dickhäuser, Janke and Dresel, 2017). On the other hand, previous studies, related with IM, focused on educators’ particular characteristics (e.g. successful teachers), particular subject (e.g. biology teachers), particular educational level (e.g. lower secondary) or particular school type (e.g. school for gifted children) (Börü, 2018; Demir and Karakuş, 2015; Hennefer, 2018; Kiran and Sungur, 2018; Mahler, Großschedl and Harms, 2018; Praetorius et al., 2017; Sivertson, 2018). Studies focused on the effect of external interventions and its role in forming PIMES have not been attained. Therefore, it needs a comprehensive study investigating the role of EPI in forming the PIMES.

**Aim**

This study, to address the research gap, aimed at describing a trend in PIMES in a longer period and investigating the role of EPI in explaining this trend based on the retrospective views of school educators. Study’s objectives are as follows: To figure out the PIMES in 2012, 2014, 2016 and 2018 on different samples; to delineate the trend in PIMES; to analyze the significance of the trend in PIMES, and finally to find out the views and experiences of educators about the role of EPI in forming PIMES. This study can also contribute to improving the functionality of policy interventions in educational administration and the measures of educators’ intrinsic motivation.

**Method**

**Design**

This study is a trend, descriptive and mixed-method study. Trend study, as one of the longitudinal design, focus on factors and tests the same topic on different samples at different times. Trend studies have advantages to show the accuracy by repeated implementations as refraining from attrition and pre-test sensitization (Cohen et al., 2007; Fraenkel, Wallen and Hyun, 2012). This study
is also *explanatory sequential design* of mixed study (Creswell, 2014) because it first collected quantitative data through four cross-sectional studies then collected qualitative data to give meaning the quantitative finding. Figure 1 depicts the study’s model, which has three main steps. The first, including four sub-steps, involved in identifying PIMES on different samples in different times. The second step aimed at finding out the trend of PIMES in reference years. The last step investigated the role of EPI in explaining the trend of PIMES. We looked for the compliance of the study with human rights and ethical principles. Its compliance was approved by the relevant board.

**Figure 1. Research design**

**Context and Participants**

In line with the international trend, Turkey public management has experienced a major transformation for the last 20 years. Along with the New Governance Approach, nation-wide policy interventions were implemented. Introducing a *performance-based evaluation system, attempting to change the permanent job status* with the contractual one, redesigning the school administration and establishing a telephone line (*Alo 147*) through which citizens can notify the central authorities about educational matters in school were some of the EPI (Karabağ et al, 2018; TEDMEM, 2018). Teachers denoted the educational policies posed by Ministry as the most problematic area among other problems (Esen, Temel ve Demir, 2017).

The population of this study consisted of teachers and school administrators. The study drew five different samples for each data collection phase. According to Cohen et al. (2007), drawing different samples from the same population overcome the “pre-test sensitization” in longitudinal studies. Participants, who have different professional experiences, came from schools located in the city center, town or village across the country. Table 2 shows the participants’ characteristics. We first attained randomly selected 549 educators from the population consisted of a total of 630 teachers and school administrators coming from very different geographical regions between March-June 2012 to participate in *Aksaray In-Service Training Institution*, which hosts educators and provides them a centrally organized specific training course during five days (EURYDICE, 2019). In the second step, we gathered data from educators attending to the end of school year compulsory seminars organized
in June 2014. We first purposefully selected schools located in five different locations in Aksaray province. Then, we randomly selected 241 educators from different subjects in public primary and secondary schools. In the third step, two-stage random sampling was administered. The population consisted of 3 154 educators working in 124 schools located in the city center of Aksaray province in the school year 2015-2016 (DNEA, 2016). We grouped schools into separate lists based on the level (primary, lower secondary, upper secondary). To be able to cope with it, we randomly selected schools by 20% of them from each stratum. The sample consisted of totally 324 educators from 25 schools.

### Table 2. Participants of the study

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Female; 2: Male</td>
<td>359</td>
<td>114</td>
<td>144</td>
<td>172</td>
</tr>
<tr>
<td>% 66.1</td>
<td>50.9</td>
<td>53.5</td>
<td>55.2</td>
<td></td>
</tr>
<tr>
<td><strong>Subject</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Pre-primary; 2: Classroom; 3: Lang-Social; 4: Math-Science; 5: Art-Craft; 6: Other</td>
<td>82</td>
<td>132</td>
<td>94</td>
<td>124</td>
</tr>
<tr>
<td>% 14.9</td>
<td>56.9</td>
<td>30.3</td>
<td>37.8</td>
<td></td>
</tr>
<tr>
<td><strong>Total profession</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: 1-5 years; 2: 6-10 years; 3: 11-15 years; 4: 16-20 years; 5: 21+</td>
<td>210</td>
<td>32</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td>% 38.6</td>
<td>13.8</td>
<td>23.5</td>
<td>23.5</td>
<td></td>
</tr>
<tr>
<td><strong>School level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Pre-primary; 2: Primary; 3: Lower secondary; 4: Upper secondary</td>
<td>27</td>
<td>25</td>
<td>104</td>
<td>104</td>
</tr>
<tr>
<td>% 5.0</td>
<td>10.8</td>
<td>33.5</td>
<td>33.5</td>
<td></td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at: 1: First year; 2: 2-3 years; 3: 4-5 years; 4: 6-10 years; 5: 11+</td>
<td>188</td>
<td>55</td>
<td>104</td>
<td>104</td>
</tr>
<tr>
<td>% 34.6</td>
<td>23.7</td>
<td>33.5</td>
<td>33.5</td>
<td></td>
</tr>
<tr>
<td><strong>Educational level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Associate; 2: Bechelor; 3: Master; 4: Doctorate</td>
<td>34</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>% 6.3</td>
<td>0.6</td>
<td>0.3</td>
<td>0.3</td>
<td></td>
</tr>
</tbody>
</table>
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The fourth sample included educators coming from different provinces to attend to the in-service training course organized in Aksaray In-Service Training Institution between May-July 2018. Randomly selected 387 educators participated in the study. For descriptive studies, the minimum sample size was satisfied because it should be over 100 or more than five times the number of items (5x17=85) (Fraenkel et al., 2012; Seçer, 2015).

The last participant group, included 30 educators, was purposefully selected to satisfy the maximum variety. It consisted of educators from different provinces, different education levels, different subjects, and different professional experiences. We reached them through communication information on schools’ web pages. Then we phoned them to ask whether to take part in the study. After getting their approval, interviews were implemented through online communication and all were completed between 25 February and 08 March 2019. We reached the aimed number of interviews after performing the 46 initiatives. The study group consisted of 15 male and 15 female educators. Three of them were administrators and the rest of them were teachers. Three teachers were working at the pre-primary level, 12 of them were classroom teachers and five of them were math-science teachers. In terms of professional experience, 14 teachers had less than 10-year experience and 11 educators were working in village schools, 12 were in the city center.

In total, the number of female educators (53.7 %) is more than the number of male counterparts (46.3%). When considering the subject variable, classroom (39.8%) and language-social (28.9 %) teachers are represented with higher proportions. The proportion of math-science teachers is 16.7 %. In 2014, there are no pre-primary and classroom teachers and the majority of teachers were language-social. The educational level of school shows the higher proportion rate of primary (45.7 %) and lower secondary (44.9 %) across the years. Participants’ professional experience indicates a younger workforce because the proportion of educators working in their first ten-year is nearly half of the whole number. School experience might be important for their motivation level. While one-fourth of them were working in the first year in their current school, nearly half of them were working at the current school for four years or more. 87.2 % of participants have a bachelor’s degree and only 6.2 % of them have a master's degree.

**Data Gathering Instrument**

We used two different instruments. At the first step, in line with the scale development procedures of AERA (1999), we tried to generate a valid and reliable data gathering instrument, which was scaled with five Likert (1: Definitely, it does not express me, 5: Definitely, it expresses
me). The validity of the instrument was satisfied by the techniques of criterion validity, independent expert views, and theoretical validity. For criterion validity, we considered the motivation theories (summarized in Table 1) and prior research results. Fraenkel, et al. (2012) defined theoretical validity as developing items based on the theories. Autonomy, purpose, competence, and affiliation are mostly used as the measures of IM (Abos et al., 2018; Guerriero, 2017; Hennefer, 2018; Kiran and Sungur, 2018; Mahler et al., 2018; Pink, 2009; Praetorius, et al, 2017; Ryan and Deci, 2017; Sivertson, 2018). Three experts, who had doctorate degrees on educational administration, assessment and evaluation and official language, independently examined the instrument. The instrument was redesigned based on their suggestions. We checked its reliability on a pilot study (N=319). We selected participants through two-stage random sampling in the city center schools in Aksaray province. More than half of them were female (54.9%) and very experienced (11 years=52.7%). Their majority worked in primary (42.6%) and lower secondary (48%). The internal reliability score (Cronbach’s Alpha, α=.894) confirmed its reliability. Then, the corrected item-total correlation indicated that M15 and M22 were inconsistent with the dimensional structures in EFA because of their lower scores than .30. Therefore, we excluded them from the instrument. After exclusion, scores of the rest of 17 items (Table 3) were between .334≤r≤.710.

**Table 3.** Descriptive statistics of items across the reference years

<table>
<thead>
<tr>
<th>Items</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=544</td>
<td>N=232</td>
<td>N=310</td>
<td>N=384</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>S</td>
<td>X</td>
<td>S</td>
</tr>
<tr>
<td>M3. I make decision related with my profession on my own self.</td>
<td>4.35</td>
<td>1.06</td>
<td>4.67</td>
<td>.61</td>
</tr>
<tr>
<td>M9. We make professional decisions with my colleagues.</td>
<td>4.04</td>
<td>1.20</td>
<td>4.33</td>
<td>.91</td>
</tr>
<tr>
<td>M13. After evaluating others’ suggestions I make own decision.</td>
<td>4.57</td>
<td>.83</td>
<td>4.64</td>
<td>.69</td>
</tr>
<tr>
<td>Autonomy (α=.659, N=319)</td>
<td>4.32</td>
<td>1.03</td>
<td>4.55</td>
<td>.74</td>
</tr>
<tr>
<td>M11. I have an enthusiasm for doing professionally new things.</td>
<td>4.55</td>
<td>.83</td>
<td>4.51</td>
<td>.86</td>
</tr>
<tr>
<td>M27. My future professional plans make me excited.</td>
<td>4.31</td>
<td>1.01</td>
<td>4.01</td>
<td>1.20</td>
</tr>
<tr>
<td>M28. I have carried out my professional goals in this school.</td>
<td>3.88</td>
<td>1.25</td>
<td>4.00</td>
<td>1.03</td>
</tr>
<tr>
<td>Purposeful (α=.511, N=319)</td>
<td>4.25</td>
<td>1.03</td>
<td>4.17</td>
<td>1.03</td>
</tr>
<tr>
<td>M2. I experiment new things in my profession.</td>
<td>4.57</td>
<td>.75</td>
<td>4.68</td>
<td>.59</td>
</tr>
<tr>
<td>M6. I involve in new things in my profession.</td>
<td>4.49</td>
<td>.85</td>
<td>4.59</td>
<td>.72</td>
</tr>
<tr>
<td>M14. I use technological devices in my profession effectively.</td>
<td>4.42</td>
<td>.87</td>
<td>4.40</td>
<td>.89</td>
</tr>
<tr>
<td>M16. I regularly read the professional publications (book, article...).</td>
<td>3.87</td>
<td>1.15</td>
<td>3.87</td>
<td>1.18</td>
</tr>
<tr>
<td>M20. I look for effective ways to execute my profession better.</td>
<td>4.68</td>
<td>.64</td>
<td>4.57</td>
<td>.79</td>
</tr>
<tr>
<td>Development oriented (α=.752, N=319)</td>
<td>4.41</td>
<td>.85</td>
<td>4.42</td>
<td>.83</td>
</tr>
<tr>
<td>M7. I talk to my colleagues on the professional matters.</td>
<td>4.70</td>
<td>.74</td>
<td>4.70</td>
<td>.66</td>
</tr>
<tr>
<td>M24. I demand help from my colleagues to improve myself.</td>
<td>4.40</td>
<td>.95</td>
<td>4.29</td>
<td>.96</td>
</tr>
<tr>
<td>M25. I suggest new techniques and materials to my colleagues.</td>
<td>4.67</td>
<td>.66</td>
<td>4.65</td>
<td>.65</td>
</tr>
<tr>
<td>Affiliation (α=.737, N=319)</td>
<td>4.59</td>
<td>.78</td>
<td>4.55</td>
<td>.76</td>
</tr>
<tr>
<td>M10. I have knowledge and skills that my profession requires.</td>
<td>4.56</td>
<td>.81</td>
<td>4.74</td>
<td>.57</td>
</tr>
<tr>
<td>M12. Even in adverse condition, I can perform my profession.</td>
<td>4.38</td>
<td>.94</td>
<td>4.43</td>
<td>.83</td>
</tr>
<tr>
<td>M19. In somewhere else, I can carry out my profession successfully.</td>
<td>4.55</td>
<td>.82</td>
<td>4.65</td>
<td>.66</td>
</tr>
<tr>
<td>Self-efficacy (α=.750, N=319)</td>
<td>4.50</td>
<td>.86</td>
<td>4.61</td>
<td>.69</td>
</tr>
<tr>
<td>Professional Intrinsic Motivation (α=.894, N=319)</td>
<td>4.41</td>
<td>.90</td>
<td>4.46</td>
<td>.81</td>
</tr>
</tbody>
</table>

We checked the structures through confirmatory factor analysis (CFA) as using SPSS AMOS 24. We considered the goodness of fit indices ($\chi^2$/df≤5, p=0.000, .05≤RMSEA≤.10, .95≤CFI≤.97,
.95 ≤ NFI ≤ .97, .90 ≤ GFI ≤ .95) (Tabachnick and Fidell, 2013). Indices ($\chi^2$/df=2.26, p=0.000, RMSEA=.063, CFI=.924, NFI=.873, GFI=.916) indicated a good-fitting model. Then, the main study run by using the instrument. Test-retest (.77 ≤ r ≤ .97) in 2012, 2014, 2016 and 2018, confirmed the reliability of the instrument, too (Fraenkel et al., 2012; Seçer, 2015). Items and its descriptive information can be seen in Table 3. There were five dimensions namely self-efficacy, autonomy, affiliation, purposefulness and development-oriented in the data-gathering instrument. Self-efficacy explains that someone has a belief of capability to carry out the task successfully even it is difficult (Bandura, 2001). Autonomy is defined as making a decision on professional matters on your own or with group members (Lauermann, 2017).

As a highly centralized system, the X education system decides curriculum and relevant materials including textbooks. Educators in school can evaluate the books and make suggestions at the end of each academic year (EURYDICE, 2019). Affiliation defines whether colleagues, administrators or pupils have good relationships. Purposefulness represents that someone wants to carry out challenging professional goals making her/him very enthusiastic about achieving it. Development-orientedness means practicing innovative techniques or approaches to teaching activities and making an effort to improve yourself professionally (Buchanan and Huczynski, 2017; Dönmez, 2013; Demir, 2019; Robbins and Judge, 2015; Schermerhorn, 2012). On the other hand, the qualitative data-gathering instrument was a semi-structured interview form. It aimed at finding out the participants’ views and experiences related to the educational changes and their effects on PIMES. We first asked them to talk about the educational changes they experienced in last ten years (2010-2019). Their past narratives recorded. Then, educators were asked to talk about how these changes affect their professional life relevant to their intrinsic motivation. Similar technique was used by Esthope and Easthope (2000). During the interview when they asked info about these elements of intrinsic motivation, researcher gave brief information about them.

Collecting and Analysing Data

Quantitative data collector was implemented, when participants convened for professional development activity, they filled out the instrument individually. After coding forms and transferring data into the computer, quantitative data were analyzed in IBM SPSS 22 statistical package program. We first checked the missings, outliers, and duplicates. We performed descriptive statistical techniques (frequency, percent, mean and standard deviation), exploratory factor analysis (EFA), F Test, and Eta Square test. We interpreted the continuous scores between 1.00-1.79 as very low; 1.80-2.59 low; 2.60-3.39 medium; 3.40-4.19 high and 4.20-5.00 very high. We tested the theoretically suggested measures of PIMES by EFA, which confirmed the five-dimensional structures but item M9 went under the affiliation instead of autonomy (KMO=.93, p=.000, Principal component, varimax rotation, fixed number factors=5 total variance explained=.59). Because of the major consistency
between theoretical dimensions and EFA outcomes, we kept the theoretical dimensions as computing indexes. F ratio is calculated as the variance between groups divided by variance within the group. A large F ratio refers to big variability between groups. We used the year as the independent variable and PIMES scores as the dependent variable. To find out the effect size of the significant variance, we computed Eta square ($\eta^2$). Effect size refers to the ratio of the dependent variable’s variance associated with the independent variable. It shows the intersection area of independent and dependent variables (Tabachnick and Fidell, 2013). We used Cohen’s classification to interpret the amount of effect size. Between $0.01 \leq \eta^2 \leq 0.05$ is a small effect; between $0.06 \leq \eta^2 \leq 0.13$ is a medium effect and between $0.14 \leq \eta^2$ is a large effect size (Pallant, 2015).

By content analysis we analyzed the qualitative data coming from participants’ narrates were first transferred into the Excel worksheet in considering two questions. The researcher and two independent official language teachers, as working together based on the consensus, looked for which events affect their motivation. After identifying the events and their effects on the elements of intrinsic motivation (*autonomy, professional goals, professional development, self-efficacy and cooperation with colleagues.*) we ordered them based on the recurring patterns.

**Results**

**Professional Intrinsic Motivation Level and Its Changing Across the Years**

Table 4 displays the change in the educators’ PIMES between 2012 and 2018. In general, they had a high level of PIMES perception ($\bar{X}$=4.28, $S$=.52). Except for the year 2018, educators perceived the very high level of PIMES. Mean scores were $\bar{X}$=4.41 ($S$=.48) for 2012, $\bar{X}$=4.43 ($S$=.43) for 2014 and $\bar{X}$=4.23 ($S$=.46) for 2016. However, it was $\bar{X}$=4.04 ($S$=.56) in 2018.

**Table 4.** Changing in the PIMES scores across the reference years

<table>
<thead>
<tr>
<th>Measures of PIMES</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>$S$</td>
<td>$\bar{X}$</td>
<td>$S$</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>1. Autonomy</td>
<td>4.32</td>
<td>0.69</td>
<td>4.53</td>
<td>0.52</td>
<td>4.28</td>
</tr>
<tr>
<td>2. Purposeful</td>
<td>4.25</td>
<td>0.76</td>
<td>4.13</td>
<td>0.78</td>
<td>3.99</td>
</tr>
<tr>
<td>3. Development-oriented</td>
<td>4.33</td>
<td>0.63</td>
<td>4.35</td>
<td>0.60</td>
<td>4.14</td>
</tr>
<tr>
<td>4. Affiliation</td>
<td>4.59</td>
<td>0.59</td>
<td>4.52</td>
<td>0.57</td>
<td>4.27</td>
</tr>
<tr>
<td>5. Self-efficacy</td>
<td>4.50</td>
<td>0.65</td>
<td>4.58</td>
<td>0.53</td>
<td>4.36</td>
</tr>
<tr>
<td>6. PIM</td>
<td>4.41</td>
<td>0.48</td>
<td>4.43</td>
<td>0.43</td>
<td>4.23</td>
</tr>
</tbody>
</table>

Figure 2 visualizes the change in PIMES. It shows a slight increase in PIMES scores between 2012 and 2014 since then we saw the regular decrease in PIMES scores. A similar trend was also valid for all components of PIMES. For instance *autonomy* (1) had the scores of $\bar{X}$=4.32 ($S$=.69), $\bar{X}$=4.53 ($S$=.52), $\bar{X}$=4.28 ($S$=.57) and $\bar{X}$=4.08 ($S$=.56) between 2012 and 2018, respectively.
The relatively lowest score belonged to be *purposefulness* (2), which contains to have enthusiasm for professional innovations, and to have exciting professional plans in the future and to carry out the professional goals in the present school. Decreases in scores of perception about carrying out the professional goals in the school (Table 3) means that educators perceive a regular deterioration in organizational conditions supporting their desire. To be development-oriented is an important measure of PIMES. It consists of items such as reading regularly professional publications, looking for new and effective ways. However, it has a relatively low mean score (\(\bar{x}=4.20, S=.65\)). The most problematic side is about regularly *reading publications* (\(\bar{x}=3.64, S=.99\) for 2018). *Self-efficacy* (5), on the other hand, has the highest scores (\(\bar{x}=4.25, S=.79\) for 2018). They perceived themselves to have adequate professional knowledge and skills and to perform the profession even the adverse conditions. *Affiliation* (4) has the most severe decreases (\(\bar{x}=4.59\) in 2012 and \(\bar{x}=3.98\) in 2018) that inform declining of communicating, sharing and collaborating among educators.

**Direction and Amount of Change in PIMES across the Years**

Table 5 shows the direction and amount of change in the components of PIMES. Between 2012 and 2018, there is a negative decrease with -.37 points in average scores of PIMES. Among the components of PIMES, *affiliation* has the biggest decrease with -.63. For *affiliation*, the biggest decrease happened between 2016 and 2018. *Affiliation* defines talking with colleagues on professional issues, demanding help from colleagues and sharing materials and equipment with colleagues. The negative change indicates deterioration of interaction between educators.

![Figure 2. Trend in components of PIMES](image-url)
Table 5. Direction, amount and significance of changing in PIMES scores

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>0.2103</td>
<td>-0.2442</td>
<td>-0.1975</td>
<td>-0.2313</td>
<td>23.438</td>
<td>.000</td>
<td>.046</td>
</tr>
<tr>
<td>Purposeful</td>
<td>-0.1125</td>
<td>-0.1437</td>
<td>-0.0834</td>
<td>-0.3396</td>
<td>17.944</td>
<td>.000</td>
<td>.035</td>
</tr>
<tr>
<td>Development-oriented</td>
<td>0.0157</td>
<td>-0.2051</td>
<td>-0.1790</td>
<td>-0.3684</td>
<td>30.161</td>
<td>.000</td>
<td>.058</td>
</tr>
<tr>
<td>Affiliation</td>
<td>-0.0699</td>
<td>-0.2449</td>
<td>-0.3152</td>
<td>-0.6300</td>
<td>80.192</td>
<td>.000</td>
<td>.141</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>0.0870</td>
<td>-0.2253</td>
<td>-0.1264</td>
<td>-0.2647</td>
<td>21.105</td>
<td>.000</td>
<td>.041</td>
</tr>
<tr>
<td>PIMES</td>
<td>0.0161</td>
<td>-0.2042</td>
<td>-0.1814</td>
<td>-0.3695</td>
<td>50.540</td>
<td>.000</td>
<td>.094</td>
</tr>
</tbody>
</table>

In order to test the significance of the negative trend, we computed the significance and its effect size through the F test and $\eta^2$ test. In the F test, the year variable was the independent variable and average scores of PIMES components were the dependent variables. Change in the average scores in PIMES components across the years was statistically significant at .001 level (F=50.54). That confirmed the significance of the negative trend in PIMES.

F scores showed that the most significant change occurred in affiliation (F=80.19). It was followed by development-orientedness (F=30.16). When we consider the effect sizes (Cohen’s classification), change in the purposefulness, self-efficacy, and autonomy have the small effect size; but development-orientedness has the medium effect size. The effect size of the change in PIMES scores was significant at the medium level.

Educational Changes in Past Ten Years and Their Effects on PIMES

Semi-structured interviews indicated that educators’ professional enthusiasm and goal orientation gradually disappears (n=22) and their striving for professional development weakens (n=19) as years past. Interviewees explained that though there are no frequent external interventions when they perform the job they do not have fully professional autonomy (n=24). All participants expressed having adequate knowledge and skills to be able to carry out the job successfully (n=30); however, they have difficulties in teaching with special needs children (n=9) and asylum-seekers’ children (n=6). More than half of the interviewees stated a positive social and professional cooperation among colleagues (n=17).

Interviewees explained why their motivation decreases steadily (n=24). Some of them (n=6) mentioned about decreasing status of the teaching profession in the community. The most disturbing cause is notifying educators through Alo 147 telephone-line to the central authorities and in some cases, an investigation started (n=21). Explanation of $X_{11}$ summarizes its effect: “Alo 147 became a tool for punishing educators. False complaints hurt us.” Negative rhetoric and accusation of top-level educational administrators about educators in school (n=16) were also mentioned frequently. For instance, $X_4$ expressed that “I was very upset to see that a national education minister as saying on TV screens that teachers did not work hard.” After the military coup in 2016, dismissing some educators from the teaching profession (n=14) seem to worry the rest of educators. $X_{16}$ summarized it as saying that “I was very frightened by the dismissal of a friend who I worked with her for many years.” Along
with the redesigning of school administration, the appointment of school administrators and their job security were abolished, the school administration was defined as temporary duty on teachers (n=11). X_{26} explained her experiences as that “Redesigning the selection system of school administrators ruined the school climate. Very experienced successful administrators were dismissed and they retired or sent to another school as a teacher.” The other explanator of this event was the introduction of performance-based evaluation system in education (n=9). Experience of X_{17} explains the problematic side of this change: “I could not understand that people who have no professional knowledge and experiences have a role in making the decision about our teaching performance. For instance, students’ evaluations of our performance cause many other problems.”

Qualitative findings coincided with the quantitative findings. They confirmed a declination in their motivation. Furthermore, they explained which events effecting their motivation. Their explanations refer to policy intervention at the national level.

**Discussion, Conclusion, Implementation and Suggestion**

This study, using a mixed methodology, identified a trend in PIMES at four legged cross-sectional surveys (2012, 2014, 2016 and 2018). Then, it retrospectively investigated the role of EPI in explaining the trend in PIMES.

Although there is a negative tendency in PIMES, educators’ IM is still high (\(\bar{x}=4.28, S=.52\)). This level is inconsistent with the majority of prior studies pointed to the medium or low level of perceived IM (Bieg et al., 2017; Hanus and Fox, 2015; Gobena, 2018; Hennefer, 2018; Mahler et al., 2018; Praetorius et al., 2017; Sivertson, 2018). Contextual and methodological differences might lead to such inconsistencies. For instance, in Germany, several studies found a medium level of IM for teachers (Mahler et al., 2018; Praetorius et al., 2017) and for the university students (Bieg et al., 2017). However, based on the autonomy perception Abos et al. (2018) revealed the high-level IM (\(\bar{x}=4.26. S=.50\)) of Spanish secondary school teachers (n= 584). A similar inconsistency is also valid for the USA. Hennefer (2018), using observation and interview techniques, found low level of PIMES (n=10) in schools located in Utah. However, using quantitative techniques Sivertson (2018) found high-level motivation (\(\bar{x}=3.79; S=.49\)) of successful teachers (n=155) working public schools in Arizona. Hanus and Fox (2015), in their longitudinal study, found medium level IM of university students (n=80) in Arizona. On the other context, prior studies found that Turkish teachers have high-level motivation which is consistent with this study (Demir and Karakuş, 2015; Kiran and Sungur, 2018). Comparing the results of different studies on educators’ motivation indicates that Turkish educators perceived their motivation as higher than foreign counterparts did.

The current study figured out the significant negative trend in PIMES between 2012 and 2018. This negative trend was also confirmed by the qualitative data. Some longitudinal studies with
relatively shorter period (14 weeks) found stable results (Bieg, et al., 2017; Hanus and Fox, 2015) but Scherrer and Preckel (2019), by Meta-analysis, argued the significant decrease in the perception scores of students’ IM in 1.6 year average time.

The current study found a regular decrease in educators’ perception about all sub-dimensions of IM. This is the case for affiliation and development orienting. Affiliation as referring to relation, interaction and sharing between educators in school environment, the result means deterioration of interaction among educators. This result together with the decreasing in the score of development orienting refers the weakening of the school based learning (organizational learning). This argument is consistent with the statements of Guerriero (2017) that interaction and sharing among colleagues, as a functional tool of professional learning and specialization, correlated with the performance. Yıldırım (2018) found the positive relationship between the level of interaction between teachers and their learning performance. Furthermore, the motivational cycle proposed by Ryan and Deci (2017) explains that interaction between group members related with not only their performance but also their enthusiasm, learning and competency. In frame of relationship between affiliation and learning performance, the other relevant determiner is whether having challenging goals. Based on the goal theory, making arrangements enabling educators to work together for achieving the school’s goals would result in better performance. This situation is also valid for characteristics described by McClelland. Aspiring for a particular goal can lead individual to make much effort (Buchanan and Huczynski, 2017; Demir, 2019; Dönmez, 2013).

Among the components of PIMES, the lowest average score was belonged to purposefulness that consisted of students’ improvement through developing themselves in terms of professional knowledge and skills. Purposefulness also can refer to have intention to get a higher position (Demir, 2019). It drives educators to initiate new things and to be vigorous and vivacious (Lunenburg and Ornstein, 2012; Robbins and Judge, 2015; Schermerhorn, 2012). Decreasing mean score of being purposefulness signals of monotonous and routine professional life that in turn would negatively affect the school improvement. Similarly, negative trend of development orienting indicates the stability, avoidance of challenging professional goals and lack of enthusiasm for improvement. That also negatively affects students’ improvement via low quality of teaching activities (Guerriero, 2017). Collaborative team working for achieving school’s goals and leadership can change this scenery, positively.

Current study found a very high-level of self-efficacy perception alike previous studies (Lauermann, 2017; Yıldırım, 2018). In addition, prior studies suggested a powerful relationship between self-efficacy and IM (Pink, 2009; Guerriero, 2017; Ryan and Deci, 2000). However, in this study, deterioration in PIMES (-.37) is much more than that of self-efficacy (-.26) between 2012 and 2018. It weakens the argument of powerful relationship between self-efficacy and PIMES, at least for
this study. Instead, to be *development oriented* seems to be key component of the intrinsic motivation because it had nearly the same trend with that of PIMES and significant positive medium size relationships with the rest of components (*purposefulness, affiliation, self-efficacy and authority*). Therefore, *development orienting* emerged as a promising measure of PIMES. However, *self-efficacy* is not a functional measure because nearly every educators argue that they have adequate knowledge and skills to be able to carry out the teaching job.

Negative trend in PIMES indicates an educational problem as stated by Pink (2009). Based on this assertion, we can ask that what might be the problem leading to the steady decrease in PIMES. The results obtained from the qualitative phase of the current study refers to the role of EPI in forming PIMES. This result confirmed the argument of *The Motivation Crowding Theory* (Frey and Jegen, 2001). Karabağ, et al. (2018) found the negative effect of educational policies on teachers’ motivation. Based on the teachers’ view, Esen, Temel and Demir (2017) found that the most significant problem is educational policies, which might cause the negative consequences. It can be inferred that educators negatively reacted to these EPIs. For instance, interviewees explained that misusing, exploitation and unfair accusations through Alo 147 resulted in educators’ reaction towards political positions. In addition, it refers the way of making and implementing the educational policy. An international study of OECD showed that 79.2 % of educators in Turkey says that policymakers do not value their views (OECD, 2020). If the genuine views of educators had been known, such EPIs would not have been practiced. Therefore, it can be suggested that educators in school were disregarded in the process of developing and implementing the EPIs. According to Lin and Miettinen (2019) such situation is a typical symptom of a top-down policy. This result also indicates that implementation of an EPI may cause to unintended consequences. For instance, *performance based evaluation system* resulted in confusion and anger because educators refused to be evaluated by parents and students. Whereas political bodies proposed it as 360 degrees evaluation in education (TEDMEM, 2018). In this regard, external incentives would also intervene the impact of IM on performance (Cerasoli et al., 2014). Lack of communication and interaction between top-level educational authorities and school educators might have led to unintended consequences. There are supporting studies indicating negative effects of top-down policy interventions on educators’ motivation (Buldu and Er, 2016; Darling-Hammond, 2010; Friedman and Douney, 2012; Fullan, 2011; Pink, 2009; Schleicher, 2018). For instance, Gobena (2018) stated that EPIs in Ethiopia have adverse effect on teachers’ motivation. Recent studies stated a mistrust between managerial bodies and employees in public organizations including public schools (Sevinç, 2015; Uzun, 2020). Then, managerial bodies restrict the autonomy of subordinates and preserve their own authorities but give them responsibilities; as a result, civil servants have low level of job satisfaction. In addition, Buldu and Er (2016) explained a recent experience about the negative outcomes of top-down policy intervention in case of *starting age at the primary school* in Turkey. Despite the educators’ resistance
considering the children’s biological immaturity, policy makers insisted on starting at first grade earlier, and then its only one-year application it has been cancelled because of parents, children and teachers experienced several complexities. In similar experience in Chile, policy for supporting competition among schools resulted in decreasing the standardized scores of fourth grade students’ self-esteem and motivation, civic participation and healthy life style habits (Gajardo and Grau, 2019).

According to Brain et al. (2006), appropriate policymaking strategy utilizes educators’ professional knowledge, skills and values. However, nearly two third of educators in Turkey argued that they have no influence on education policy (OECD, 2020). In addition, a professional autonomy within specific contexts can balance between top and down in making policy. Teachers’ autonomy means that they make their decision on professional issues and practice them into the professional practices (Lauermann, 2017). Abos et al. (2018) found the significant and good relationship between teachers’ vigour, dedication, specialization and their perception of autonomy. External interventions deteriorates the school educators’ professional autonomy. Qualitative data in this study indicated that educators perceived the professional autonomy particularly when doing classroom activities. Lin and Miettinen (2019) argued an alternative strategy in policy intervention as the bottom-up approach that works based on the trust in teacher expertise, school autonomy in developing curriculum and pedagogy as well as on collaboration between schools and other societal actors. In line with this strategy, school autonomy balanced with accountability can enhance PIMES and children’s improvement. Teachers’ accountability accompanied with the systemic mechanisms can play key functions for constructing a balance between autonomy and policy interventions (Yıldırım and Yenipınar, 2019). Accordingly, administrative practices at the school level lead to relatively more positive effect on educators’ motivation (Bektaş, 2010; Demir and Karakuş, 2015; Helvacı and Başın, 2013; Kırân and Sungur, 2018; Yenipınar, 2018). For instance, Helvacı and Başın (2013) found that school administrators are highly effective (X̄=3.56. S=.82) in motivating teachers and satisfying the need of teachers’ autonomy, affiliation and social relations adequately. Therefore, empowering school leadership can make positive effect on educators’ PIMES. Educators’ views and experiences delineates that changing in selection system of school administrators violates objectivity, equity and equality principles (TEDMEM, 2018; Yıldırım, 2014). In addition, application of school level institutional inspection play a role in bridging between the policy makers and school educators (Ehren et al., 2015; Schleicher, 2018). However, policymakers limited its role in policymaking (TEDMEM, 2018).

This study has some limitations. First of all, it has no assertion of causality because there might be other reasons in explaining the trend of PIMES. Then, the lack of longitudinal studies on PIMES seriously restricted the discussion. It has also limitations because of methodological issues. First, using different respondents each time might mediate the change in trend as stated by Cohen et
al. (2007). The study collected the data from volunteered participants so the IM scores might have been different from participants did not take part in the study. In addition, results are limited to the items used in the data-gathering instrument. Conceptual structure of the instrument needs to develop, specifically for *purposefulness* and *autonomy*. Measuring power of the items can be improved as adding new items such as “I stand out for delivering the most qualitative learning in my class/school”, “I can adapt the curriculum to my particular condition.” Furthermore, excluding private schools can be another limitation. Proportion of private schools between 6-17 ages (compulsory education) in formal education is 10.35 % in Turkey (EURYDICE, 2019). Despite the limitations, this study contribute to the accumulation of research evidence. This is the first study that depicted the trend (observing different samples of the same population over years) in PIMES in different context and explained the role of EPI in this trend. In addition, this study has some differences from the prior studies in considering length (eight-year duration with four points), method (sequential quantitative and qualitative) and topics (explaining the role of EPI in the trend of PIMES). Overall, since this study had different contextual characteristics, it can contribute on expanding knowledge about the measures of intrinsic motivation.

At the end of the study, we concluded that being *development-oriented* and *purposeful* are the main indicators of PIMES. Along with the Motivation Crowding Theory, IM is susceptible to the external interventions. For this study, very urgent result is increasingly deterioration in educators’ perception of *affiliation*. It means that collaboration among educators in school regularly decreases over the years that is a challenging problem for educational administrations. Top-level administration should cooperate with school educators in order to avoid using inappropriate policy instruments. Lack of positive interaction between higher administrators and school educators leads to harmful effects in making policy and finding appropriate policy instruments. Harmonising the authority between top and down in constructing EPI is likely to enhance PIMES. For implementation of the results, we suggest an establishing mechanism working on school autonomy accompanied with educators’ accountability despite it is a challenging task for educational administration. In frame of hygiene theory, having confidence in educators and giving them authority and responsibility balanced by accountability would result in enhancing their PIMES.

Finally, this study make some suggestions for future researchers. This study has no causal argument for the role of EPI in explaining the trend in PIMES. Designing such study might contribute to the research realm. Furthermore, the studies focusing on the relationship between IM of employees working in different conditions and their performances can contribute on our knowledge about the IM. Measuring the IM needs still be improved regarding professional groups and contextual conditions. Being *development oriented* and *purposefulness* are the more applicable measures of IM instead of *self-efficacy*. In addition, next researchers had better improve the measuring power of
autonomy and purposefulness by adding new items. For its validity, consistency between conceptuality and applicability of the educators’ IM might be studied. Therefore, we suggest the longitudinal studies on PIMES in different contexts.

The last note that when this report has been written, ALO 147 Telephone Line has been announced to close by the new Minister of National Education. Beside this intervention, high-ranking positions’ positive rhetoric about educators seems to trigger a positive change in educator’s motivation.

References


Effect of the Physical Education and Sport Classes on the Physical Capacity of Children with Special Educational Needs

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Abstract

In this study was to determine the impact of physical education and sports lesson on the physical capacity of children with special edütime needs and on this basis to outline the main directions for of educational process in secondary schools. Totally, 67 students region Kars in the of Turkey from 22 secondary education school participated in this study. They divided into groups according to their gender and health status; children with normal physical and mental development (24 boys, 18 girls; control group) and children with special education needs (15 boys, 10 girls; experimental group). Children's height, weight and Body Mass Index (BMI) were used a standard methodology, a manual dynamometer to measure the strength of the upper limb and a test battery to determine their physical capacity. Regarding inclusive education, questionnaires were collected from physical education teachers. Results were compared with the total sample and between the two target groups. According to the findings of the research, when the change in physical capacity characteristics of boys and girls with and without special education needs is examined; Sprint 20 m, Hand Dynamometer - appropriate upper limb, Dynamometry - Inappropriate upper limb, Throwing a thick ball, Jumping to length, Crunches, 400 m running, Depth of inclination, after the experiment; although it has different effects on the physical capacities of children with cognitive, hearing and vision problems, it has not statistically significant compared to the groups In order to develop the physical capacity of children with special educational needs, physical education and sports lesson activities should be increased, and new models should be developed. Limitations, suggestions for future research and implications for practice are discussed.

Keywords: Physical Education, Physical Capacity, Children, Special Educational, Disability

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Introduction

Physical activity (PA) is a fundamental component of overall well being and most children’s experience of this is through Physical Education (PE) classes in school (Cheung, 2019; O’Connor and McNabb, 2020; Ross et al., 2016). The universal popularity of sport makes it an ideal transformative tool for fostering participation through equal access to activities, inside and outside the school system (UN, 2006). Yet, research shows that young people with special educational needs and (SEN) disabilities in mainstream schools continue to experience fewer participatory sporting options than their peers. Students with disabilities have more time to spend with their peers, which also has positive effects on the regular students as they gain some ideas regarding these people, who are an inseparable part of society (Bavlı et al., 2020; Demirci et al., 2018; WHO, 2018; McCoy et al., 2016; Adair et al., 2015). Health-related issues, adapted physical activity, social rehabilitation and integration of people with disabilities are becoming more and more relevant and engage an increasing contingent of people (WHO, 2017; Bertills et al., 2019).

Inclusive education is based on the fundamental right of all learners to quality education that meets their basic learning needs, encourages their personal development to the fullest extent, and considers the diversity of backgrounds and abilities to be a learning opportunity rather than a barrier (Ainscow and Miles, 2008; ). Physical education and sports lesson; It is an integral and indispensable part of general education for children who need special education. The same time; It is an ideal area where cooperation, appropriate competition, personal and social responsibility are taught, games and physical activities are to gain active and healthy life skills (Mamak et al., 2020; Viciana et al., 2019; Toptaş Demirci et al., 2014). Disabilities and long-term health conditions may limit meaningful participation in mainstream PE, unless proper support is provided. Applying a nondisabled perspective such as using able-bodied or ableism to describe skills required in PE, may undermine and disrespect the value of disabled identity (Giese and Ruin 2018; Hart and Drummond, 2014; Loja et al., 2013).

The structure of PE lessons, both in terms of physical and social adaptations, is important for the participation of SEN in school-based PE (Toptaş demirci and Demirci, 2018). Different adaptations and modifications are required, depending on the type of disability. Meaningful learning experiences for students with disabilities in PE are extensively dependent on teachers’ skills to and attitudes toward communicating and structuring their teaching in an inclusive direction (Neville et al., 2020). Participation restriction may be experienced if the activity is not adapted to students in need of special support (Coates and Vickerman, 2010; Haegele et al., 2017). Students with physical disabilities describe good days in PE as lessons in which they experience a sense of belonging, their participation as skillful and where you share benefits. Encouragement, reinforcement, help and guidance facilitate positive peer interaction. Patience and social encouragement are examples of
caring support. Above all, several studies conclude that sharing PE sessions with a student with disability creates positive attitudes towards inclusion of students with disabilities (Liu et al., 2010; McKay et al., 2015; Sullivan and Glidden, 2014). However, while PE fosters the acceptance of students with disabilities it is also observed that there are barriers and facilitators to inclusion (Darretxe et al., 2016; Haegele et al., 2017).

International research shows that children with special educational needs (SEN) are still not accessing or being fully included into educational programs within mainstream schools (Neville et al., 2020). This problem of inclusion is particularly acute when it comes to SEN children accessing high-quality physical education (PE), and the research evidence shows the signs of a double-bind here: SEN children are disproportionately affected by social-emotional, behavioral, health conditions related to physical inactivity, and exclusion from PE (Bloemen et al., 2015); PE teachers, however, often lack the knowledge, confidence, or pedagogical training to adapt their lessons in ways that would suitably include them (Rekaa et al., 2018).

There is a longstanding recognition within PE of the challenges associated with including children who vary in physical ability and learning preference (Makopoulou and Thomas, 2016). Policy statements and empirical studies on the attitudes of teachers and on the suitability of teacher education for inclusion have really only emerged over the last ten to fifteen years, however (Rekaa et al., 2018). Among the more pressing challenges in light of international consensus on the need for curricular reform to promote inclusion is the design of interventions which can expand the scope and quality of initial teacher training (ITT). The basis for this commitment, to inclusive pedagogy as a foundation for effective teaching and learning, is found within the Salamanca Statement, which states “pre-service training programs should provide to all student teachers, primary and secondary alike, positive orientation toward disability, thereby developing an understanding of what can be achieved in schools with locally available support services” (UN, 1994).

Physical education programs for children with SEN need to be prepared based on their requirements and individual characteristics such as diagnosis, severity of diagnosis and existing performance level (Hutzler, 2003; Ozer and Sahin, 2010). It is known that physical education helps children with SEN to develop self-concept and social competence, develop motor skills, physical and motor adaptation, leisure time skills, playing and creative time skills as long-term objectives. Physical education for children with SEN are required to be competent in terms of improving psychomotor, sensory and cognitive development. If these developmental domains are achieved, these long-terms objectives will be achieved as well. Nevertheless, physical group activities promote sharing, communication and learning social behaviors among individuals with special needs (Konar and Yildiran, 2012; Ozer and Sungu, 2016; Demirci and Toptaş Demirci, 2016). Teachers' knowledge of adapted training and their ability to apply adapted methods and tools is a guarantee for successful
socialization of children with various deficits and enabling these children to cope with the requirements of the curricula of the different disciplines. Special attention should be paid to adapted physical education and sports classes. In their totality, they provide children with the opportunity to increase their physical development, improve their physical capacity and develop valuable skills that will be needed both in their training and in their next years of life.

**Research Questions**

This research aims to identify the impact of physical education and sports on the physical capacity of children with special education needs and to outline the main directions for the learning process in secondary schools.

1. What are the opinions of PE-teachers’ about inclusive education?

2. Is there a difference between the physical fitness of the students who need and do not need special education between the ages of 11-14?

3. Conducting a sports and pedagogical experiment to determine the effect of physical education and sports lesson in secondary education on the physical capacity of children with and without special education needs.

4. Comparative analysis of physical capacity in children without and with special educational needs

5. Characteristics of physical capacity in children with different specific deficits

6. Evaluation of the effectiveness of physical education and sports training at the end of the experiment period for boys and girls with and without special education needs.

**Method**

**Research Design and Participants**

Totally, 67 students region Kars in the of Turkey from 22 secondary education school participated in this study. They divided into groups according to their gender and health status; children with normal physical and mental development (24 boys, 18 girls; control group) and children with special education needs (15 boys, 10 girls; experimental group). Children with special needs are taught along with children without health problems in the form of so-called inclusive education. All procedures were in accordance to the Helsinki Declaration regarding Human research. Informed consent to participate was collected from of (67) students, and (99) their teacher. Ethical approval was obtained from the research committee of the research university. The group of students with special educational needs were diagnosed with hearing impairment, visual (sensory) impairment, movement
Impairments or cognitive impairment a combination of one or more disabilities. A detailed feature of the disability of these children is presented in Table 1.

**Table 1.** A Detailed Feature of The Disability of These Children Is Presented

<table>
<thead>
<tr>
<th>Feature of the disability of children</th>
<th>Gender</th>
<th>N</th>
<th>Age Range</th>
<th>Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing impairment</td>
<td>Female</td>
<td>2</td>
<td>12</td>
<td>Moderate (41-55Db) - Moderate Heavy (56-70 Db) - Moderate (41-55 Db) - Deep (&lt;90 Db)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>4</td>
<td>13-14</td>
<td></td>
</tr>
<tr>
<td>Visual impairment</td>
<td>Female</td>
<td>3</td>
<td>12</td>
<td>%50- %70</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>5</td>
<td>12-14</td>
<td>%50- %90</td>
</tr>
<tr>
<td>Movement impairment</td>
<td>Female</td>
<td>1</td>
<td>11</td>
<td>Amelia</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>1</td>
<td>13</td>
<td>Fokomelia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper left limb</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper left limb (up to elbow)</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>Female</td>
<td>4</td>
<td>11-13</td>
<td>Dyslexia - ADHD - NLD - Dyspraxia - Dyslexia - ADHD</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>5</td>
<td>11-13</td>
<td>Mixed - Combined type - Motor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dysphonemic - Mixed - Hyperactive-impulse type</td>
</tr>
</tbody>
</table>

Attention Deficit Hyperactivity Disorder (ADHD), Nonverbal learning disorder (NLD)

**Data Collection**

The height, weight and Body Mass Index (BMI) of children a standard methodology and for measuring the strength of upper limbs a manual dynamometer was used. Test battery were used to determine the physical capacities of children. Regarding inclusive education, questionnaires from physical education teachers (n = 99) were collected.

**Teacher Questionnaires**

A questionnaire developed by a researcher about Curriculum, Problems of Teaching, Material, Attitude of The School Management, Inclusive Education, Pedagogical Staff (teacher training) was conducted with the teachers who participated in the survey. The questionnaire includes 55 questions. The selection, content and ordering of the questions within it is consistent with the purpose and objectives of the study. The questions are answered by a 5-step scale of the likert type, where 1 is "always" and 5 - "never". Questions 1, 34, 42, 47, 48 and 49 are reversed (the rating scale is reversed) (Table 2). Expert opinions were consulted to ensure the appearance and content validity for the draft, the necessary corrections were made and the survey was finalized. The validity and reliability analyzes of the data collection tool were made; Internal consistency coefficient (Cronbach Alpha Coefficient) was calculated as \( \alpha = 0.86 \).
Table 2. The Scale of Assessment of Pe-Teachers' Opinions About Inclusive Education

<table>
<thead>
<tr>
<th>Index</th>
<th>N</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>10</td>
<td>Content and the expected results from the implementation of the curriculum on which the teachers of physical education in the secondary schools are currently working.</td>
</tr>
<tr>
<td>Problems of Teaching</td>
<td>16</td>
<td>Teacher's their professional qualifications on issues related to working with disabled children.</td>
</tr>
<tr>
<td>Material and Technical Provision</td>
<td>4</td>
<td>Problems related to the material and technical provision of the physical education and sports education</td>
</tr>
<tr>
<td>Attitude of The School Management</td>
<td>8</td>
<td>Attitude of the school management to the problems of the physical education and sport education of the children with special education needs</td>
</tr>
<tr>
<td>Inclusive Education</td>
<td>11</td>
<td>Issues related to inclusive education in physical education and sports</td>
</tr>
<tr>
<td>Pedagogical Staff</td>
<td>6</td>
<td>Problems related to the development of pedagogical of staff</td>
</tr>
</tbody>
</table>

Anthropometry

For measuring the height and weight of children (indicators 1 and 2 - Table 3). A standard methodology is applied (Sunny, P. et al., 1998). the so-called " Body Mass Index (BMI), BMI = Weight (kg) / Height (m)^2."

Dynamometer

For measuring the strength of upper limbs (both comfortable and inconvenient) indicators 5 and 6 (Table 3). A manual dynamometer was used. A standard methodology is applied.

Sports-Pedagogical Testing

To check the effectiveness of the training and inclusive education, physical education and sports in elementary school. The participants in the experimental (children with special needs) and the control (children without health changes) groups were given a sports-pedagogical test (twice) of 6 physical fitness tests, adequate for the studied age group (11-14 years old) - indicators 4 and from 7 to 11 (Table 3).

Table 3. A List of The Physical Development and Physical Disability Included in The Test Battery Used

<table>
<thead>
<tr>
<th>No</th>
<th>Indicators</th>
<th>Measuring Units</th>
<th>Accuracy Of Measurement</th>
<th>Growth Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Growth</td>
<td>cm</td>
<td>1.0</td>
<td>+</td>
</tr>
<tr>
<td>2</td>
<td>Weight</td>
<td>kg</td>
<td>0.1</td>
<td>+</td>
</tr>
<tr>
<td>3</td>
<td>Body Mass Index (BMI)</td>
<td>kg / m2</td>
<td>0.01</td>
<td>+</td>
</tr>
<tr>
<td>4</td>
<td>Sprint 20 m</td>
<td>s</td>
<td>0.01</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Hand Dynamometer - convenient upper limb</td>
<td>kg</td>
<td>0.1</td>
<td>+</td>
</tr>
<tr>
<td>6</td>
<td>Dynamometry - Inconvenient upper limb</td>
<td>kg</td>
<td>0.1</td>
<td>+</td>
</tr>
<tr>
<td>7</td>
<td>Throwing a thick ball</td>
<td>m</td>
<td>0.05</td>
<td>+</td>
</tr>
<tr>
<td>8</td>
<td>Jumping to length</td>
<td>cm</td>
<td>1.0</td>
<td>+</td>
</tr>
<tr>
<td>9</td>
<td>Crunches</td>
<td>number</td>
<td>1.0</td>
<td>+</td>
</tr>
<tr>
<td>10</td>
<td>Running 400 m</td>
<td>s</td>
<td>0.01</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Depth of inclination</td>
<td>cm</td>
<td>1.0</td>
<td>+</td>
</tr>
</tbody>
</table>
Description of Physical Disability Indicators

Test 4. Sprint 20 m: From starting position, a high start is run at a maximum speed of 20 m. It goes after a whistle signal. Each participant ran the distance twice. The better achievement is reported, with an accuracy of 0.01 s.

Test 7. Throwing a thick ball: Standing - Starting from a standing position, throwing a thick ball with two hands over the head. Measure the distance from the starting line to the point where the ball touches the floor at the drop, accurate to 0.05 m. Two attempts are made. Better achievement is reported.

Test 8. Jumping to length: From the starting position, stand with your hands forward (the feet are slightly loosely aligned) with a squeeze combined with a hand retraction from down to the back, followed by a backlash with the arms and a two-leg rebound, with a stride landing as far as possible. The distance from the starting line to the last mark left by the jumper's feet is read, to the nearest 1.0 cm. Two attempts are made, respecting the better achievement.

Test 9. Abdominal presses: Starting position with a knee bent at an angle of 90°. The arms are folded in the elbow joints, with the elbows being taken away and the palms on the back. It works in pairs. The partner is squatting and for stability holds the feet in the ankles. Retract and tilt forward with the forehead to touch the knees. Between the chin and the chest all the time should be one fist away. Count the correctly executed abdominal presses for 30 seconds.

Test 10. Running 400 m: From a starting position, a high start, after a signal, runs a distance of 400 m. The running time of the five series is counted, accurate to 0.01 s.

Test 11. Depth of the inclination: Starting position seating with hands forward, knees tightened. The soles folded into the ankle joints at right angles are resting against the broad part of a Swedish chair lying down. It is tilted forward, with the fingers aiming to touch the stool and pass as far as possible from the toes. The end position lasts for about 3 seconds. The depth of inclination is accurately measured to 1.0 cm on a special scale scaled (1 cm) in both directions (positive - from 100 cm upwards when the fingers pass from the far side of the feet and negative - 100 cm down when the fingers do not reach the bench).

Sports and Pedagogical Experiment

To verify the effectiveness of the current teaching methodology for physical education and sports training in the secondary schools of Turkey and its impact on the physical capacity of children with special needs. During the experiment, our role as a pedagogue was related to provoking children to participate actively in the classroom, adapting the assignments according to their physical and mental abilities.
Adaptation of the activities for children with hearing impairments was ensured by: creating routine habits for the classes, building a communication strategy in class, combining verbal and nonverbal signs to explain exercises and assignments, which is introduced and applied by the pedagogue but is also used by all children (with and without disabilities); maintaining during the exercises of continuous eye contact with children with problems; use in explaining appropriate graphical images; the predominant use of the demonstration method.

Adaptation of the activities for children with visual impairments was ensured by: providing an adequate amount of light in the salon; the use of a separate part of the school salon so that the visually impaired pupil can become familiar with and become more accustomed to the environment; continuous maintenance of verbal contact; slow and clear instruction from the educator, detailed description of the exercise, understandable explanation of the movements and execution of the same in parts (e.g., if the instruction requires a left hand lift, use the touch of the left hand of the child).

When working with children with motor problems the lessons were adapted according to the possibilities of the particular students. The goal was that, when performing the exercises, the respective pupils could be presented with equal or even better results than their classmates. The tasks we set up required the use of coarse rather than fine moves.

Adaptation of activities for children with cognitive problems is extremely difficult. Therefore, the adaptation of tasks in this case consisted in placing the assignments in parts (the movements were disassembled for the purposes of learning and subsequently merged), involving more coordination exercises and exercises that improved the equilibrium of the students.

Statistical Analysis

Alternative analysis - to determine the relative percentages (in%) of the growth rates of the observed signs in each of the test populations for the time of the experiment. Significant increases in adherence are assumed, where the percentage difference is higher than 10-11%.

Variation analysis - to reveal the mean levels and variability of each of the tested signs in each of the groups involved in the experiment both at the beginning and at the end of the sport-pedagogical experiment. In determining the homogeneity of the observed sets, the rules of the sports statistics were adopted, according to which, at values of the coefficient of variation V: lower than 10% - the relevant indicator is stable and the population surveyed is homogeneous in relation to the attribute for which this indicator carries information; between 10% and 30% - the indicator is relatively stable and the population surveyed is relatively homogeneous; over 30% - the indicator is unstable and the surveyed population is inhomogeneous.
Hypothesis check (using Student's comparative t-criterion) to prove or reject the zero hypothesis about the significance of the differences between the mean levels of the studied sets. T-criterion values for dependent (baseline and final data for the same population) and independent (experimental and control groups as well as boys-girls) samples were calculated. Critical values t (ttabl) for both dependent and independent samples, with a high level of confidence (Pt ≥ 95%), are determined by a special table (Broglie et al., 1990).

Method of sigma deviations - for quantification of the status of the measured signs. Based on the average levels for the whole study population, the T scores of each of the experimental subgroups formed by children with different specific deficits (auditory, visual, cognitive) were calculated for the boys and girls. The (Tsarova, R., 2013) assessments are normalized, we are presented in a 50-point point system, which allows us to compare the achievements of differently measured tests and indicators (measured in s, cm, kg, number, etc.). The following formula is used: Tij = 10 . Zij + 25

As can be seen, the T score is actually a transformed Z-score, which in turn is obtained by centering the median achievement (Hij) of each of the special groups studied, on the average score of the corresponding test j for the whole set (Xj) and normalizing the difference obtained (Hij - Hj), regarding the standard deviation of the whole set (Sj), ie.

\[ Zij = \frac{Xij - Xj}{Sj} \]

The average level of the whole set corresponds to 25 points.

In cases where a lower result score for a given test corresponds to a higher quality (for example, a run time), the evaluation scale is reversed. In this case, estimates of 2 of the surveyed indicators (4th and 10th, respectively, "sprint 20m" and "running 400m") were calculated in this way.

Cronbach alpha coefficient - to determine the weight of the responses received to the questions from the survey conducted. The critical value of α = 0.86.

**Results**

**PE-Teachers' Opinions about Inclusive Education**

The results of the study showed that the vast majority of teachers surveyed were not open enough to work with children with disabilities in the physical education and sports curriculum. It was determined that the professional qualifications of teachers should be improved and the materials used in the lessons were insufficient. While the school management supports inclusive education; Most teachers are not subjected to in-service training. Given the problems associated with the pedagogical
development of staff, it was determined that university education was not sufficient to prepare them to work with children with disabilities.

**Average values and variance of signs of physical disability at the beginning of the sport-pedagogical experiment:**

**Values of obesity rates of boys and girls without and with special educational needs between the ages of 11-14**

Appear to have normal body weight (%62,50) of the male group who did not need special education at the beginning of the observed period (BMI: 19.40 kg / m2). It is seen that 12.50% of healthy boys are weak and 25% are overweight (Fig. 1-A). while in the group of children with special needs, the relative share of the children in this area is only 6.67% (Fig. 1-B).

The same is true of weight, but both are in the normal body area (BMI is 19.92 kg / m2 in girls and 19.40 kg / m2 in boys respectively). The analysis in Fig. 1-C shows that at the beginning of the experimental period, the proportion of girls with normal body weight was 83.33%, while 16.67% are overweight (Fig. 1-C). The analysis in Fig. 1-D shows that 80% of the children girls who need special education in this population have normal body weight but the remaining 20% are overweight.

**Fig 1.** Relative values of obesity rates of boys and girls without and with special educational needs at the beginning of the experimental period. (Fig. 1-A: boys without special educational needs; Fig. 1-B:
boys with special educational needs; Fig. 1-C: girls without special educational needs; Fig. 1-D: girls with special educational needs).

**Change in physical capacity characteristics of boys and girls without and with special educational needs between the ages of 11-14**

The analysis of Fig. 2-A shows that; the height of the boys is between 139.60 cm (X1min) and 162.80 cm (Xmax), the weight is between 32.60 kg (X2min) and 56.40 kg (X2mAH). This naturally reflects on the coefficient of variation V. The figure shows that; the V values are between 4.34% and 20.50%. The lowest (below 10%) is the coefficients of variation at indicators 1, 8 and 11 (corresponding to 4.34%, 6.51% and 6.06%). For the other indicators, V values ranged from 12.49% (for index 3 - body mass index) and 20.50% (for indicator 9 - abdominal presses).

Fig. 2-B shows that; boys with special educational needs; the height of the boys included (V1 = 5.07%); spine flexibility (V11 = 5.33%); the degree of body protection (V3 = 9.15%), and the level of explosive force development of the lower limbs in muscular effort in the horizontal plane (V8 = 9.77%). Relative homogeneity is observed with respect to: static force of the comfortable upper limb (V5 = 12.60%); body weight (V2 = 13.12%); boys’ sprint capabilities (V4 = 16.20%); speed endurance (V10 = 25.92%); the explosive force of the abdominal musculature (V9 = 29.19%). At the same time, as shown in Fig. 2-B, 6th and 7th indices, respectively, "manual inconvenient upper limb dynamometry" and "ball-throw" respectively, coefficients of variation are higher than 30%.

Fig. 2-C as it can be seen, girls without special educational needs; the values of the coefficient of variation are in the range of 10 to 30%, this is a proof of the relative homogeneity. Here too, the studied population is homogeneous in terms of body length (index 1 "height", V1 = 4.43%), flexibility (index 11 "depth of inclination", V11 = 4.70%) and explosive force of the lower limbs in muscular effort in the horizontal plane (indicator 8 "leap length", V8 = 5.10%).

The examination of the variability of the studied signs of physical capacity (Fig. 2-D) shows that; at the beginning of the experimental period the group of girls with special needs was homogeneous in terms of the growth and flexibility of the children included in it (V1 = 3.39% and V11 = 4.75%). Unhomogeneity is observed with respect to the level of development of both the upper limb explosive force (index 7, V7 = 39.81%) and the static force of the awkward upper limb (indicator 6, V6 = 37.69%).
Fig 2. Average values and change in physical capacity characteristics of boys and girls without and with special educational needs at the beginning of the experimental period. (Fig. 2-A: boys without special educational needs; Fig. 2-B: boys with special educational needs; Fig. 2-C: girls without special educational needs; Fig. 2-D: girls with special educational needs).

Comparative analysis of the signs of physical capacity in children without and with special educational needs

The analysis made so far has shown that there are some differences between the average levels of physical fitness in the groups of boys and girls without and with special needs. The analysis of the shows that the group of boys with special needs has a lower level of development of all indicators of physical capacity, but not in terms of anthropometric signs (Fig. 3-A boys). The comparative analysis of girls' results (Fig. 3-B girls) also shows that there are larger or smaller differences between the mean levels of the physical signs studied, but unlike the boys, healthy girls here have all the advantages.
Fig 3. Comparative analysis of average levels of physical capacity signs at the beginning of the experimental period (Fig. 3-A boys; Fig. 3-B girls).

It can be seen that; the t-criterion values for the majority of the observed signs are lower than the critical value (ttabl = 2.02). This gives reason to believe that the advantage of healthy boys in terms of indicators 3, 5, 6, 7, 8, 9 and 11 is insignificant and can be explained by accidental causes. Speed and sprint abilities (indicator 4, t4 = 5.56) and speed endurance (indicator 10, t10 = 4.64). At the same time, the group of boys with special needs has a significantly low growth rate (indicator 1, t1 = 3.17) (Fig. 4-A).

Fig. 4-B (girls) shows that; in 7 of the studied features the advantage of the first group is insignificant. Proof of this is t-criterion values that are lower than the critical (ttabl = 2.07) and move between 0.88 and 1.85. The same can not be said for indicators 4, 6, 7 and 10. Also, the static force of the awkward upper limb (t6 = 2.29); Explosive force of upper limbs (t7 = 2.57); the speed of the girls (t4 = 2.95), and speed-strength endurance (t10 = 3.02).

Fig 4. Significances of differences between the average levels of the investigated signs at the beginning of the experimental period (Fig. 4-A boys; Fig. 4-B girls).
Characteristics of physical capacity in children with different specific deficits

The analysis in Fig. 5-A shows that; boys with visual impairments have better developed sprint capabilities and are slightly more flexible. However, for indicator 1, the value of t is 0.63, which gives reason for the boys' height to be assumed to be a true zero hypothesis. The Fig. 5-A also shows that; as already noted, boys with hearing problems have the advantage of six of the physical signs. However, the values of the comparative criterion give reason to believe that their advantage is insignificant in terms of: the static force of the upper limbs (both comfortable and inconvenient - t5 = 0.46 and t6 = 0.36); the explosive force of the lower limbs in muscular effort in the horizontal plane (t8 = 0.78); speed endurance (t10 = 1.00), and the explosive force of the abdominal muscles (t9 = 1.33).

The comparative analysis of boys with cognitive and hearing problems (Fig. 5-B) shows that; the boys of the first set have higher developed: mobility of the spine (indicator 11, t11 = 2.05); explosive force of the abdominal musculature (index 9, t9 = 1.26); sprint options (metric 4, t4 = 0.89); speed endurance (indicator 10, t10 = 0.46); higher index of security (indicator 3, t3 = 1.20). But, as can be seen from (Fig. 5-B), for the other studied features is to the benefit of boys with hearing impairment. Observed advantage is significant only in relation to: the explosive force of the upper limbs (index 7, t7 = 6.20) and the explosive force of the upper limbs (indicators 5 and 6, t5 = 3.72 and t6 = 3.31).

The comparative analysis of the boys with cognitive and visual problems (Fig. 5-C) shows that; here both groups have the advantage of half of the tested signs and weaker results on the other half. The advantage of children with cognitive problems refers to the aforementioned explosive force of the abdominal muscles, the speed of stamina and the mobility of the vertebral column, which they are superior to the group of boys with hearing impairment. Additionally, here, instead of speed and degree of protection, there is an advantage over the blast strength of the upper limbs (index 7, t7 = 1.14) and the explosive force of the lower limbs in muscular effort in the horizontal plane (indicator 8, t8 = 0.82). As can be seen from (Fig. 5-C), however, the only driving quality that boys with cognitive problems are significant compared to boys with visual problems is the blast of abdominal muscles. For the remaining indicators, there is a group of boys with visual problems, but with a high probability of assurance, it can be argued that this advantage is significant only in terms of the physical development: height (indicator 1, t1 = 2.32); weight (index 2, t2 = 3.15) and BMI index, t3 = 2.50).

However, t-criterion values are not large enough, which means that the advantage of visually impaired girls with respect to physical development indicators is insignificant. Similar dependence is also observed with respect to indicators 4 and 5, 20 m sprint and "hand-held dynamometer -
convenient upper limb”, which gives reason. For the other 6 indicators characterizing the physical capacity, the average results obtained in the first test of the girls with hearing problems are higher than those of the girls with visual problems. The more detailed analysis of Fig. 5-D shows that; the advantage of girls with hearing problems is significant only in terms of: burst force of abdominal muscles (index 9, t9 = 4.50); the spine flexibility (Indicator 11, t11 = 3.39) and the explosive force of the upper limbs in forward and upward muscular effort (indicator 7, t7 = 3.26).

Fig.5-E analysis shows that; this group also outperforms the group of girls with hearing problems in terms of physical development (indicators 1, 2 and 3), as well as their speed and sprint capabilities (indicator 4). Fig.5-E the analysis of the figure also shows that at the beginning of the experiment, girls with cognitive problems have higher levels than those with hearing problems, a level of development of speed endurance (indicator 10, t10 = 0.98), but this advantage is insignificant. In the other studies of physical fitness, the mean values are in favor of hearing impaired children, but the t-criterion values are in the range of 0.40 to 1.73, it is. the differences are insignificant.

The latter comparison between the groups of girls with visual and cognitive deficits (Fig. 5-F) shows that; in general the girls in the first group, for obvious reasons, have a lower level than the girls with cognitive impairment. The advantage of the last of 6 of the investigated signs is insignificant (t <2.57). However, with high warranty probability, girls with cognitive impairment can be said to besignificantly superior to those with visual problems only with respect to the explosive force of abdominal muscles (index 9, t9 = 4.93) and speed endurance (indicator 10, t10 = 3.15).
Fig 5. Significance of difference in average levels of physical capacity in boys and girls with health problem at the beginning of the experimental period. (Fig. 5-A: boys with hearing and visual impairments; Fig. 5-B: boys with hearing and cognitive impairments; Fig. 5-C: boys with visual and cognitive impairments; Fig. 5-D: girls with hearing and visual impairments; Fig. 5-E: girls with hearing and cognitive impairments; Fig. 5-F: girls with visual and cognitive impairments).

Evaluation of the effectiveness of physical education and sports training at the end of the experiment period for boys and girls with and without special education needs

As stated in the Methodology of the study, in order to establish the effect of physical education and sports training, at the end of the observed period a new sports and pedagogical testing was carried out for all students included in the groups. Testing was performed only on the basis of physical fitness (indicators 4 to 11). Physical development data (indices 1 to 3) were not taken into account due to the fact that for the limited time of the experiment significant changes in the growth and weight of children in the age group studied can not be expected.
At the end of the experimental period, boys without health problems increased their achievements in all observed signs of physical capacity. For example, they improved the sprint distance (indicator 4) by 0.24s, threw the dense ball on average by 72cm farther, made an average of 2 abdominal presses more than before, and so on. It can be seen that the highest increase was observed in indicators 7 and 9 (respectively "ball-throw" and "abdominal presses"). at the end of the sportspedagogical experiment under the influence of the means of physical education and sport, have significantly improved their own: explosive force of the upper limbs, in muscular effort up and down, 13.04%, and explosive force of the abdominal musculature - by 12.71%. However, in the other studies of physical fitness, the increases are in the order of 1 to 6% (Fig. 6-A). Fig. 6-B shows that at the end of the experimental period the girls participating in the survey ran 20 m sprint on average for 4.06 s, cast the dense ball on average at 5.43 m, averaged 14, 28 abdominal presses, and so on. The analysis shows that the final results for all indicators are positive, that the relative shares of the growth rate are generally lower than 8.50% (Fig. 6-B).

![Fig 6.](image)

**Fig 6.** Relative percentage (in%) of changes of physical capacity in boys and girls without health problems at the end of the experimental period (Fig. 6-A: boys without health problems; Fig. 6-B: girls without health problems).

Unlike boys without health problems, As can be seen from (Fig. 7-A), for the rest of the signs the relative proportions of the growths are too low and this gives reason to claim that the applied funds in the activities with these boys did not have a constructive effect on the following motor skills: explosive force of lower limbs (indicator 8 - change by only 1.37%); spine flexibility (indicator 11 - 2.08%); the static force of the comfortable upper limb (indicator 5 - by 6.16%); speed and speed of boys with special needs (indicator 4 - 7.83% ((Fig. 7-A). The analysis in (Fig. 7-B) shows that; in 5 of the indicators the relative shares of the growth rates are below 10% (moving between 0.54% and 7.20%), meaning that these increases are insignificant and with respect to the respective signs the zero
hypothesis. However, this does not apply to indicators 6, 7 and 9. As can be seen from (Fig. 7-B), significant positive changes occurred during the experiment with respect to: the static force of the upper limbs (in the comfortable with 17.68% and in the incompetent limb by 16.75%) and in the blast muscle of the abdominal musculature (by 15.74%).

![Fig 7](image)

**Fig 7.** Relative percentage (in%) of changes of physical capacity characteristic in boys and girls with special educational needs at the end of the experimental period (Fig. 7-A: boys with special educational needs; Fig. 7-B: girls with special educational needs).

The analysis of the (Fig 8-A) as can be seen; in general the means of physical education and sport have had the greatest impact on the physical capacity of boys with cognitive problems. 6 of the experimental signs have seen significant positive changes in these boys. Proof of this is the relative proportions growths that are higher than the critical. Also, speed endurance (indicator 10 - growth is 24.21%); the explosive force of the upper limbs (indicator 7 - by 18.97%); speed (indicator 4 - by 16.50%); explosive abdominal muscles (9 - 15.00%); the static power of both the comfortable and the awkward upper limb (indicators 5 and 6 - 11.06% and 10.41%, respectively). Fig. 8-A shows that the percentage changes in the mean levels of the physical signs of exercise in boys with hearing deficiencies vary between 1.10% and 8.15%, which suggests that the impacts applied were not effective enough.

The last special group includes visually impaired boys. As can be seen from (Fig. 8-A), and in this group, overall, the increments are very small, nevertheless, it is clear from the figure that the efforts of pupils and teachers have caused a significant improvement in the explosive force of the upper limbs (index 7). As you can see, the growth rate is almost equivalent to that achieved by children with cognitive problems (18.48% vs. 18.97%). Very close to the limit value is the relative share of the change in the development of the speed of the boys in short distances (indicator 4 - 9.72%).
The comparative analysis of growths in the three groups of girls with different specific deficits (Fig. 8-B) shows that; significant increases have been achieved: girls with visual problems - in terms of the explosive force of abdominal muscles (indicator 9 - by 17.39%) and speed endurance (indicator 10 - by 15.57%); girls with cognitive problems - also with respect to the explosive force of the abdominal muscles (by 18.37%), as well as the explosive force of the upper limbs (by 13.69%); girls with hearing problems - in terms of the static force of the comfortable upper limb (indicator 5 - by 15.08%).

Discussion

According to our research results; It has been suggested that most of the teachers’ physical education and sports curriculum are not clear enough to work with children with disabilities. It was determined that the materials needed by teachers were insufficient. While the attitude of the school management supports inclusive education; It has been determined that it is not sufficiently involved in its execution. Considering the problems regarding the pedagogical development of the staff, it was determined that university education was not sufficient to prepare teachers to work with children with disabilities. Physical education and sports allow individuals with disabilities to come together with sound and disabled individuals, and fulfill an extremely important function for inclusion aimed at reaching special education (Majoko, 2017). Similarly, previous research reveals that inclusive education in physical education and sports should focus on the strengths of teachers rather than children's deficits (Ballard, 2012; Majoko, 2019). Therefore, teachers should focus on teaching and learning about what children can do instead of what they cannot. In a study, Vickerman and Coates (2009) suggested that PE teachers have limited experience in flexibly interpreting the National
Curriculum and have limited perspectives on how physical education should be taught and evaluated. According to our findings; It is observed that boys and girls who need and do not need special education have a homogeneous BMI index calculated and more than half of them have normal body weight (Fig 1. A-B-C-D). These values of the BMI index are based on the test results at the beginning of the sports-pedagogical experiment; It gives a reason to believe that boys and girls who need and do not need special education in general have normal body weight.

According to our research findings (Figure 2. A-B-C-D); When the change in physical capacity characteristics of boys and girls between the ages of 11 and 14 with and without special education needs is examined; At the beginning of the sports-pedagogical experiment, it was found to be relatively homogeneous in terms of the physical capacity examined. In some cases; relative homogeneity is observed. Inclusive physical education (PE) prioritizes access for all to ensure participation in the subject area and physical capacity more generally (Simpson and Mandich, 2012; Majoko, 2019). Teachers’ pedagogical practices are a fundamental social justice issue in regard to improved learning outcomes for all children. In addition to teachers’ strategies to structure learning environments, the characteristics of their peers also potentially affect the experiences of SEN children in PE (Hodge et al., 2009; Spencer-Cavaliere and Watkinson, 2010). Creating a sense of belonging to the group in physical education and sports lessons, increasing motivation and providing different learning experiences gives children opportunities to participate significantly in PE and has a positive effect in terms of their physical capacities.

The analysis made so far has shown that there are some smaller differences between the average levels of physical capacity in the groups of boys and girls without and with special needs. The existence of differences, however, does not justify conclusive conclusions on the advantages of one or other of the groups (Pt ≥ 95%) (Fig. 3 and 4- A - B). SEN students experience limited participation in lesson activities in PE. PE is six times less likely to report high self-efficacy than higher-grade students (Bertills et al., 2018). Participation of students in need of special education in PE classes can provide important opportunities to gain the knowledge and skills necessary to lead an active lifestyle in the future (Maxwell et al., 2018). Experienced teachers can create a meaningful learning environment that supports autonomy with lessons structured in comprehensive PE environments that can promote the physical capacity, social, emotional and cognitive benefits demanded for PE (Shirazipour et al., 2018). Physical education and sports classes provide the opportunity to increase the physical development of children, develop their physical capacities and develop valuable skills that they will need both in their education and in their future lives.

In order to solve the aim and objectives of the study, the average levels and the variability of the signs of physical capacity in children with different specific deficits - hearing, visual or cognitive impairments were revealed. Hearing impaired boys show that they are characterized by a lower
physical development than the total number of children with visual impairment. Shows that homogeneous and relatively homogeneous with respect to all the studied features of physical development and physical capacity. Proof of this is the coefficient of variation, which ranges between 3-4% and 30%. The comparative analysis of the boys with cognitive and visual problems shows that here both groups have the advantage of half of the tested signs and weaker results on the other half. However, the only driving quality that boys with cognitive problems are significant compared to boys with visual problems is the blast of abdominal muscles (Fig 5. A-B-C). The structure of PE lessons, both in terms of physical capacity and social adaptations, is important for the participation of students with SEN in PE. Different adaptations and modifications are required, depending on the type of disability. Meaningful learning experiences for students with SEN in PE are extensively dependent on teachers’ skills to and attitudes toward communicating and structuring their teaching in an inclusive direction (Jordan et al., 2010). Adaptations that provide meaningful participation and learning experiences in physical education lessons for students who need special support require long-term planning by teachers to improve physical capacity.

For the purposes of our the study, the results of the initial sports-pedagogical testing of girls with various specific deficits also underwent mathematical and statistical processing through variance analysis. When girls with hearing problems are compared with girls with vision problems; It is clear that the latter has higher values in the indicators that characterize physical development. But, which means that the advantage of visually impaired girls with respect to physical development indicators is insignificant and can therefore be explained by accidental causes. In our opinion, is quite logical, due to the difficulties experienced by children with visual problems, in the orientation in space, which makes their free movement in physical exercises difficult. The analysis of at the beginning of the experiment, girls with cognitive problems have higher levels than those with hearing problems, a level of development of speed endurance, but this advantage is insignificant. In the other studies of physical fitness, the mean values are in favor of hearing impaired children, it is. the differences are insignificant. The latter comparison between the groups of girls with visual and cognitive deficits shows that, in general, the girls in the first group, for obvious reasons, have a lower level than the girls with cognitive impairment (Fig 5. D-E-F). Inclusion in PE is significantly different from other subject areas, since the implementation of the PE syllabus include activity specific facilities and equipment, seasonal activities and safety issues (Morley et al., 2005; Fitzgerald and Stride, 2005; Coates and Vickerman, 2010), however, it is evident children with SEN take part in a narrower range of PE activities compared with their non-disabled peers. As a result, including children with SEN in PE lessons is fundamental to their cognitive, social, emotional and physical capacity development. In contrast, where children with SEN report negative experiences in PE they perceive this to be due to bullying by pers, or when they feel they are being restricted from taking part fully in the lesson due to poor differentiation from the teacher (Goodwin and Watkinson, 2000).
To determine the effect of physical education and sports training, at the end of the observed period, a new sports and pedagogical test was carried out for all students involved. As a result of the effects applied with physical education and sports tools, it shows that at the end of the experiment period, men without health problems increased their success in all observed physical capacity symptoms. In general, physical education and sports tools were observed to have different effects on the physical capacities of boys with cognitive, hearing and vision problems compared to the groups (Fig. 6-A; Fig. 7-A; Fig. 8-A). According to our findings; shows that physical education and sports training practices in the classroom do not cause significant changes on the physical capacities of girls with cognitive, hearing and vision problems. special needs. The results are lower than girls without health problems. This requires adequate changes to the curriculum and methods used at school (Fig. 6-B; Fig. 7-B; Fig. 8-B). Today physical education and sports lesson is accepted as an important part of special education practices (Buchanan et al., 2017). It is emphasized that physical education and sports lesson offered to students with special needs should be integrated into special education and it should support and develop the physical capacity field (Toptaş Demirci and Demirci, 2018). Research shows that, while children with SEN enjoy being physically active (Rekaa et al., 2018), their progression in PE is still hampered by a broad range of factors, including: school culture (Tripp et al., 2007); lack of paraprofessional support (Neville et al., 2020); over-emphasis on sporting activities (Qi and Ha, 2012) and, subsequently, on competition and winning and losing (Fitzgerald and Stride, 2012); and, from the perspective of SEN children themselves, a lack of appropriateness in the design of PE classroom activities and of curriculum, which they feel are poorly matched to their individual their abilities and needs (Maher, 2017).

However, for many Physical Education teachers, the unique responsibility it brings is a permanent challenge at all stages of professional experience and often encompasses the complexity of education and health problems. These include lack of inclusive skill training, lack of support infrastructure, insufficient resources, lack of familiarity with special equipment, and limited understanding of children SEN (Haegele et al., 2017). There is a longstanding recognition within PE of the challenges associated with including children who vary in physical ability and learning preference (Makopoulou and Thomas, 2016). International research shows that children SEN are still not accessing or being fully included into educational programs within mainstream schools (Rieser, 2013).

Conclusion

The results of the study showed that the vast majority of teachers surveyed were not open enough to work with children with disabilities in the physical education and sports curriculum. The comparative analysis of physical fitness in children without and with special educational needs shows that, in spite of some exceptions, at the beginning of the sport-pedagogical experiment the level of
development of the physical capacity of boys and girls without and with special needs does not differ significantly, which is a guarantee of correctness at the start of the experiment. Each of the groups of children with specific deficits has its own features related to the nature of the disability in question. The emphasis on work during future physical education and sports activities should be focused on those signs of physical capacity in which the group has the lowest marks. Efforts to develop the other signs - those with the highest scores - will not have the same building effect on the physical capacity of children with special needs. At both the beginning and the end of the sport-pedagogical experiment, the assembled sets are homogeneous and relatively homogeneous in terms of the physical signs under study. The means of physical education and sports applied in the classroom did not cause significant changes in the levels of the majority of the examined signs of physical capacity, both for boys and girls without and for those with special needs. This necessitates adequate changes in the curricula and the methods used in the school.

**Limitation**

The theme limitation of this research is the sample size. As an exploratory study time dependent, the sample was limited in Turkey with a strong geographic region. The findings provided valuable information about the physical capacities of SEN students in PE classes, and these can be confirmed by a larger sample group from schools of different sizes and locations. In addition, the research population can be expanded to include curriculum.

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**References**


A Corpus-Based Proposal for the Vocabulary to be Taught at A1 Level in the Teaching of Turkish as a Foreign Language

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Abstract
While the significance of corpus-based research in the teaching of foreign language and native language is increasing, the need for such studies is also increasing accordingly. The priority of the vocabulary taught in language education are identified through corpus-based studies in line with the international criteria set in the relevant field. Corpora and sub-corpora consisting of many layers, written and oral, improve the efficiency of the teaching/learning process for both teachers and learners. Corpus-based studies aiming to create word lists to be taught at the basic level are significant in this context to meet the needs of learners and teachers. In this study, 7 different A1 level textbooks and about 114-thousand-word data set used in teaching Turkish as a foreign language were examined based on the relevant corpus, and the type/token ratios of the sub-corpus were identified. The most frequently used words in A1 corpus in the field of Turkish teaching as a foreign language are classified according to their types. Frequency lists of the words that are considered to be functional and useful in the teaching of Turkish as a foreign language for both teachers and learners have been prepared; 250 most frequently used nouns, adjectives and verbs; 750 different words, which are considered to be a fairly comprehensive number for the basic level, are presented as suggestions within the scope of this study.

Keywords: Corpus, Vocabulary Load, Coursebooks, Teaching Turkish to Foreigners as a Foreign Language

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Introduction

Language is the greatest communication tool of mankind, who has communicated directly or indirectly in history. Language is the agreement and people produce with words or signs to let one another know what they think and hear (Türkçe Sözlük, 2005: 526). Language is a multifaceted and advanced system that allows thoughts, feelings and desires in society to be passed on others using the shared elements and rules in terms of sound and meaning (Aksan, 1977: 55).

In language actions, the most important factors that drive communication and attract the semantic load is the word or lexical item. A word can be defined as a base possessing a meaning or task ready to be processed with inflexional suffixes (Baş, 2011). As humankind is a social being, s/he expresses what s/he wants through words (Yılmaz and Doğan, 2014). There is a close relationship between the effective use of comprehension and expression skills and the richness of vocabulary knowledge (Karatay, 2007: 143). Word and sentence knowledge are absolutely important for reading at a very basic level (Grabe, 1991: 380) because there is a strong relationship between vocabulary knowledge and reading comprehension (Matsuoka and Hirsh, 2010: 56). A word that acts as a bridge between receiving and transmitting skills and transmits a semantic load makes basic language skills work.

The main purpose of language teaching is to develop listening, speaking, reading and writing skills in learners, which are called four basic language skills. In line with these goals, as in every educational environment, various teaching materials are used to facilitate the process and ensure permanent learning in the field of language teaching. Teaching material is a teaching-learning aid specifically designed for students so that they can learn and for the teacher so that they can provide effective teaching (Demirel, 2005: 7). Textbooks are key for both teachers and students. Planning, controlling the educational process and transferring social and cultural codes to the target audience is achieved through the contents, texts and words presented in textbooks. In this context, the texts to be included in textbooks must have some general characteristics, as well as some certain standards in terms of their vocabulary content.

Vocabulary load is the main factor determining the quality of texts according to the level and the level of semantic load. According to Aksan (2015), vocabulary load is what covers not only the words of the target language, but also its idioms, stereotypes, proverbs, terms, and various narrative patterns. What is described with this term also reflects the material and spiritual culture, worldview, living conditions and experiences of the nation speaking that language (Aksan, 2014: 13)

Frequency studies play an important role in the teaching of a language both as a mother tongue and as a foreign language. Frequency is defined as "the number of occurrences of the same linguistic phenomenon or unit in a speech or article in a certain length " (Vardar, 2002). Word
Frequency can be defined as the rate of frequent use of a word (Aydin, 2015). Thorndike also published a book namely “the teacher's Word Book” in 1921 and he pointed out that frequency is the answer to the question “how often is the word used?” (Cited in Armut. Coxhead, 2000: 217). When considered in terms of education and training processes, the most commonly used material is the textbook and the vocabulary load stands out as an evaluation criterion when evaluating their content and quality.

In foreign language teaching “vocabulary is a complement of the four basic language skills and language knowledge, and it plays a fundamental role in the development of these areas.”(Kurudayyolu and Dolek, 2019: 30). Considering from the perspective of those learning Turkish as a foreign language, “the vocabulary needs of learners are different from those whose native language is Turkish, and it requires more effort.” (Karatay, 2020: 256). As with native language education, the basic vocabulary used in foreign language education and factors such as the motivation of students to learn, the ability to achieve, are important for the functional use of the language. Lists that will be created about the basic vocabulary of the target language will help a student use the language functionally. In this context, the needs of learners will differ from an individual who learns the target language at an initial level and to an individual who learns it at an advanced level, and the target word list and the vocabulary load will also be among these differences.

When the relationship between literary texts and life is examined, it is seen that the reality of life in literary products and the state of humanity, is established in the inner world of authors. In this regard, literary texts have a significant share in understanding different aspects of man and society. In literary texts written in a foreign language, it is also possible to find the reflection of the world of that language, the life that is foreign to us (Polat, 2012). In the light of the evaluations, textbooks prepared for foreign language education are expected to use text content in line with the level, needs and purposes of the individuals learning that language. At this stage, the needs of instructors and learners should be monitored, and the content presented in the course should be designed based on international standards.

**Corpus and Customized Corpus**

It is known that studies on the use of vocabulary have been carried out more often in recent years. “Corpus”, which is a Latin-rooted term, means body, and the plural form of the word “corpora” is formed with Latin plural suffixes. McEnery and Hardie (2011: 32) defined “corpus” as "a whole of text that has the highest level of representative power, that can be read by a machine, and has certain boundaries. Weisser (2016: 13) defined “corpus” as a collection of oral or written texts selected for use in a linguistic evaluation, based on specific design criteria shaped by the purpose and scope of particular linguistic research. Gries (2009: 7) defined “corpus” as a collection of machine-readable
(written or oral) texts produced in a natural communication environment. These texts are collected to be representative and balanced in terms of a certain language variable, language item or literary type, and to conduct linguistic studies. Elena (2001: 55) defined corpus as a computer-processed set of actual texts that are suitable for automatic or semi-automatic processing and review. If a definition for the corpus-based on the evaluations is made; it seems that the emphasis is on transferring texts collected for a general or special purpose to computer environment and processing them electronically for evaluations such as text type, word structure, frequency, context analysis.

Corpora have arc data set volumes according to their purpose. In terms of data size and the area of research it addresses, macro corpora are expressed as “general corpus”. Corpora are divided into two as general and private. According to Tahiroğlu (2010), general corpora include all sub-varieties in one language. General corpora with a variety of data set from very different fields try to describe the macrostructures in the language. Special corpora are specific to the fields such as law, medicine, literature, etc. and newspapers, novels, magazines, academic articles (Tahiroğlu, 2010). Depending on the selected genre, the representation power of general corpora increases or decreases, while the representation power of special corpora are limited by the level of words that they contain (McEnery and Andrew, 2004).

The most advanced form of frequency studies is undoubtedly computer-generated corpora. Corpora performed with natural language processing software are large-volume studies. The larger the volume of content processed in the corpus is, the more reliable the resulting frequency is. In this regard, corpora-related studies are a reference in language teaching (Karadağ, 2019a). However, specialized studies are also carried out for a specific field and discipline through special corpora. With special corpora, researchers are directed to the focus, missing out many variables that big data has. This is also done by combining data sets for the research area.

Among the main data sources of the corpora are written products. Because of the language characteristics, it provides important data to portray the overall structure of that language. On the other hand, written language could be measured as a research object and easily accessible to researchers. In this sense, the reliability of the data gathered from relevant corpus also means that the description made is also reliable (Özkan, 2013). In the design of the corpus, for example, the type of text contained in the content, the number of texts, the selection of specific texts, the selection of samples from available texts, the size of the sample, etc. are all the measures regarding whether the design was made purposefully or not (Sampson et al. 2005: 174). In terms of written resources in the language teaching process, textbooks are among the basic materials in meeting needs and achieving goals, and they have the same significance in the teaching of Turkish as well. Textbooks used in teaching Turkish as a foreign language may differ in terms of frequency lists. When the relevant
literature is considered, it is observed that frequency lists in teaching Turkish as a foreign language are usually designed away from the corpus-based approach.

Vocabulary use in the corpus-based researches conducted at the beginning of 20. Century in Europe is the basis of frequency studies. Corpus-based studies have also been one of the research interests in Turkey in recent years. Özkan (2010) claimed that the positive outputs of processing language data through the computer are significantly obvious in the fields of linguistics; computerized language studies that have expanded its field, and this has been obvious in corpus, linguistics lexicology, morphology, phonology, machine translation, semantics, etc. In this study, the vocabulary load in A1(basic) level textbooks used in teaching Turkish as a foreign language will be examined based on a relevant corpus, and thus A1 level corpus will be created. 250 most frequently used nouns, adjectives and verbs will be listed according to their parts of speech using the relevant corpus.

Method

Research Design

This study adopted a corpus-based approach, and a specific purpose corpus was created. Wolfgang Teubert and Anna Čermáková (2004: 119) defined specific-purpose corpora as a collection prepared by those who created the corpora for their research on a special situation, rather than to make research on a standard language adopting a holistic approach. Specific-purpose corpora, which are smaller in size than general-reference corpora, are known to have been designed for various research purposes. Rather than general linguistic concerns, they may be used by the researchers in narrow-scope researches. A specific-purpose corpus can also be created by gathering texts from a general-purpose reference corpus in parallel with the purpose of the research (Yazıcı, 2018). In this study, 7 different textbooks used in teaching Turkish as a foreign language were digitized, and thus A1 level corpus was created. The following are the textbooks that make up the A1 level corpus:

- A1 level coursebook of Altay, a set for teaching Turkish as a foreign language
- A1 level coursebook of Dedam, a set for teaching Turkish as a foreign language,
- A1 level coursebook of Dilmer, a set for teaching Turkish as a foreign language,
- A1 level coursebook of Gazi, a set for teaching Turkish as a foreign language,
- A1 level coursebook of İstanbul, a set for teaching Turkish as a foreign language,
- A1 level coursebook of Türkçeye Yolculuk, a set for teaching Turkish as a foreign language,
- A1 level coursebook of Yedi İklim, a set for teaching Turkish as a foreign language
Analysis of Data

A1-level textbooks used in teaching Turkish as a foreign language examined within the scope of the research were transferred to a computer environment, books were digitized with OCR software and a data set was created by converting through UTF-8 code. The obtained data set was prepared for analysis using Wordsmith Tools 7.0 software, frequency lists were created and sorted according to parts of speech (noun, verb, adjective,). In this process, inflectional suffixes were removed from words and thus word roots were obtained. For example:” F(1) “was assigned to the word “book” as the frequency value by eliminating the case suffixes in the words “kitaba, kitabı, kitaptan”. Thus, the lemmatisation and tag stages in the corpus linguistics were completed. In the final stage, 250 nouns, 250 adjectives, 250 verbs obtained from the A1 level textbooks corpora for basic Turkish learners are presented in tables.

![Figure 1. The interface of WordSmith Tools Software](image)

Findings

Vocabulary Use of the Corpus of A1 Level Book Sets for Teaching Turkish to Foreigners as a Foreign language

A1 level coursebooks of Altay, Gazi, Istanbul, Türkçeye Yolculuk, Yedi İklim, Dedam, Dilmer sets for teaching Turkish to foreigners were analysed based on the corpus. In this context, the vocabulary load (token) of the textbook corpus was found to be 113957 words. The number of different words of the coursebook corpus was found to be 113957.

<table>
<thead>
<tr>
<th>Data Set</th>
<th>Number of Words in total (Token)</th>
<th>Number of Different Words (Type)</th>
<th>Coefficient of Word Treasure (Type/Token)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yedi İklim</td>
<td>19677</td>
<td>5084</td>
<td>0.26</td>
</tr>
<tr>
<td>Türkçeye Yolculuk</td>
<td>19308</td>
<td>4351</td>
<td>0.22</td>
</tr>
<tr>
<td>Dilmer</td>
<td>19061</td>
<td>3032</td>
<td>0.16</td>
</tr>
<tr>
<td>Altay</td>
<td>15882</td>
<td>3882</td>
<td>0.24</td>
</tr>
</tbody>
</table>
In the study, it was found that the number of words (tokens) of Yedi İklim A1 level textbooks was 19677, the ratio of type and token was 0.26, and the number of different words was 5084. The number of the corpus-based vocabulary of A1 level coursebook of Türkçeye Yolculuk was found to be 19308, the number of different words was 4351, and the type/token ratio was found to be 0.22. In A1 level textbook of Dilmer, it was found that the total number of words (tokens) was 19061, the number of different words(type) is 3032, and the type/token ratio was 0.16.

It was found that the number of words (tokens) of Altay A1 level textbooks was 15882, the number of different words was 3882 and the rate of type/token was 0.24. The number of words (tokens) of Istanbul A1 level textbooks was 158813, the number of different words was 3757, and the ratio of type/token was 0.24. The number of words (tokens) of Gazi A1 level textbooks was 13604, the number of different words was 3843, and the ratio of type/token was 0.28. The number of words (tokens) of Dedam A1 level textbooks was 10612, the number of different words was 2454, and the ratio of type/token was 0.23. It was determined that the total number of words (tokens) in the corpus consisting of all A1 level textbooks was 113957, the number of different words(type) was 13958, and the ratio of type/token was 0.12.

At the next stage of the research, 250 nouns, the most frequently used in teaching Turkish as a foreign language, were identified.

Table 2. The most frequently used 1-125 nouns in the YDTO A1 level textbook

<table>
<thead>
<tr>
<th>No</th>
<th>Word</th>
<th>Freq</th>
<th>No</th>
<th>Word</th>
<th>Freq</th>
<th>No</th>
<th>Word</th>
<th>Freq</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>Saat</td>
<td>700</td>
<td>43</td>
<td>Kahvaltı</td>
<td>183</td>
<td>85</td>
<td>Dünya</td>
<td>117</td>
</tr>
<tr>
<td>2</td>
<td>Ev</td>
<td>629</td>
<td>44</td>
<td>Sabah</td>
<td>182</td>
<td>86</td>
<td>Renk</td>
<td>113</td>
</tr>
<tr>
<td>3</td>
<td>Gün</td>
<td>574</td>
<td>45</td>
<td>Kelime</td>
<td>178</td>
<td>87</td>
<td>Sokak</td>
<td>112</td>
</tr>
<tr>
<td>4</td>
<td>Ünite</td>
<td>462</td>
<td>46</td>
<td>Et</td>
<td>178</td>
<td>88</td>
<td>Televizyon</td>
<td>112</td>
</tr>
<tr>
<td>5</td>
<td>Kitap</td>
<td>443</td>
<td>47</td>
<td>Otobüs</td>
<td>178</td>
<td>89</td>
<td>Mustafa</td>
<td>112</td>
</tr>
<tr>
<td>6</td>
<td>Yemek</td>
<td>426</td>
<td>48</td>
<td>Kardeş</td>
<td>176</td>
<td>90</td>
<td>Yurt</td>
<td>109</td>
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<tr>
<td>7</td>
<td>Yaz</td>
<td>395</td>
<td>49</td>
<td>Adım</td>
<td>175</td>
<td>91</td>
<td>Boşluk</td>
<td>108</td>
</tr>
<tr>
<td>8</td>
<td>Zaman</td>
<td>376</td>
<td>50</td>
<td>Yer</td>
<td>172</td>
<td>92</td>
<td>Kişi</td>
<td>107</td>
</tr>
<tr>
<td>9</td>
<td>Türkçe</td>
<td>369</td>
<td>51</td>
<td>Bilgi</td>
<td>172</td>
<td>93</td>
<td>İşaret</td>
<td>106</td>
</tr>
<tr>
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<td>Arkadaş</td>
<td>350</td>
<td>52</td>
<td>Resim</td>
<td>171</td>
<td>94</td>
<td>Sınav</td>
<td>105</td>
</tr>
<tr>
<td>11</td>
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<td>344</td>
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<td>Dün</td>
<td>170</td>
<td>95</td>
<td>Kendi</td>
<td>103</td>
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<tr>
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<td>Tatil</td>
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<td>96</td>
<td>Amir</td>
<td>103</td>
</tr>
<tr>
<td>13</td>
<td>Çevap</td>
<td>326</td>
<td>55</td>
<td>Tamam</td>
<td>164</td>
<td>97</td>
<td>Hayat</td>
<td>102</td>
</tr>
<tr>
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<td>Soru</td>
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<td>Ek</td>
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<td>Bahçe</td>
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<tr>
<td>15</td>
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<td>311</td>
<td>57</td>
<td>Kaç</td>
<td>154</td>
<td>99</td>
<td>Çiçek</td>
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<td>58</td>
<td>Yaş</td>
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<td>100</td>
<td>Sema</td>
<td>101</td>
</tr>
<tr>
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<td>Hafta</td>
<td>296</td>
<td>59</td>
<td>Üniversite</td>
<td>148</td>
<td>101</td>
<td>Türk</td>
<td>101</td>
</tr>
<tr>
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<td>Ad</td>
<td>296</td>
<td>60</td>
<td>Su</td>
<td>147</td>
<td>102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Merhaba</td>
<td>288</td>
<td>61</td>
<td>Kilo</td>
<td>146</td>
<td>103</td>
<td>Yol</td>
<td>99</td>
</tr>
</tbody>
</table>
Table 3. The most frequently used 126-250 nouns in the YDTO A1 level textbook

<table>
<thead>
<tr>
<th>No</th>
<th>Word</th>
<th>Freq</th>
<th>No</th>
<th>Word</th>
<th>Freq</th>
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<th>Word</th>
<th>Freq</th>
<th>No</th>
<th>Word</th>
<th>Freq</th>
</tr>
</thead>
<tbody>
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<td>168</td>
<td>Kart</td>
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<td>210</td>
<td>Teyze</td>
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<td></td>
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</tr>
<tr>
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<td>Sıcak</td>
<td>85</td>
<td>169</td>
<td>Oyunc</td>
<td>63</td>
<td>211</td>
<td>Seyahat</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>128</td>
<td>Salon</td>
<td>85</td>
<td>170</td>
<td>Diş</td>
<td>63</td>
<td>212</td>
<td>At</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>85</td>
<td>171</td>
<td>Adres</td>
<td>63</td>
<td>213</td>
<td>Yolculı</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Mevsim</td>
<td>84</td>
<td>172</td>
<td>Ifade</td>
<td>62</td>
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A1-level textbooks used in teaching Turkish as a foreign language were examined based on the corpus and 250 nouns, which are the most frequently used according to their frequency values, were identified. As a result of the examination, basic nouns such as **saat, ev, kitap, okul, soru, cevap, masa, oda, araba, telefon, anne, baba** stood out with their frequency values. In terms of basic foreign language education, nouns stand out with their frequency values in the context of daily life, school, basic needs.

At the next stage of the study, 250 verbs, which are most frequently used in teaching Turkish as a foreign language, were identified.

**Table 4. The most frequently used 1-125 verbs in the YDTO A1 level textbook**

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### Table 5. The most frequently used 1-125 verbs in the YDTO A1 level textbook

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365
A1-level textbooks used in teaching Turkish as a foreign language were examined based on the corpus and 250 most frequently used verbs were identified according to their frequency values. It was found that the verbs such as git, iste, ye al, ol, çalış, bak, gör stood out with their frequency values. Frequently used verbs were found to stand out by considering the needs of the learner and the functional use of a foreign language.

At the next stage of the study, 250 adjectives, which are the most frequently used in teaching Turkish as a foreign language, were identified.

Table 6. The most frequently Used 1-125 adjectives in the YDTO A1 level textbook

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the corpus and 250 adjectives, which are the most frequently used according to frequency values,

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Table 7. The most frequently Used 126-250 nouns in the YDTO A1 level textbook

A1-level textbooks used in teaching Turkish as a foreign language were examined based on
the corpus and 250 adjectives, which are the most frequently used according to frequency values,
were identified. It was found that the adjectives such as doğru, yanlış, iyi, aşağı, yukarı, güzel, çirkin, tatlı, tuzlu stood out with their frequency values. Besides, descriptive and quantity adjectives stand out in the corpus with their frequency values. In terms of learners’ needs, it was found that priority is given to the adjectives that individuals will use most often in daily life at the basic level.

Discussion, Conclusion and Suggestions

Corpus-based frequency lists are fundamental references, especially in Foreign Language Teaching. The use of corpus-based frequency lists or frequency dictionaries in the teaching of the language for general-purpose is highly functional. The common approach is to give priority to the teaching of the most frequently used units in the language. This teaching process varies based on the levels in foreign language education. There are studies on the frequency at varying levels (Kara ve Ulutaş, 2018; Şimşek, 2020a; Şimşek 2020b; Karadağ, 2019b; Karadağ, 2019a; Arslan, 2014).

In recent years, an increase in the number of learning materials has been observed, along with the increase in the demand for learning Turkish as a foreign language. These materials are classified based on their levels, and they offer different contents for the target learners at each level. The fact that the words to be taught at A1 level are identified according to international standards and needs to meet the basic needs of the foreign language learners and the ability to express themselves at the basic level directly affects the success of the teaching process.

In this study, A1 level coursebooks of Altay, Gazi, İstanbul, Türkçeye Yolculuk, Dedam, Dilmer, Yedi İklim, which are the most commonly used sets for teaching Turkish to foreigners were examined based on the corpus. The total number of words in textbooks and different words were identified, and the most frequently used nouns, adjectives, verbs in these textbooks were also identified and listed based on their frequency values.

A1 level coursebooks of Altay, Gazi, İstanbul, Türkçeye Yolculuk, Dedam, Dilmer, Yedi İklim sets for teaching Turkish to foreigners were examined based on corpus in this research. In this context, the vocabulary load (token) of the A1 Level Textbook corpus was found to be 113957. The number of different words (type) included in the A1 Level Textbook corpus was found to be 13958. The ratio of the total number of words in A1 corpus to the number of different words was found to be 0.12.
The vocabulary load (token) of A1 level coursebook of Altay book set for teaching Turkish to foreigners, which is one of the sub-corpus of A1 level corpus, was found to be 15882 words, the number of different words was found to be 3882. The ratio of the total number of words to the number of different words was found to be 0.24. The vocabulary load of A1 level coursebook of Gazi book set for teaching Turkish to foreigners was found to be 13604, the number of different words was found to be 3843. The ratio of the total number of words to the number of different words was found to be 0.28.

The vocabulary load of A1 level coursebook of Istanbul book set for teaching Turkish to foreigners was found to be 13813 words, and the number of different words was found to be 3757. The ratio of the total number of words to the number of different words was found to be 0.24.

The vocabulary load of A1 level coursebook of Türcmeye Yolculuk book set for teaching Turkish to foreigners was found to be 19308 words, and the number of different words was found to be 4351. The ratio of the total number of words to the number of different words was found to be 0.28.

**Figure 2.** Data Regarding the Corpus-based Vocabulary Load in YDTÖ A1 Level Coursebooks

**Figure 3.** Details regarding the Type/token Ratio of YDTÖ A1 Level Coursebooks
0.22. A1 level coursebook of Türkçeye Yolculuk book set for teaching Turkish to foreigners is noted as the richest with its vocabulary load.

At the first stage of the research, a corpus of YDTO A1 level textbooks was created; the vocabulary loads of sub-corpora was examined. The data-rich one of the sub-corpora was found to be that of A1 level coursebook of Yedi İklim set with 19677 words. A1 level coursebook of Türkçeye Yolculuk book set was found to be the second among the sub-corpora with 19308 words in terms of data richness. Another sub-corp, A1 level coursebook of Dilmer book set ranked third with 19061 words.

In terms of type/token (all words/different words) ratio, the A1 corpus was found to have a value of 0.12. Of the sub-corpora, A1 level textbook of Gazi YDTÖ had the highest value with 0.28 in terms of type/token ratio; another sub-corp, A1 level textbook of Dilmer YDTÖ had the lowest value with 0.16. Türkçeye Yolculuk was found to have 0.22, Yedi İklim had a value of 0.26, İstanbul YDTÖ had a value of 0.24, Dedam YDTÖ had a value of 0.23, and Altay YDTÖ had a value of 0.24. Low type/token ratio in A1 corpus is assumed to be related to the content aiming at meeting basic language teaching and basic communication needs at a basic level. After evaluating the data set properties of the A1 corpus, the focus was on the frequency lists created based on types using this corpus.

As Özdemir (2013: 2052) highlighted, there should be complete compatibility between the "language " of the frequency lists and textbooks used in teaching Turkish as a foreign language and the language level of the taught students. To achieve this, authors of course books should first consider at what level the material that they have prepared will be used and the vocabulary treasure of the student groups at that stage. A1 corpus, created within the scope of this research, contains books used in teaching Turkish as a foreign language. Therefore, it could be claimed that the word lists created with this study are important both for learners and book publishers.

As true for all languages, the first 1000 words most frequently used in a language meet about 80% of the products made with that language (Aksan 2000). This is similar in the studies conducted on the content compiled from a book or a social group. In the study conducted for English language (Nation 1990, cited in Lipinski 2010) states that the 4,000-5,000 words most frequently used make up 95% of a written text, and the 1,000 words most frequently used make up 85% of speaking production. It seems that the words that stand out with their frequency serve as a bridge in written or oral communication processes. In this context, 7 A1 level textbooks used in teaching Turkish as a foreign language were structured as sub-corpora; 250 words in the most frequently used noun, adjective and verb forms were identified within the A1 corpus. In frequency, the first 250 words were evaluated according to their frequency values and thus a total of 750 different words were identified.
When we consider the most frequently used verbs such as *git, iste, ye al, ol, çalış, bak, gör, çalış, konuş, oku, yaz* stood out in the A1 corpus with their frequency values. These verbs which are most frequently used in A1 corpus makes researchers think that the criteria for functional use of the language and meeting the needs of the learner were observed. 250 most frequently used nouns were identified in A1 corpus. In this context, nouns such as *saat, ev, kitap, okul, soru, cevap, masa, oda, araba, okul, öğrenci, sınav telefon, anne, baba, kardeş* stood out with their frequency values. It is seen that basic communication needs and the items to be used in such contexts were observed. The most frequently used 250 adjectives were identified in A1 corpus. The examination revealed that the adjectives such as *doğru, yanlış, iyi, aşağı, yukarı, güzel, çirkin*, stood out with their frequency values. Besides, descriptive and quantity adjectives stand out in the corpus with their frequency values.

In the corpus-based frequency study conducted by Aksan (2017), it could be claimed that A1 level corpus is competent in terms of the ability to represent A1 corpus, which seems to largely match with the most frequently used nouns, adjectives and verbs in Turkish. Frequency lists created based on the corpus in the form of the noun, adjective and verbs could be claimed to be functional in meeting the needs of learners and teachers and to be one of the steps taken to meet one of the significant needs. It can also be used as a reference source for textbook publishers.

**Suggestions**

- The vocabulary loads of the teaching materials used in teaching Turkish as a foreign language should be organized based on the relevant corpus.

- These lists, whose frequency has been identified based on the corpus, can be beneficial in teaching processes.

- Similar corpus-based researches could be conducted.

**References**


Trends of Articles on Technology-Assisted Turkish Education

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Abstract
The aim of this research is to determine the tendencies of the articles published on the use of technology in Turkish education from different aspects such as subject fields, methods, data collection tools used in research, data analysis methods, sampling features. The scope of the research consists of articles indexed by Google Scholar in the field of technology-assisted Turkish education between 2000 and 2018. In the study, all articles were reviewed by using “Turkish Education Publication Classification Form (TEYSF)” and descriptive analysis was applied for these studies. According to the research findings in which 100 articles were reviewed, it was determined that there were deficiencies in the method parts of the studies. It has been determined that the researchers prefer using 21 to 30 references per article. Also, the journal of Turkish Studies has been found to publish the most articles in the field of technology-assisted Turkish education. However, it has also been determined that the research questions are not explicitly stated in the articles. It was determined that studies with 1 or 2 authors were performed at a rate of 81% in article studies, however, 79% of the articles were published between 2013 and 2018, and that, when the fields of Turkish education of articles were analyzed, most studies were made in the field of teaching Turkish as a foreign language. While making data analysis of the research, it was concluded that the frequency/percentage/Figure, SPSS, t-test were mostly preferred for the quantitative part, and descriptive analysis for the qualitative part. As a result, articles written in the field of technology assisted Turkish education are discussed in many dimensions and suggestions for researchers are given based on the study.

Keywords: Turkish Education, Teaching Turkish to Foreigners, Technology-Assisted Turkish Education, Research Trends

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Introduction

Thanks to the revolutions made both in the field of education and in other fields following the inclusion of Turkish in the Turkish Constitution as the official language in 1924, the encouragement for using a clear, simple correspondence language in state institutions, paying attention to the studies on Turkish, and the writing revolution in Turkey in 1928, mother tongue practices started to be paid attention to. It is necessary to commemorate Ziya Gökalp at this point, especially due to his efforts to bring the writing language closer to the spoken language and his envision for a system based on the dialect of Istanbul (Gökalp, 1990).

According to Aksan (1999: 15), “we see the world through the window of our mother tongue and shape the universe with the concepts of our mother tongue.” Gboyega & Idiat (2013: 267) suggest that mother tongue, as the term suggests, is closest to a person’s heart. It is necessary to draw attention to the teaching of the mother tongue, as the gain that mother tongue brings in securing a commitment to a nation is huge, and even the mother tongue perceives the society in which it lives, and directs it. Language barriers do not exist only in communications established with foreign languages. Many people cannot use their mother tongue effectively enough (Schulz, Degenhardt & Czerner-Nicolas, 2020). The ability of a person to establish healthy relationships in the society he/she lives in, and to perform all kinds of learning successfully during his/her education, depends on his/her ability to use his/her mother tongue effectively. People who use the language adequately establish healthier relationships and become more successful in life because they can express themselves better. “Teaching mother tongue to the growing generations very well is really important; this is because language is the basic element of culture and it is the most powerful tool that brings people closer together” (Kavcar, 1994: 150). Knowing and using the language is very essential to be successful both at school and in life.

It is seen that language is not a knowledge and skill field learned and completed at a certain age or period within the framework of definitions made and opinions stated. Mother tongue education continues at every education institution at all levels from primary education to university. The knowledge and skills to be acquired by students do not differ greatly according to their education levels, they are intertwined with each other (Sever, 2004: 5-8). “Mother tongue education is the basis of education and training in every branch. Information on every subject is given in mother tongue, as well as understanding, expressing, and evaluation of right-wrong thoughts and behaviors are also earned within mother tongue education” (Göğüş, 1994: 33). A student who has not acquired his/her mother tongue skills cannot be expected to be successful in the field of education. As a matter of fact, according to Bloom (1995: 59): “There is no doubt that some of the general cognitive input behaviors include language skills and especially the power of reading comprehension from the education perspective.” In addition, using the mother tongue as a teaching tool also increases the cognitive
performance of students (Trujillo, 2020). This cognitive performance comes into play to help when complex terminologies and concepts are encountered even while learning another language (Suliman, 2014).

It is an accepted fact that the person realizes him/herself in the learning, understanding and interpretation process that continues from his/her birth to death. At this stage, it is noteworthy that mother tongue education has a great effect on the child’s cognitive development. An education system that does not know what to teach and why and that does not use the necessary methods and tools in this regard should not be expected to be successful (Sinan: 2006: 3). This is because language is to build a bridge to other native speakers (Tulasiewicz & Adams, 1998). For this reason, the education system must have the qualifications that can build bridge between people.

Our globalizing world is in constant change and transformation. This change and transformation is undeniably linked to technological developments. The fact that technology has such a place in our lives also affects education. It is not possible to expect success from the education system that tries to educate the individuals that we call Z-generation, who were born in 2000 and after and who are dependent on technology, with traditional methods. For this reason, education is one of the main areas that are affected by the change and development movements the most easily.

A good language/mother tongue education is needed in order to realize the innovations in the field of education and to educate generations that think, question, find solutions, get to the root of the problem, use language skills effectively, and learn other languages easily. The fact that an increase in students’ interests, attitudes and achievements in the class was observed with the introduction of technological tools (smart board, projection devices, powerpoint presentations, 3D films etc.) in education was also supported by studies performed. For this reason, inclusion of the technology in the mother tongue education will also make it more useful and compliant with the education requirement of the age, thus making mother tongue and foreign language education suitable for Z generation.

The trend of using technology in language teaching that started especially after the 2000s has also manifested itself in many studies. In the book named “English Language Learning and Technology”, the necessity of living in an English-speaking place to learn English is rejected and it is mentioned that this is now eliminated thanks to technology and people in different countries can chat via computers (Chapelle, 2003). Also in the study titled “The Path of Speech Technologies in Computer Assisted Language Learning”, especially speech technology was emphasized in language teaching (Holland & Fisher, 2008).

In the book titled “Teaching English Language Learners Through Technology”, many technological activity suggestions and practices for English learners are introduced (Erben, Ban &
Castaneda, 2009). Also in the study named “Technology-Assisted Solutions for Today’s English Language Learners”, many technological applications for learning English were mentioned. Colon (2015) set out from various concepts related to the human brain in his section and then gave some suggestions about technological applications on the basis of each class. In the article titled “Technology Assisted Language Learning Is a Silver Bullet for Enhancing Language Competence and Performance: A Case Study”, the benefits of technology-assisted language teaching, which are described as “TALL”, were mentioned. Then, two groups that received traditional education and received technology-assisted education were compared and the result was in favor of the group that received technology-assisted education (Ahmad, 2016). When all of the studies are considered, it is seen that the place of technology in language teaching is increasing gradually and that the learning that takes place in this way is more efficient.

There used to be a Turkey that closed itself to the outside world until the 1980s. However, with changing living conditions and technological developments, it is observed that Turkey and the Turkish language has go beyond their own borders. With the developing world, Turkish, which has gone beyond its borders, has reached such a position that it competes with the world states and world languages. Tens of thousands of foreigners speak Turkish today, as a result of teaching Turkish as a foreign language by both official institutions and non-governmental organizations. Today, Özdemir has explicitly stated that the use of visual materials prepared with state-of-art technology in teaching Turkish to foreigners has an important place in the life of young people, and also that the visual and multimedia media allow teachers and students to examine the non-verbal and cultural aspects of the language as well as its verbal aspects (2013: 2053). All these facts reveal that the use of high-tech course materials in teaching Turkish both as a foreign language and as mother tongue has an important place in the life of young people.

In order to ensure a continuous success in the education of the new generation, the above mentioned stages must be observed and evaluated by academics and teachers. In the light of scientific studies, new methods should be tried, scientific studies in this field should be reviewed by means of the methods such as trend determination or meta-analysis and the researchers should be guided for further studies. The process of questioning the quality of educational research is very important for future studies. Misconceptions can be found in the findings of educational research pointed out by some authors. Therefore, studies on the quality of research are important and necessary (Dunkin, 1996: 88).

No studies on trend determination have been found in the field of the use of technology in Turkish education in Turkey. But in general, studies on the determination of trends in Turkish education have been carried out:
In the field of Turkish education as mother tongue; Girmen, Kaya, Bayrak (2010) reviewed 178 doctoral and master's theses between 2006-2010 in order to identify problems in Turkish education based on postgraduate theses. Şahin (2010), on the other hand, conducted a study to determine the tendencies of postgraduate theses on initial literacy education and described the current situation in this field. Coşkun, Öğzakmak and Balçı (2011) conducted a meta-analysis study in their research, which included general information about theses on Turkish Education between 1981-2010.

There are many trend determination studies on Turkish education. Out of them, Varışoğlu, Şahin, Göktaş (2013) determined the trends in their research on Turkish education by analyzing 558 articles published between 2000 and 2011 by means of content analysis method. Yağmur Şahin, Kana and Varışoğlu (2013) conducted a trend determination study for postgraduate theses written on Turkish education. Within the scope of this study, theses in Turkish education departments are discussed in many dimensions by reviewing 62 doctoral and 490 master's theses indexed between 2000-2011. Kan and Uzun (2014) reviewed the findings, discussion and conclusion sections of the master’s theses in Turkish education field in terms of lexical structure features. Within the scope of the study, 339 master’s theses published between 2006-2011 were reviewed. In addition, Aktaş and Uzuner Yurt (2015) conducted a content analysis study on article abstracts in the field of Turkish education, and reviewed the abstracts of 724 articles published between 2004-2013. In their study entitled ‘An Assessment of Literature Regarding the Education and Teaching of Turkish: Trends/Orientations at International Scientific Meetings’, Bozkurt and Uzun (2015) drew up a report on the basic trends in papers presented at international scientific meetings regularly held in Turkey in the field of the education and teaching of Turkish. Through this research, it has been determined that there are very few studies in the database that bring/suggest innovation to the field as a result of the findings obtained from 837 papers directly related to the field of education and teaching of Turkish by making content analysis on the database obtained from congress books, abstract booklets and congress programs within the frame of categories determined. Öğzakmak (2017) reviewed the master’s and doctoral theses published in 2011-2015 in order to identify new trends in postgraduate studies on Turkish education and determined the field the theses were for.

In the field of Turkish education as a foreign language, Büyükikiz (2014) made an review on postgraduate theses generated in this field. Within the scope of the study, he determined 22 doctoral theses and 125 master’s theses published between 1981-2012 and made various suggestions. In another study conducted in the field of teaching Turkish to foreigners, Biçer (2017) searched the articles published between 2010-2016 on teaching Turkish to foreigners through the databases of ULAKBIM and GOOGLE SCHOLAR and reviewed 191 articles in total; and as the result of the study, he determined that the studies on teaching Turkish to foreigners were performed mostly
according to the qualitative pattern and that his sampling, data collection tool and data analysis technique were shaped accordingly.

Starting from the fact that every new research designed is shaped in the light of previous researches, it is much more important to follow the current ones especially in research conducted in the field of education. When the literature was searched, no such comprehensive research using technology for Turkish education was found. For this reason, this study intends to identify the journals in which the articles on the use of technology in Turkish education are published the most, the indexes in which the journals are searched, the number of references in the articles, the number of research questions, the number of authors, the distribution of the articles by years, the distribution of the articles by the types of research, the distribution of the articles by the fields of Turkish education and educational sciences, the methods, the data collection tools used in the articles, the sampling features and the data analysis methods, and to contribute to the literature by making suggestions. Analyzing the academic studies carried out in this field is important in order to identify the technological tools used in Turkish education and to find out the needs in this field. For these reasons, the problem of the research is constituted by the question: “What are the trends of the articles on the subject, which are produced in the field of Turkish education and indexed within Google Scholar?”.

The sub-problems of the research are listed as follows:

- What are the distributions of the journals in which the articles are published the most?
- What is the distribution of the indexes in which journals where articles are published are searched?
- What is the distribution of the numbers of references in articles?
- What are the distributions of the numbers of research questions in the articles?
- What is the distribution of the numbers of authors in the articles?
- What are the distributions of articles by years?
- What are the distributions of articles by research types?
- What are the distributions of articles by their fields in Turkish education?
- What are the distributions of articles by the fields of educational sciences?
- What are the distributions of articles by their methods?
- What is the distribution of articles by data collection tools?
- What is the distribution of articles by sampling characteristics?
  - What are the distributions of articles by data analysis methods?
Method

A descriptive approach was used in this study due to the stages followed in the process of categorizing the articles that constitute the scope of the research by certain subjects, passing them through the coding process, digitizing, analyzing and reporting the data. Descriptive studies describe a given situation precisely and carefully. (Büyüköztürk et al., 2012: 22). This study is also suitable for qualitative research method as it provides a general evaluation and interpretation on the articles reviewed. Document review method was used to evaluate the articles within Google Scholar between 2000-2018, which were produced in the Turkish education departments in Turkey. The reviewed articles were analyzed by descriptive analysis technique. The collected data were first described systematically and clearly. Later, these descriptions were explained, interpreted, and the cause-effect relationships in the data were examined (Yıldırım & Şimşek, 2018).

Scope of the Research

The scope of this study is constituted of the articles, which have been produced in the Turkish education departments in Turkey and published between the years 2000 to 2018 in Google Scholar. The articles in Google Scholar were analyzed and the data were digitized using the descriptive analysis technique. 100 articles in Google Scholar, which were produced between 2000 and 2018 in Turkish Education departments, were selected through the purposeful sampling technique and reviewed. Purposeful sampling is used in the research, if a selection will be made according to the people, events, objects or situations with certain qualifications (Büyüköztürk et al., 2012: 91). Since only articles produced in Turkish education departments were reviewed within the scope of this study, purposeful sampling technique was used. Purposeful sampling is used in the research if a selection will be made according to the people, events, objects or situations with certain qualifications (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2009, 91).

Collection of Data

“Turkish Education Publication Classification Form” (TEYSF) was used as data collection tool in the study. TEYSF, which is used to collect data, was divided into subheadings by considering the stages of a research in the research process. Each subheading was created within each other by being divided into items that would enable the data to be coded. Thus, each article reviewed could be evaluated according to the same criteria. TEYSF was created after the researchers rearranged the form used in the study by Sözbilir and Kutun (2008) for the purpose of the study. In order to organize the data collection tool in accordance with the purpose of the research, several draft forms were created and as the result of the pilot applications, the final version of the form was obtained. In order to increase the validity of the form used, the opinions of the experts in the fields of educational sciences and linguistics were sought. In addition, consistency between evaluators was checked to increase the credibility of TEYSF. By making use of the relationship between the sample coding forms of each
evaluator, necessary changes were made on the parts of the form that could not be understood or remained weak and the form was improved. In addition, the created form was used in the article titled “Trends in Research on Turkish Education” prepared by Varışoğlu, Şahin and Göktaş (2013). TEYSF consists of nine basic sections: 1. The tag of the article, 2. The type of the article, 3. The field of the article, 4. The subject of the article, 5. The method of the article, 6. Data collection tools of the article, 7. The sampling of the article, 8. Data analysis method of the article and 9. Additional section in which the researcher can express his/her views about the article.

Data Analysis

Descriptive analysis method, one of the qualitative data analysis methods, was used in the study. In this regard, the data obtained were summarized and interpreted according to previously determined themes (Yıldırım & Şimşek, 2018). The researchers coded and digitized the fields they identified on the classification form for each article by reading and reviewing the articles obtained and by performing document analysis. With this analysis method, the relationships between the data were determined. The data obtained at the end of the study were analyzed. For analysis of data, frequency and percentage tables, the two of descriptive analysis types, were used.

Findings and Interpretation

This section contains the features of the articles reviewed on “technology-assisted Turkish education”. A total of 100 articles were reviewed.

The distribution of the journals in which the articles on technology-assisted Turkish education are published the most is shown in Figure 1.

Figure 1. Journals Publishing the Articles

When Figure 1 is reviewed, it is seen that the articles on technology-assisted Turkish education are published mostly in Turkish Studies Journal. This journal has published 19% of all

Journal classes in which the articles on the technology-assisted Turkish education are published are shown in Figure 2.

Figure 2. Indexes where the Journals, in which the Articles Are Published, Are Searched

According to the review of Figure 2, it is seen that the journals are searched mostly at EBSCO index at a rate of 51%. Afterwards, it was determined that they were searched in ASOS Index, SOBIAD, ULAKBIM, ERIC and SSCI at a rate of 42%, 33%, 30%, 5% and 1%, respectively. During the search of the indexes of the journals, journals searched by multiple indexes are included in the index categories above separately. Journals that are not searched by any of these categories are classified in the ‘other’ category, constituting the rate of 19%. The no-class category, which constitutes 4%, contains those that are not searched by any index.

The number of references in the articles on technology-assisted Turkish education, is shown in Figure 3.

Figure 3. Number of References in Articles
According to the review of Graph 3, it was seen that 21 to 30 references were used in the articles at most. This corresponds to the part of 39%. The articles using 11 to 20 references, the articles using 31 to 40 references, the articles using 41 to 50 references, the articles using 1 to 10 references, the articles using 51 to 60 references and the articles using 71 to 80 references constitute the parts of 20%, 17%, 9%, 7%, 6% and 2%, respectively. As can be understood, articles using 11 to 40 references have a large share by forming a percentage of 76% in total.

The number of research questions in technology-assisted Turkish education articles is shown in Figure 4.

According to the review of Figure 4, it is seen that the articles with 1 research question take place the most at a rate of 63%. Then it is seen that this is followed by the articles with 2 research questions, the articles with 3 research questions, the articles with 5 research questions, the articles with 4 research questions, the articles with 6 and 8 research questions and the articles with 7, 9, 10 and 11 research questions at a rate of 9%, 8%, 7%, 5%, 2%, 1%, respectively. In other words, most of the researchers include only one research question in their articles. Although some articles do not contain the research question explicitly, what the article intends to research was determined based on the essence of the article and this was processed into the data as a research question.

The number of authors in the articles on technology-assisted Turkish education is shown in Figure 5.
Figure 5. Number of Authors in Articles

According to the review of Figure 5, it was determined that 41% of articles had 2 authors at most. Articles with 1 author constitute a rate of 40%. Articles with 3 authors, articles with 4 authors and articles with 7 authors constitute a part of 16%, 2% and 1%, respectively. As is seen from the Figure, the articles published are mostly written by 1 and 2 authors, which corresponds to a large rate of 81%.

Distribution of the articles on the technology-assisted Turkish education by years is shown in Figure 6.

Figure 6. Distribution of Articles by Years

According to the review of Figure 6, it is seen that the most articles have been written in 2015 and 2018 with a part of 18% each. This is followed by the year 2017 with 15%, the year 2013 with 11%, the year 2016 with 10%, the years 2011 and 2014 with 7%, the year 2012 with 6%, the year 2010 with 4%, the year 2009 with 2% and the year 2007 with 1%. Judging by these data, it is seen that 79% of the articles on technology-assisted Turkish education have been written in the last 6-year slice and the first 6-year slice constitutes only 21%. In addition, it can be said that the number of articles by year is progressing with a partially regular increment, though not fully regularly, and that
the studies in the field increase. Since no articles on the subject could be reached between 2000 and 2006, the table was created starting from 2007.

The distribution of the articles on technology-assisted Turkish education by type of research is shown in Table 1.

**Table 1. Distribution of Articles by Type of Research**

<table>
<thead>
<tr>
<th>Type of Research</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Compilation</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Method Study</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Theoretical Study</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Experimental Study</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Action Research</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Descriptive Study</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Evaluation Study</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Professional Study</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

According to the review of Table 1, it was determined that the 43% of the articles were produced by descriptive study. It has been concluded that there is literature compilation at a rate of 19%, evaluation at a rate of 17%, experimental study at a rate of 13%, professional study at a rate of 5%, theoretical study at a rate of 2% and method study at rate of 1%. There is no action research in the articles reviewed.

The distribution of the research on technology-assisted Turkish education research by their fields in Turkish education is shown in Table 2.

**Table 2. Distribution of Articles by their Fields in Turkish Education**

<table>
<thead>
<tr>
<th>Fields in Turkish Education</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Education</td>
<td>4</td>
<td>3.48</td>
</tr>
<tr>
<td>Writing Education</td>
<td>10</td>
<td>8.70</td>
</tr>
<tr>
<td>Listening Education</td>
<td>1</td>
<td>0.87</td>
</tr>
<tr>
<td>Speaking Education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grammar/Studies on Language</td>
<td>6</td>
<td>5.22</td>
</tr>
<tr>
<td>Children’s Literature Education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Teaching Turkish to Foreigners</td>
<td>38</td>
<td>33.04</td>
</tr>
<tr>
<td>Initial Literacy</td>
<td>2</td>
<td>1.74</td>
</tr>
<tr>
<td>Multilingualism</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mixed Language Skills</td>
<td>19</td>
<td>16.52</td>
</tr>
<tr>
<td>Other</td>
<td>35</td>
<td>30.43</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

According to the review of Table 2, it is seen that a study in the field of teaching Turkish to foreigners takes place the most with a percentage of 33.04%. This is followed by mixed language skills with 16.52%, writing education with 8.70%, grammar/study on language with 5.22%, reading
education with 3.48%, initial literacy with 1.74%. There are no studies on speaking education, children's literature education and multilingualism. Other studies that do not fall into any of these categories constitute the percentage of 30.43%. Since a research sometimes can fit in more than one field, the total number of types is more than the number of articles reviewed.

The distribution of the research on technology-assisted Turkish education by the fields of educational sciences is shown in Table 3.

**Table 3. Distribution of Articles by the Fields of Educational Sciences**

<table>
<thead>
<tr>
<th>Field of Educational Sciences</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Education</td>
<td>2</td>
<td>1.18</td>
</tr>
<tr>
<td>Education/Training Technology</td>
<td>100</td>
<td>59.17</td>
</tr>
<tr>
<td>Scale/Test Development</td>
<td>2</td>
<td>1.18</td>
</tr>
<tr>
<td>Education/Training Problems</td>
<td>5</td>
<td>2.96</td>
</tr>
<tr>
<td>Attitude/Interest/Case Determination</td>
<td>45</td>
<td>26.63</td>
</tr>
<tr>
<td>Program/Curriculum Studies</td>
<td>4</td>
<td>2.37</td>
</tr>
<tr>
<td>Textbook Review</td>
<td>11</td>
<td>6.51</td>
</tr>
<tr>
<td>Measurement Assessment</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>169</td>
<td>100</td>
</tr>
</tbody>
</table>

According to the review of Table 3, training/education technology comes first at a rate of 59.17% with a frequency of 100 since all of the articles in the research are related to technology. This is followed by attitude/interest/case determination with 26.63%, textbook review with 6.51%, education/training problems with 2.96%, program/curriculum studies with 2.37%, teacher education and scale/test development with 1.18%. No articles were available in the measurement assessment field. Since an article can be available in more than one field, the frequency is 169, although 100 articles are reviewed.

The methods of the articles on technology-assisted Turkish education are shown in Table 4.

**Table 4. Methods of Articles**

<table>
<thead>
<tr>
<th>Methods</th>
<th>f</th>
<th>%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi</td>
<td>4</td>
<td>30.77</td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>8</td>
<td>61.54</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>1</td>
<td>7.69</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Non-Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Searching</td>
<td>26</td>
<td>83.87</td>
<td></td>
</tr>
<tr>
<td>Descriptive</td>
<td>5</td>
<td>16.13</td>
<td></td>
</tr>
<tr>
<td>Correlational</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Comparative</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
According to the review of Table 4, it is seen that quantitative research is 50% of all research followed by the literature with 35.22%. Qualitative research is 9.10%, and mixed research is 5.58%. For quantitative research, searching was used the most, while case study was used for qualitative research, literature compilation was used for the literature, and diversification was used for mixes.

Data collection tools of the articles on technology-assisted Turkish education are shown in Table 5.

Table 5. Data Collection Tools of Articles

<table>
<thead>
<tr>
<th>Distribution of the Articles on Technology-Assisted Turkish Education by Data Collection Tools</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document</td>
<td>40</td>
<td>36.36</td>
</tr>
<tr>
<td>Survey</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>Attitude/Perception/Personality/Interest or Ability Tests</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Achievement Test</td>
<td>8</td>
<td>7.27</td>
</tr>
<tr>
<td>Interview</td>
<td>16</td>
<td>14.55</td>
</tr>
<tr>
<td>Observation</td>
<td>4</td>
<td>3.64</td>
</tr>
<tr>
<td>Alternative Tests</td>
<td>6</td>
<td>5.45</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.73</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100</td>
</tr>
</tbody>
</table>

According to the review of Table 5, it is seen that the documents are used mostly as data collection tool at a rate of 36.36%. This is followed by surveys with 20%, interview with 14.55%, attitude/perception/personality/interest or ability test with 10%, achievement test with 7.27%, alternative tests with 5.45%, observation with 3.64% and other tools with 2.73%. Articles with no use of data collection tools are not included in this section.

Sampling Characteristics of Articles

The sampling characteristics of the articles on technology-assisted Turkish education are shown in Tables 6, 7 and 8.
According to the review of Table 6, it is seen that mostly undergraduate group of the Faculty of Education has been studied with 28.77%. This is followed by teachers with 15.07%, foreign students with 10.96%, primary education (6-8) with 9.59%, primary education (1-5) with 8.22%, and undergraduate (other) students and faculty members with 1.37%. No studies on elementary school and postgraduate students have been found. In addition, there is a sample group of 24.66% that does not fall into these categories.

According to the review of Table 7, the researchers preferred mostly the sampling size of 31 to 100. Its share is 36.76%. Then 101 to 300 samples were preferred with 23.53%, 1 to 10 samples with 17.65%, 11 to 30 samples with 16.18%, 301 to 1000 samples with 4.41% and above 1000 samples with 1.47%.

According to the review of Table 8, the researchers preferred mostly the sampling selection methods of purposeful sampling. Its share is 57.35%. Then random sampling was preferred with 13.24%, easily accessible sampling with 7.35%, whole universe with 22.06% and total sampling methods with 1.47%.
According to the review of Table 8, the researchers used purposeful sampling with a rate of 57.35%. This is followed by the whole universe with 22.06%, random sampling with 13.24% and easily accessible sampling with 7.35%.

The distribution of the articles on technology-assisted Turkish education by the data analysis methods is shown in Table 9.

Table 9. Data Analysis Methods of Articles

<table>
<thead>
<tr>
<th>Distribution of the Articles on Technology-Assisted Turkish Education By The Data Analysis Methods</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive</td>
<td>19</td>
<td>57.58</td>
<td>12</td>
<td>36.36</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Ave./Standard Deviation</td>
<td>33</td>
<td>33.33</td>
<td>3</td>
<td>9.45</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Diagram</td>
<td>14</td>
<td>44.44</td>
<td>6</td>
<td>18.18</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>t-test</td>
<td>14</td>
<td>44.44</td>
<td>99</td>
<td>297.69</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Quantitative</td>
<td>79</td>
<td>23.81</td>
<td>62</td>
<td>186.67</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Anova/Ancova</td>
<td>8</td>
<td>24.14</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>44.44</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>SPSS</td>
<td>19</td>
<td>57.58</td>
<td>66</td>
<td>198.33</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Factor Analysis</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Predictive</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Correlation</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Man Whitney-U</td>
<td>5</td>
<td>15.15</td>
<td>6</td>
<td>18.18</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Kruskal Wallis</td>
<td>4</td>
<td>12.12</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Qualitative</td>
<td>2</td>
<td>6.06</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
<td>1</td>
<td>3.03</td>
</tr>
<tr>
<td>Content Analysis</td>
<td>13</td>
<td>39.39</td>
<td>37</td>
<td>111.11</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Descriptive Analysis</td>
<td>23</td>
<td>69.70</td>
<td>66</td>
<td>198.33</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td>100</td>
<td>136</td>
<td>100</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Looking at Table 9, it is seen that quantitative data analyses are more prominent with a rate of 72.79%. Qualitative data analysis has a rate of 27.21%. Among the quantitative data analysis, the frequency/percentage/Figure was mostly used descriptively and the SPSS program was mostly used predictively. In qualitative data analysis, descriptive analysis was preferred mostly.

Conclusion and Discussion

In this study on technology-assisted Turkish education, the articles searched through Google Scholar were reviewed. And comparisons and evaluations were made with other studies according to the findings obtained.

The journal mostly published in this field is Turkish Studies. 19% of the articles reviewed were published in this journal. In addition, there is a very significant ratio difference with other journals. It is concluded that, among the indexes of the journals, the ratio of higher-level indexes such as SSCI and ERIC, in which EBSCO index takes the lead, is lower. It is clearly seen from the Figures that researchers prefer to use 21 to 30 references the most. However, it stands out as a major deficiency that the research questions are not always explicitly included in the articles. In studies where research questions are not explicitly included, a number has been reached by interpreting what is intended to be investigated in general. It was determined that mostly 1 research question was included in the articles reviewed, and the studies with one or two authors were conducted at a rate of
81%. Varışoğlu, Şahin, and Göktaş (2013) found that studies with more than three authors were less preferred. The same result has also been reached in Doğan and Tok's (2018) trend research in the field of educational sciences. Therefore, it is possible to say that the three research results are parallel. This may be due to the fact that teamwork is more troublesome in some cases and the division of the score obtained in academic incentives. It is also clear that article studies have increased significantly in the last 6 years in general. Considering that technology has developed much faster than before, it can be said that the article studies have developed in this direction. It is possible to support this with the data that 79% of the articles have been written in the slice between 2013-2018. Descriptive studies have been carried out mostly in the articles. When it comes to the fields of Turkish education, it has been observed that the studies on teaching Turkish to foreigners have been performed the most. It can be said that the field of teaching Turkish to foreigners in technology-assisted Turkish education has a big share. Over the years, the use of technology in this field has been increasing and new studies are being produced. In their study conducted in 2013, Yağmur Şahin, Kana and Varışoğlu stated that the studies of teaching Turkish to foreigners started to increase. For this reason, it can be said that studies gain/will gain momentum day by day. The data obtained from the study is such as to prove the status of momentum gain anticipated in the study conducted in 2013.

Boyacı and Demirkol (2018) found in their study, in which they reviewed 275 doctoral theses, that the mixed language skills take place the most. In this study, the field of teaching Turkish to foreigners is the majority, but the share of articles on language skills cannot be underestimated. The fact that the field of teaching Turkish to foreigners is an untouched field, that the studies have been expedited in recent years and that this study mostly consists of up-to-date articles plays a big role in the determined difference. Considering the fields of studies in educational sciences, it is striking that mostly the interest/attitude/case determination studies are conducted. In particular, fields such as measurement and evaluation, teacher education, scale/test development have been neglected. There are very few studies available on these subjects. In the method sections, it was seen that the searching method was preferred very frequently. It can be said that there are similar results in the studies of Varışoğlu, Şahin and Göktaş (2013), Şahin (2010), Şimşek et al. (2008), Alper and Gülbahar (2009) and Arık and Türkmen (2009). It is seen that the document is at the forefront in the articles for data collection tools. For the sample types, it was observed that mostly the undergraduate students of the Faculty of Education were preferred. Even Varışoğlu, Şahin and Göktaş (2013) criticized this issue by saying that different levels of research could be conducted in terms of the sample level, apart from prospective teachers and elementary school students. These samples were widely distributed between 31 to 100 people, and the researchers took purposefulness as basis mostly for sample selection. For the data analysis, researchers mostly preferred the frequency/percentage/Figure, SPSS, t-test for quantitative part and descriptive analysis for qualitative part. Based on these findings and results, the following suggestions can be made:
1. Research questions and sub-problems should be clearly included in the studies conducted.

2. Articles that require teamwork can be included more in order to conduct more extensive studies.

3. In parallel with the rapid development of technology, studies on technology-assisted Turkish education can be concentrated on.

4. In the field of technology-assisted Turkish education, methodological and theoretical studies and action research can take more part.

5. The method parts of the articles can be written more carefully and clearly.

6. As a sample, studies can be carried out apart from the students of the faculty of education.

References


Investigation of the Effects of Some Variables on Middle School Students’ Problem-Solving Skills, Science Process Skills and Learning Styles

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Muğla Sıtkı Koçman University

Şendil CAN
Muğla Sıtkı Koçman University

Abstract

The aim of the study is to investigate the effects of gender, type of the school attended and mother/father’s educational background on middle school students’ problem-solving, science process skills and learning styles. The population of the present study consists of all the 4th-grade students in the secondary schools in the city of Muğla in the 2012-2013 school year while the sample consists of 569 middle school fourth grade students. As the data collection tools, “The Problem-Solving Inventory”, “The Science Process Skills Test”, “The Kolb Learning Styles Inventory” and a student information form were used. The data were analyzed by using a variety of statistical techniques such as descriptive statistics, independent sample t-test, One way ANOVA and Chi-Square test. As a result of the study were found that middle school students mostly use the “Avoidance” sub-dimension. Also, there isn’t any difference was found between problem-solving skills and gender, the school attended, mother and father’s education level. Also, it was found that the students frequently used “Basic Science Process Skills” and that there is not any statistically significant difference between science process skills and gender and maternal education level yet there is a significant difference between science process skills and the school attended and father’s education level and “Integrated Process Skills” were found to be correlated with father’s education level. On the other hand, learning styles were found to be varying significantly depending on the school attended but not depending on gender and maternal education level and father’s education level and it was also found that the highest number of students has the “Diverging” learning style while the lowest number of students has the “Accommodating” learning style. Thus, it can be said that planning instructional and educational activities in such a way as to give feedbacks to individual students can increase efficiency of learners.

Keywords: Problem-Solving Skills, Science Process Skills, Learning Styles, Secondary School 4th Grades, Kolb Learning Styles Inventory

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Introduction

Finding solutions to problems is one of the skills that humanity has used since ancient times. Nowadays, problem-solving skill has become important in every field of life and for all branches of science (Özsoy, 2005). According to Dewey (1933), one of the experts on problem-solving in the field of education, thinking ability is actually a problem-solving behaviour, but information can only be obtained through problem-solving. For this reason, it is among the aims of educators to educate individuals who can use problem-solving skills (PSS) effectively and systematically in today’s world where information is constantly updated.

The new conception of education aims to help people solve the problems they face through science, correctly understand cause and effect relationships in phenomena and events, attain the accurate and scientific ability of judging and questioning, learn the ways of using their intelligence, gain the habit of working in an organized and systematic manner and live in harmony with nature (Temizyürek, 2003). This has necessitated a lot of research on this subject in the field of science education (Çepni, Ayas, Johnson & Turgut, 1997).

In science education, inculcation of science process skills (SPS) in students is as important as the inculcation of PSS because SPS are basic skills that facilitate on learning science and make learning more permanent (Çepni, Ayas, Johnson & Turgut, 1996). In the literature, it is emphasized that PSS can be developed through training (Hsiao, Lin, Chen & Peng, 2018; Kaya & Kablan, 2018; Petersen, McAuliffe & Vermeulen, 2017; Ulu, Tertemiz & Peker, 2016; Uyar & Bal, 2015). Individuals’ adapting to the speed of age and growing up successfully, depending on the extent to which they have mastered these skills. Education, on the other hand, is the basic step that enables individuals to keep up with social change. As such, the acquisition and development of these skills by students are among the goals of all educational institutions (Şahin, 2004).

Taşar (2001) defines SPS as skills that facilitate learning in science, help students learn ways and methods of researching, make students more effective, develop the sense of taking responsibility in students and increase retention. Besides PSS and SPS, students’ learning styles are also important in terms of designing instructional and educational activities. When individuals are instructed in settings suitable for their learning styles, their learning efficiency increases. There may be negative changes in the self-confidence and achievement of a person taught in an area which is incompatible with his/her learning style. Learning style allows an individual to obtain information about why he/she learns differently from another person and to take his/her learning process under control. In this way, the individual can take responsibility for his/her learning and obtain constantly changing and increasing information without waiting for help from others (Güven, 2004). An education process that is carried out without taking the learning characteristics of students causes many students to be
unsuccessful or to get alienated from the school. In order to prevent such situations from occurring today, educational and instructional processes should be structured by taking into account students’ learning styles and intelligence types (Ekici, 2003). In general, the development of SPS makes students better in solving problems, thinking critically, making decisions and satisfying their curiosity because SPS are thought to be closely related to PSS (Germann, 1994). Thus, the relationship between SPS and PSS seems to be worth investigating. SPS can be said to be the skills demonstrated in the solution of any scientific problem or the skills required to perform a scientific study (Monhardt & Monhardt, 2006). SPS are one of the most significant objectives on education of science programs since they are used both in the correct interpretation of daily events and in scientific studies (Dönmez & Azizoğlu, 2010). Also, problem-solving ability is learned from childhood, and PSS are developed all education life (Miller and Nunn, 2001). Thus, teachers can improve the quality of education by preparing appropriate educational environments taking into account students’ learning styles (Hein & Budny, 2000).

When we take a detailed look at the literature, it is seen that although various studies are investigating the relationships between PSS and learning styles, SPS and learning styles and SPS and PSS, there is no study investigating the relationships between SPS, PSS and learning styles and gender, the school attended and mother/father’s education level together. In this regard, for this study can be said to be original. In the context, this research is aimed to investigate the effects of gender, type of the school attended, mother/father’s education level on secondary school students’ PSS, SPS and learning styles. Thus the main problem statement of the current study was set as follows: How are the secondary school fourth-grade students’ PSS, SPS and learning styles concerning some variables?

To this end, answers to the following problems were sought:

1) What is the distribution of the secondary school 4th-grade students according to PSS?

2) Is there any statistically significant difference between the secondary school 4th-grade students’ PSS and;

   a) Gender, b) The school attended, c) Maternal education level, d) Father’s education level?

3) What is the distribution of the middle school 4th-grade students according to SPS?

4) Is there any statistically significant difference between the secondary school 4th-grade students’ SPS and;

   a) Gender, b) The school attended, c) Maternal education level, d) Father’s education level?
5) What is the distribution of the middle school 4th-grade students according to learning styles?

6) Is there any statistically significant difference between the secondary school 4th-grade students’ learning styles and:

a) Gender, b) The school attended, c) Maternal education level, d) Father’s education level?

Method

Research Model

This study is a survey model and also it is a type of descriptive study.

Sample

The population of the study is comprised of all the fourth grade students (15-year-olds) attending the seven middle schools in the central district of the city of Muğla in the 2012-2013 school year. The schools that are connected to Muğla city centre where the students constituting the research sample are studying are public schools with different qualifications, coded with the letters of A, B, C, D, E, F and G. School A is a public school where the students have high academic success and the children of families with high socio-economic level are educated. School B, on the other hand, has the highest academic achievement level and the highest number of enrolled students in Menteşe district. School C, on the other hand, has a moderate academic achievement compared to other schools and mostly children of civil servant families receive education. School D is a school with high academic success, mostly preferred by Muğla originated families and where children of families dealing with trade receive education.

School E has a high number of students, it is a school with a low level of academic success, where the children of families with low socio-economic and educational levels are educated. School F is a school located farther away from the Muğla center, close to the university area with a low number of students, low in academic success, and children of medium-level families in terms of socio-economic level and education level. School G, on the other hand, is a medium-level academic achievement, where mostly civil servants and children from families with higher education are educated. The sample of the study consists of 569 students (303 male, 266 female) randomly selected from the population.

Data Collection Tools

In order to test the sub-problems of the current study, “The Problem-Solving Inventory”, “The SPS Test”, “The Kolb Learning Styles Inventory” and a student personal information form were used as the data collection tools.
The Problem-Solving Inventory

“The Problem-Solving Inventory” was used in the current study which had been developed by Serin, Serin-Bulut and Saygılı (2010). This is a five point Likert scale inventory and has three factors called “Confidence (twelve-items)”, “Self-Control (seven-items)” and “Avoidance (five-items)”; thus, the total number of the items in the inventory is twenty-four. The Cronbach alpha reliability coefficient for the original scale was found to be .80. The test-retest reliability coefficient was found to be .84 for the sub-factor of “Confidence in PSS”, .79 for the sub-factor of “Self-Control” and .70 for the sub-factor of “Avoidance” and .85 for the whole scale. In addition, the results of the confirmatory factor analysis confirmed the three-factor model (χ²/df= 2.49, RMSEA= .051, GFI=.92, CFI=.90). In the current study, the Cronbach alpha internal consistency coefficients found are as follows: .79 for the Problem-Solving Inventory, .82 for the sub-factor of “Confidence in Problem-Solving Skill”, .77 for the sub-factor of “Self-Control” and .71 for the sub-factor of “Avoidance”.

The Science Process Skill Test

In this study, “The Science Process Skill Test” developed by Aydınlı (2007) was used to measure the students’ SPS. The test is comprised of a total of 22 questions designed to measure basic SPS such as making observations, making classifications, performing measurements, using numbers, making inferences, making predictions and establishing communication and integrated SPS such as defining and controlling variables, formulating hypotheses, interpreting data, generating and using models, conducting experiments and performing operational definitions.

The Kolb Learning Styles Inventory

The Kolb Learning Styles Inventory was developed by David Kolb (1971) and adapted to Turkish by Aşkar & Akkoyunlu (1993) was used to establish the learning styles of the students. This inventory was intended to have a better grasp of individuals’ learning processes and individual approaches to learning through experiences. There are four main learning styles in Kolb Learning Styles Inventory: Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experimentation (Kolb, 2005, as cited in Genç & Kocaarslan, 2013). The inventory is comprised of a total of 12 items requiring the respondent to sequence four expressions in such a way as to best define his/her learning styles. Based on the scores taken from the inventory, the dominant learning style of the respondent is determined. Aşkar & Akkoyunlu (1993) adapted the Kolb Learning Styles Inventory to Turkish and conducted its reliability and validity studies and as a result they found the Cronbach alpha reliability value as .58 for “Concrete Experience”, .70 for “Reflective Observation”, .71 for “Abstract Conceptualization” and .76 for “Active Experimentation” (Denizzoğlu, 2008).
In the current study, the following Cronbach alpha reliability values were obtained: 0.78 for Concrete Experience, 0.77 for Reflective Observation, 0.71 for Abstract Conceptualization and 0.77 for Active Experimentation. In the reliability values of the combined scores, the Cronbach alpha reliability coefficient was found to be .75 for “Abstract-Concrete” and .78 for “Active-Reflective”. As the Cronbach alpha reliability values were found to be higher than .70, the inventory was accepted to be reliable enough to be used in this study.

The researcher developed a student personal information form to collect data about the participant students’ gender, the school attended, maternal/father’s educational background level.

Data Analysis

At this point, in order to decide whether to use parametric or nonparametric analysis methods for 569 students, the data should be subjected to normality test and the most widely known when the sample is up to 50, Shapiro-Wilk test has been performed. Through this test, it is possible to determine whether the data meet the normal distribution conditions. If the significance level of this test (significance = p) is less than 0.05, it is interpreted that the data are not normally distributed, otherwise the data is normally distributed (Altunışık, Coşkun, Bayraktaroğlu & Yıldırım, 2012). When the obtained result was examined, it was concluded that the data had a normal distribution because the p values of Shapiro-Wilk tests (n = 569, p = 0.09) is higher than 0.05. Parametric analysis methods were preferred in the difference tests to be made according to this result.

The SPSS 20.0 program package was employed to analyze all the data collected from the students. Frequencies and percentages were calculated to analyze the general distributions of the data taken from the Problem-Solving Inventory, the SPS Test and the Kolb Learning Styles Inventory. Independent samples t-test was run to determine whether the students’ PSS and SPS scores vary significantly depending on gender and One Way Variance Analysis (One-way ANOVA) was used to determine whether their PSS and SPS scores vary significantly depending on the school attended and maternal education/father’s education level.

First the responses to the items in the sub-dimensions in the Kolb Learning Styles Inventory were analysed the scores calculated and combined scores were found. As a result of all getting combined scores, scores ranging from -36 to +36 were obtained and which learning style is possessed by each student was determined. A Chi-square test was conducted to determine the relationships of the learning styles with the independent variables.

Results

In this section, findings regarding the sub-problems of the current study are presented in tables and their interpretations are given in the discussion section.
3.1. Findings related to the 1st problem “What is the distribution of the middle school 4th-grade students according to PSS?

Table 1. Distribution of the middle school 4th-grade students’ according to PSS

<table>
<thead>
<tr>
<th>PSS Sub-dimensions</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>147</td>
<td>25.8</td>
</tr>
<tr>
<td>Self-Control</td>
<td>93</td>
<td>16.3</td>
</tr>
<tr>
<td>Avoidance</td>
<td>329</td>
<td>57.8</td>
</tr>
<tr>
<td>Total</td>
<td>596</td>
<td>100</td>
</tr>
</tbody>
</table>

It can be seen in Table 1., the middle school 4th grade students most use the sub-dimension of “avoidance” (57.8%), followed by the sub-dimension of “confidence in PSS” (25.8%) and the sub-dimension of “self-control” (16.3%). In other words, more than half of the students tend to postpone rather than solve when confronted with a problem, to avoid problems, and to get away from the actual problem. While 25.8% of the students feel confidence in using PSS, some of them (16.3%) tend to manage themselves in the face of a problem, to develop autonomous behaviours and ideas and to establish internal control \( t_{(518)} = .637, p<.05 \).

3.2. Findings related to the 2nd problem “Is There any Statistically Significant Difference between the Secondary School 4th Grade Students’ PSS and Gender?”

Table 2. Results of the t-test conducted to determine the effect of gender on the students’ PSS

<table>
<thead>
<tr>
<th>PSS sub-dimensions</th>
<th>Gender</th>
<th>N</th>
<th>( \bar{X} )</th>
<th>S</th>
<th>df</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>Male</td>
<td>303</td>
<td>41.37</td>
<td>8.26</td>
<td></td>
<td>-.509</td>
<td>.611</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>41.74</td>
<td>9.13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Control</td>
<td>Male</td>
<td>303</td>
<td>21.99</td>
<td>5.55</td>
<td></td>
<td>-1.553</td>
<td>.121</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>22.75</td>
<td>6.20</td>
<td>567</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>Male</td>
<td>303</td>
<td>18.37</td>
<td>4.40</td>
<td></td>
<td>-1.282</td>
<td>.200</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>18.83</td>
<td>4.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General PSS</td>
<td>Male</td>
<td>303</td>
<td>70.91</td>
<td>9.24</td>
<td></td>
<td>-.937</td>
<td>.349</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>70.16</td>
<td>9.71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. shows that gender does not make a significant effect on the secondary school 4th grade students’ PSS \( t_{(567)} = -.937, p>.05 \). Moreover, the students’ scores taken from the sub-dimensions of “Confidence in PSS” \( t_{(567)} = -.509, p>.05 \), “Self-Control” \( t_{(567)} = -1.553, p>.05 \), “Avoidance” \( t_{(567)} = -1.282, p>.05 \) did not vary significantly by gender. Although there is not any statistically significant difference between the mean score of the male and female students. Male students scores taken from the Problem-Solving Inventory (\( \bar{X} =70.91 \)) is upper than that of the female students (\( \bar{X} =70.16 \)). However, the female students’ mean scores taken from the sub-dimensions of “Confidence in PSS” (\( \bar{X} =41.74 \)), “Self-Control” (\( \bar{X} =22.75 \)) and “Avoidance” (\( \bar{X} =18.83 \)) are higher.

3.3. Findings related to the 3rd problem “Is There any Statistically Significant Difference between the Secondary School 4th Grade Students’ PSS and the School Attended?”
Table 3. shows that the highest number of middle school 4th-grade students is in school A (N= 204), followed by school B (N= 118), school E (N= 111), school D (N= 67), school G (N=32) and school F (N= 21). The smallest number of middle school 4th-grade students is in school C (N=16). School A is a public school where the students have high academic success and the population of the school is too high. School B has the highest academic achievement level and the highest number of enrolled students in Menteşe district. School C mostly children of civil servant families receive education. School D is a school with high academic success, mostly preferred by Muğla origined families. School E has a high number of students, it is a school with a low level of academic success, where the children of families with low socio-economic and educational levels are educated. School F is a school located farther away from the Muğla center with a low number of students, low in academic success, and children of medium-level families in terms of socio-economic and education level. School G, on the other hand, is a medium-level academic achievement, where mostly civil servants families children’ are decided to take educated. Moreover, the means shown in Table 3 are values obtained by dividing the total scores taken from the Problem-Solving Inventory by the number of items in the scale.

Table 3. Means and standard deviation of the scores taken from the problem-solving inventory in relation to the school attended

<table>
<thead>
<tr>
<th>PSS sub-dimensions</th>
<th>School Name</th>
<th>N</th>
<th>( \bar{X} )</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>A</td>
<td>204</td>
<td>3.52</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>3.42</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>3.51</td>
<td>.49</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>3.40</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>3.35</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>3.79</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>3.55</td>
<td>.66</td>
</tr>
<tr>
<td>Self-Control</td>
<td>A</td>
<td>204</td>
<td>3.23</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>3.12</td>
<td>.97</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>3.33</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>3.28</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>3.12</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>3.50</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>2.99</td>
<td>.85</td>
</tr>
<tr>
<td>Avoidance</td>
<td>A</td>
<td>204</td>
<td>3.81</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>3.67</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>4.00</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>3.51</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>3.68</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>3.98</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>3.61</td>
<td>.94</td>
</tr>
<tr>
<td>General PSS</td>
<td>A</td>
<td>204</td>
<td>3.02</td>
<td>.39</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>3.03</td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>3.95</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>3.01</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>3.00</td>
<td>.34</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>3.04</td>
<td>.37</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>3.15</td>
<td>.43</td>
</tr>
</tbody>
</table>
Whether the difference seen between the means is statistically significant was tested with one-way ANOVA and the results of this analysis are shown in Table 4. The variance analysis revealed that the school attended did not any significant effect on the mean scores taken by the secondary school 4th-grade students from the Problem-Solving Inventory \( F(6,562) = .69, p>.05 \). Although the qualifications of the schools are different, it can be stated that the situations such as the students coming from different families, having different socio-economic levels or having different education levels are not effective in terms of problem solving skills. The variable of the school attended was also found to haven’t significant effect on the secondary school 4th-grade students’ problem-solving inventory scores taken from the sub-dimensions of “Confidence in PSS” \( F(6,562) = 1.60, p>.05 \), “Self-Control” \( F(6,562) = 1.36, p>.05 \), “Avoidance” \( F(6,562) = 1.89, p>.05 \).

Table 4. Results of ANOVA conducted to determine the effect of the school attended on the students’ problem-solving inventory scores

<table>
<thead>
<tr>
<th>PSS sub-dimensions</th>
<th>Source of the Variance</th>
<th>Sum of Squares</th>
<th>Sd</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>Between-groups</td>
<td>4.97</td>
<td>6</td>
<td>.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>291.93</td>
<td>562</td>
<td>.52</td>
<td>1.60</td>
<td>.147</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>296.90</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-control</td>
<td>Between-groups</td>
<td>5.69</td>
<td>6</td>
<td>.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>394.42</td>
<td>562</td>
<td>.70</td>
<td>1.36</td>
<td>.233</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>400.10</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>Between-groups</td>
<td>8.36</td>
<td>6</td>
<td>1.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>416.35</td>
<td>562</td>
<td>.74</td>
<td>1.89</td>
<td>.082</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>242.70</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Between-groups</td>
<td>.70</td>
<td>6</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>95.64</td>
<td>562</td>
<td>.17</td>
<td>.69</td>
<td>.660</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>96.34</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.4. Findings related to the 4th problem “Is There any Statistically Significant Difference between the Secondary School 4th-Grade Students’ PSS and Maternal Education Level?”

As can be seen in Table 5, the majority of the mothers of the middle school 4th-grade students are “high school” graduates (N=175) or “primary school” graduates (N=159). The smallest number of the mothers is in the “Others” group. The mothers in this group are either illiterate or do not have any diploma even if they are literate.

The means shown in Table 5 are values obtained by dividing the total scores taken from the Problem-Solving Inventory by the number of items in the scale.
Table 5. Means and standard deviation of the scores taken from the problem-solving inventory in relation to maternal education level

<table>
<thead>
<tr>
<th>PSS Sub-dimensions</th>
<th>Maternal Education Level</th>
<th>N</th>
<th>( \bar{X} )</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>Primary school</td>
<td>159</td>
<td>3.50</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>99</td>
<td>3.43</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>175</td>
<td>3.45</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>114</td>
<td>3.44</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>13</td>
<td>3.51</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>3.50</td>
<td>.42</td>
</tr>
<tr>
<td>Self-control</td>
<td>Primary school</td>
<td>159</td>
<td>3.29</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>99</td>
<td>3.14</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>175</td>
<td>3.11</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>114</td>
<td>3.23</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>13</td>
<td>3.13</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>3.20</td>
<td>.72</td>
</tr>
<tr>
<td>Avoidance</td>
<td>Primary school</td>
<td>159</td>
<td>3.81</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>99</td>
<td>3.61</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>175</td>
<td>3.64</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>114</td>
<td>3.77</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>13</td>
<td>4.00</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>3.67</td>
<td>.67</td>
</tr>
<tr>
<td>General PSS</td>
<td>Primary school</td>
<td>159</td>
<td>2.99</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>99</td>
<td>3.04</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>175</td>
<td>3.06</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>114</td>
<td>3.00</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>13</td>
<td>3.01</td>
<td>.31</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>3.02</td>
<td>.28</td>
</tr>
</tbody>
</table>

One-way ANOVA analysis was conducted to test whether the difference seen between the means are significant and the results of this analysis can be seen Table 6. Table 6. shows that maternal education level has no significant effect on the middle school 4th-grade students’ general PSS scores \([F(5,563) = .66, p > .05]\).

Table 6. Results of ANOVA conducted to determine whether the students’ problem-solving inventory scores vary significantly depending on maternal education level

<table>
<thead>
<tr>
<th>PSS Sub-dimensions</th>
<th>Source of the Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>Between-groups</td>
<td>.40</td>
<td>5</td>
<td>.080</td>
<td>.15</td>
<td>.980</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>296.50</td>
<td>563</td>
<td>.53</td>
<td>.86</td>
<td>.506</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>296.90</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-control</td>
<td>Between-groups</td>
<td>3.04</td>
<td>5</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>397.10</td>
<td>563</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>400.10</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>Between-groups</td>
<td>5.12</td>
<td>5</td>
<td>1.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>419.58</td>
<td>563</td>
<td>.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>424.70</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General PSS</td>
<td>Between-groups</td>
<td>.56</td>
<td>5</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>95.79</td>
<td>563</td>
<td>.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>96.35</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.5. Findings related to the 5th problem “Is There any Statistically Significant Difference between the Secondary School 4th-Grade Students’ PSS and Father’s Education Level

As can be seen in Table 7, the majority of the fathers of the middle school 4th-grade students are “university” graduates (N=181) or “high school” graduates (N=147). The smallest number of the fathers is in the “Others” group (N=6). The fathers in this group are either illiterate or do not have any diploma even if they are literate. The means shown in Table 7 are values obtained by dividing the total scores taken from the Problem-Solving Inventory by the number of items in the scale.

Table 7. Means and Standard deviation of the scores taken from the problem-solving inventory in relation to father’s education level

<table>
<thead>
<tr>
<th>PSS Sub-dimensions</th>
<th>Father’s Education Level</th>
<th>N</th>
<th>( \bar{X} )</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>Primary school</td>
<td>116</td>
<td>3.53</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>92</td>
<td>3.39</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>3.44</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>3.52</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>3.17</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6</td>
<td>3.22</td>
<td>.78</td>
</tr>
<tr>
<td>Self-control</td>
<td>Primary school</td>
<td>116</td>
<td>3.26</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>92</td>
<td>3.12</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>3.20</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>3.16</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>3.20</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6</td>
<td>3.62</td>
<td>.49</td>
</tr>
<tr>
<td>Avoidance</td>
<td>Primary school</td>
<td>116</td>
<td>3.71</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>92</td>
<td>3.77</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>3.64</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>3.75</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>3.75</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6</td>
<td>3.83</td>
<td>.69</td>
</tr>
<tr>
<td>General</td>
<td>Primary school</td>
<td>116</td>
<td>3.04</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>92</td>
<td>3.00</td>
<td>.37</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>3.03</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>3.06</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>3.88</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6</td>
<td>3.76</td>
<td>.50</td>
</tr>
</tbody>
</table>

One-way variance analysis was carried out to determine whether the difference between the means is significant, and the results are presented in Table 8.

Table 8. Results of ANOVA conducted to determine the effect of father’s education level on the students’ problem-solving inventory scores

<table>
<thead>
<tr>
<th>PSS Sub-dimensions</th>
<th>Source of the Variance</th>
<th>Sum of Squares</th>
<th>Sd</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence in PSS</td>
<td>Between-groups</td>
<td>4.26</td>
<td>5</td>
<td>.85</td>
<td>-</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>292.63</td>
<td>563</td>
<td>.52</td>
<td>1.64</td>
<td>1.147</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>296.90</td>
<td>568</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Self-control</td>
<td>Between-groups</td>
<td>2.24</td>
<td>5</td>
<td>.44</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>397.87</td>
<td>563</td>
<td>.71</td>
<td>.63</td>
<td>.675</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>400.10</td>
<td>568</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
The data in Table 8 show that father’s education level does not have any significant effect on the middle school 4th-grade students’ general PSS scores \(F_{(5,563)}= 1.56, p>.05\). Thus, it can be said that father’s education level does not lead to a significant difference in the middle school 4th-grade students’ PSS. Similarly, father’s education level was found to have no significant effect on the middle school 4th grade students’ PSS scores taken from the sub-dimensions of “Confidence in PSS” \(F_{(5,563)}= 1.64, p>.05\), “Self-Control” \(F_{(5,563)}= .63, p>.05\] and “Avoidance” \(F_{(5,563)}= .41, p>.05\]. In other words, father’s education level does not have any significantly affect on the middle school 4th grade students’ PSS in the sub-dimensions of “Confidence in PSS”, “Self-Control” and “Avoidance”

3.6. Findings related to the Sub-problem “What is the Distribution of the Middle School 4th-Grade Students according to SPS?”

As can be seen in Table 9, 351 (61.7%) of the students have basic SPS while 218 (38.3%) of the students have integrated SPS. Thus, it can be said that the majority of the middle school 4th-grade students have basic SPS.

<table>
<thead>
<tr>
<th>Sub-dimension</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>351</td>
<td>61.7</td>
</tr>
<tr>
<td>Integrated</td>
<td>218</td>
<td>38.3</td>
</tr>
<tr>
<td>Total SPS</td>
<td>569</td>
<td>100.0</td>
</tr>
</tbody>
</table>

3.7. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ SPS and Gender?”

The data presented in Table 10 show that gender does not have any significant effect on the middle school 4th-grade students’ SPS \(t (567) = -.970, p>.05\]. Moreover, the scores taken from the sub-dimensions of “Basic SPS” \(t (567) = 1.280, p>.05\] and “Integrated SPS” \(t (567) = .936, p>.05\] were also found to be not varying significantly depending on gender. Thus, it can be argued that gender is not a factor that can create significant effects on SPS. As can be seen in Table 10, the mean scores taken by the male students from the SPS Test (=14.43) and its sub-dimensions of “Basic SPS” and “Integrated SPS” (=7.39) are higher than those of the female students.
Table 10. Results of the t-test conducted to determine the effect of gender on the students’ SPS

<table>
<thead>
<tr>
<th>SPS</th>
<th>Gender</th>
<th>N</th>
<th>X</th>
<th>S</th>
<th>df</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>Male</td>
<td>303</td>
<td>7.04</td>
<td>1.90</td>
<td></td>
<td>1.280</td>
<td>.201</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>6.82</td>
<td>2.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td>Male</td>
<td>303</td>
<td>7.39</td>
<td>2.96</td>
<td>567</td>
<td>.936</td>
<td>.350</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>7.14</td>
<td>3.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Male</td>
<td>303</td>
<td>14.43</td>
<td>4.33</td>
<td></td>
<td>-.970</td>
<td>.333</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>266</td>
<td>14.04</td>
<td>5.10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.8. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ SPS and the School Attended?”

Table 11. Means and standard deviation of the scores taken from the SPS test in relation to the school attended

<table>
<thead>
<tr>
<th>SPS</th>
<th>School Name</th>
<th>N</th>
<th>X</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>A</td>
<td>204</td>
<td>.70</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>.73</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>.71</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>.71</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>.65</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>.72</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>.61</td>
<td>.66</td>
</tr>
<tr>
<td>Integrated</td>
<td>A</td>
<td>204</td>
<td>.63</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>.64</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>.63</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>.61</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>.56</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>.63</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>.55</td>
<td>.24</td>
</tr>
<tr>
<td>General</td>
<td>A</td>
<td>204</td>
<td>.66</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>118</td>
<td>.69</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>16</td>
<td>.67</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>67</td>
<td>.65</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>111</td>
<td>.59</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>21</td>
<td>.68</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>32</td>
<td>.64</td>
<td>.18</td>
</tr>
</tbody>
</table>

The means shown in Table 11 were obtained by dividing the total scores taken from the “SPS Test” by the number of items in the test. One-way variance analysis was conducted to determine whether the difference seen between the means is significant and the results of this analysis are presented in Table 12.
Table 12. Results of ANOVA conducted to determine whether the students’ scores taken from the SPS Test vary significantly depending on the school attended

<table>
<thead>
<tr>
<th>SPS</th>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
<th>Scheffe Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic SPS</td>
<td>Between-groups</td>
<td>.68</td>
<td>6</td>
<td>.11</td>
<td>2.86</td>
<td>.009</td>
<td>B-E</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>22.23</td>
<td>562</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22.91</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated SPS</td>
<td>Between-groups</td>
<td>.54</td>
<td>6</td>
<td>.09</td>
<td>1.28</td>
<td>.267</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>39.47</td>
<td>562</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40.00</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General SPS</td>
<td>Between-groups</td>
<td>.59</td>
<td>6</td>
<td>.09</td>
<td>2.15</td>
<td>.046</td>
<td>B-E</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>25.47</td>
<td>562</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26.05</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data presented in Table 12 show that the school attended has a significant effect on the middle school 4th grade students’ scores taken from the SPS Test and its sub-dimension of “Basic SPS” \(F_{(6,562)}= 2.86, p<.05, F_{(6,562)}= 2.15, p<.05\). In order to determine the source of the difference, Scheffe test was conducted. The results of this test show that the source of the difference is the difference between the students attending school B and school E. The reason for this difference may be the profiles of the students attending these schools and their families’ socio-economic levels.

3.9. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ SPS and Maternal Education Level?”

The means shown in Table 13 are values obtained by dividing the total scores taken from the SPS Test by the number of items in the test. In Table 13, it is seen that nearly one-fourth of the students’ mothers are high school” graduates (N=175) and 159 of them are primary school” graduates, 114 of them are university graduates, 98 are middle school graduates (N=99), 13 hold a post-graduate degree and 9 are in the group of others. The mothers in the group of others are either illiterate or do not have any diploma even if they are literate.

Table 13. Means and standard deviation of the scores taken from the SPS test in relation to maternal education level

<table>
<thead>
<tr>
<th>SPS</th>
<th>Maternal Education Level</th>
<th>N</th>
<th>(\bar{x})</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary school</td>
<td>159</td>
<td>.70</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>Middle school</td>
<td>99</td>
<td>.67</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>175</td>
<td>.71</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>114</td>
<td>.70</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>13</td>
<td>.77</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>.66</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td>Primary school</td>
<td>159</td>
<td>.62</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>Middle school</td>
<td>99</td>
<td>.57</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>175</td>
<td>.61</td>
<td>.28</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>114</td>
<td>.62</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>13</td>
<td>.63</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>.55</td>
<td>.23</td>
</tr>
</tbody>
</table>
One-way variance analysis was conducted to determine whether the difference seen between the means is significant, and the results of this analysis are presented in Table 14.

Table 14. Results of ANOVA conducted to determine whether the students’ scores taken from the SPS Test vary significantly depending on the maternal education level

<table>
<thead>
<tr>
<th>SPS</th>
<th>Source of the Variance</th>
<th>Sum of Squares</th>
<th>Sd</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>Between-groups</td>
<td>.22</td>
<td>5</td>
<td>.04</td>
<td>1.10</td>
<td>.363</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>22.69</td>
<td>563</td>
<td>.04</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22.91</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td>Between-groups</td>
<td>.26</td>
<td>5</td>
<td>.05</td>
<td>.74</td>
<td>.595</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>39.74</td>
<td>563</td>
<td>.07</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40.00</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Between-groups</td>
<td>.21</td>
<td>5</td>
<td>.04</td>
<td>.91</td>
<td>.468</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>25.84</td>
<td>563</td>
<td>.04</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26.05</td>
<td>568</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data presented in Table 14 show that maternal education level does not have any significant effect on the middle school 4th-grade students’ science process skill test scores \( F(5,563)= .91, p>.05 \). Thus, it can be argued that the middle school 4th-grade students’ maternal education level does not affect their SPS.

Moreover, the middle school 4th-grade students’ scores taken from the sub-dimensions of “Basic SPS” \( F(5,563)= 1.10, p>.05 \) and maternal education level was found to have no significant effect on “Integrated SPS” \( F(5,563)= .74, p>.05 \).

3.10. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ SPS and Father’s Education Level?”

The means shown in Table 15 are values obtained by dividing the total scores taken from the SPS Test by the number of items in the test. As can be seen in Table 15, the majority of the students’ fathers are “University” graduates (N=182) and “High school” graduates (N=147), followed by “Primary school” graduates (N=116), “Middle school” graduates (N=92), “Post-graduate” (N=26) and “Others” (N=9). The fathers in this group are either illiterate or do not have any diploma even if they are literate.
Table 15. Means and standard deviation of the scores taken from the SPS test in relation to father’s education level

<table>
<thead>
<tr>
<th>SPS</th>
<th>Father’s Education Level</th>
<th>N</th>
<th>X</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>Primary school</td>
<td>116</td>
<td>.71</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>Middle school</td>
<td>92</td>
<td>.65</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>.68</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>.71</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>.75</td>
<td>.31</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6</td>
<td>.63</td>
<td>.20</td>
</tr>
<tr>
<td>Integrated</td>
<td>Primary school</td>
<td>116</td>
<td>.66</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>Middle school</td>
<td>92</td>
<td>.58</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>.57</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>.63</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>.61</td>
<td>.29</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6</td>
<td>.61</td>
<td>.30</td>
</tr>
<tr>
<td>General</td>
<td>Primary school</td>
<td>116</td>
<td>.69</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Middle school</td>
<td>92</td>
<td>.61</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>147</td>
<td>.62</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>182</td>
<td>.67</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Post-graduate</td>
<td>26</td>
<td>.66</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>.65</td>
<td>.28</td>
</tr>
</tbody>
</table>

One-way variance analysis was conducted to determine whether the difference seen between the means of the scores taken from the SPS Test is significant, and the results are given in Table 16

Table 16. Results of ANOVA conducted to determine whether the students’ scores taken from the SPS Test vary significantly depending on the father’s education level

<table>
<thead>
<tr>
<th>SPS</th>
<th>Source of the Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
<th>Scheffe Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>Between-groups</td>
<td>.43</td>
<td>5</td>
<td>.09</td>
<td>2.17</td>
<td>.056</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>22.48</td>
<td>563</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22.91</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td>Between-groups</td>
<td>.85</td>
<td>5</td>
<td>.17</td>
<td>2.43</td>
<td>.034</td>
<td>University-Others</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>39.16</td>
<td>563</td>
<td>.07</td>
<td></td>
<td></td>
<td>Postgraduate-Others</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40.00</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Between-groups</td>
<td>.56</td>
<td>5</td>
<td>.11</td>
<td>2.48</td>
<td>.030</td>
<td>University-Others</td>
</tr>
<tr>
<td></td>
<td>Within-groups</td>
<td>25.49</td>
<td>563</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26.05</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data in Table 18 show that father’s education level has a significant effect on the middle school 4th-grade students’ general SPS test scores and integrated SPS scores \[ F_{(5,563)} = 2.48, p<.05 \] and \[ F_{(5,563)} = 2.43, p<.05 \].

In order to find the source of this difference, Scheffe test was conducted and it was found that there are significant differences between the integrated SPS mean scores of the students whose fathers are “University” graduates and those of the students whose fathers are in the “Others” group and between the integrated SPS mean scores of the students whose fathers are in the “Post-graduate” group and those of the students whose fathers are in the “Others” group and that there are significant
differences between general SPS of the students whose fathers are in the “Post-graduate” group and those of the students whose fathers are in the “Others” group. Thus, it can be concluded that that while father’s education level is not significantly correlated with basic SPS, it is significantly correlated with the integrated SPS and general SPS. Father’s education level was found to have no significant effect on the middle school 4th-grade students’ basic SPS \( F(5,563) = 2.17, p>.05 \).

3.11. Findings related to the Sub-problem “What is the Distribution of the Middle School 4th-Grade Students according to Learning Styles?”

Table 17. Descriptive statistics for the students’ learning styles

<table>
<thead>
<tr>
<th>Learning Styles</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diverging</td>
<td>241</td>
<td>42.4</td>
</tr>
<tr>
<td>Assimilating</td>
<td>167</td>
<td>29.3</td>
</tr>
<tr>
<td>Converging</td>
<td>92</td>
<td>16.2</td>
</tr>
<tr>
<td>Accommodating</td>
<td>69</td>
<td>12.1</td>
</tr>
<tr>
<td>General</td>
<td>569</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The data presented in Table 17 show that the most popular learning style among the middle school 4th-grade students is the diverging learning style (42.4%) while the least popular one is the accommodating learning style (12.1%).

3.12. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ Learning Styles and Gender?”

Table 18. The relationship between the students’ learning styles and gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Diverging</th>
<th>Assimilating</th>
<th>Converging</th>
<th>Accommodating</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>N (%)</td>
<td>122 (40.3)</td>
<td>99 (32.7)</td>
<td>50 (16.5)</td>
<td>303 (100.0)</td>
</tr>
<tr>
<td>Female</td>
<td>N (%)</td>
<td>119 (44.7)</td>
<td>68 (25.6)</td>
<td>42 (15.8)</td>
<td>266 (100.0)</td>
</tr>
<tr>
<td>General</td>
<td>N (%)</td>
<td>241 (42.4)</td>
<td>167 (29.3)</td>
<td>92 (16.2)</td>
<td>569 (100.0)</td>
</tr>
</tbody>
</table>

\( \chi^2 = 4.463; \text{sd} = 3; \ p = .216; \ p>.05 \)

The data presented in Table 18 show that gender does not have any significant effect on the middle school 4th-grade students’ learning styles \( (X^2_{(3)}= 4.463; \ p>.05) \). Both among the male and female students, the most popular learning style is diverging learning (40.3% and 44.7%, respectively) while the least popular learning style is the accommodating learning style (10.6%, and 13.9%, respectively). Thus, it can be said that the gender variable does not significantly affect learning styles.

3.13. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ Learning Styles and the School Attended?”
Table 19. The relationship between the students’ learning styles and the school attended

<table>
<thead>
<tr>
<th>School Name</th>
<th>Diverging</th>
<th>Assimilating</th>
<th>Converging</th>
<th>Accommodating</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>83 (40.7)</td>
<td>61 (29.9)</td>
<td>24 (11.8)</td>
<td>36 (17.6)</td>
<td>204 (100.0)</td>
</tr>
<tr>
<td>B</td>
<td>39 (33.1)</td>
<td>43 (36.4)</td>
<td>24 (20.3)</td>
<td>12 (10.2)</td>
<td>118 (100.0)</td>
</tr>
<tr>
<td>C</td>
<td>9 (56.2)</td>
<td>4 (25.0)</td>
<td>3 (18.8)</td>
<td>0 (0.0)</td>
<td>16 (100.0)</td>
</tr>
<tr>
<td>D</td>
<td>29 (43.3)</td>
<td>26 (38.8)</td>
<td>7 (10.4)</td>
<td>5 (7.5)</td>
<td>67 (100.0)</td>
</tr>
<tr>
<td>E</td>
<td>62 (55.9)</td>
<td>19 (17.1)</td>
<td>21 (18.9)</td>
<td>9 (8.1)</td>
<td>111 (100.0)</td>
</tr>
<tr>
<td>F</td>
<td>7 (33.3)</td>
<td>7 (33.3)</td>
<td>4 (19.0)</td>
<td>3 (14.3)</td>
<td>21 (100.0)</td>
</tr>
<tr>
<td>G</td>
<td>12 (37.5)</td>
<td>7 (21.9)</td>
<td>9 (28.1)</td>
<td>4 (12.5)</td>
<td>32 (100.0)</td>
</tr>
<tr>
<td>General</td>
<td>241 (42.4)</td>
<td>167 (29.3)</td>
<td>92 (16.2)</td>
<td>69 (12.1)</td>
<td>569 (100.0)</td>
</tr>
</tbody>
</table>

χ² = 38.015; sd = 18; p = .004; p<.05

As can be seen in Table 19, there is a statistically significant difference between the middle school 4th students’ learning styles and the school attended (χ²(18) = 38.015; p<.05). When the data of the students participating in the current study are examined in terms of the school attended, while schools A, C, D, E and G largely have students having the diverging learning style (40.7%, 56.2%, 43.3%, 55.9%, 37.5%, respectively), school B largely has students having the assimilating learning style (36.4%) and school F largely has students having both the diverging learning style (33.3%) and the assimilating learning style (33.3%). On the other hand, school A has the smallest number of students having the converging learning style (11.8%) while schools B, C, D, E, F and G have the smallest number of students having the accommodating learning style (10.2%, 0.0%, 7.5%, 8.1%, 14.3%, 12.5%, respectively). In other words, while the number of students who adapt different viewpoints towards concrete situations and who prefer making observation rather than immediately getting into action is high in schools A, C, D, E and G, students in school B are highly successful in concerting comprehensive information into a logical whole. On the other hand, school F has equal amounts of these two different types of students.

3.14. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ Learning Styles and the Maternal Education Level?"

Table 20. The relationship between the students’ learning styles and the maternal education level

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Diverging</th>
<th>Assimilating</th>
<th>Converging</th>
<th>Accommodating</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>N (%)</td>
<td>76 (47.8)</td>
<td>35 (22.0)</td>
<td>29 (18.2)</td>
<td>159 (100.0)</td>
</tr>
<tr>
<td>Middle school</td>
<td>N (%)</td>
<td>42 (42.4)</td>
<td>29 (29.3)</td>
<td>17 (17.2)</td>
<td>111 (100.0)</td>
</tr>
<tr>
<td>High school</td>
<td>N (%)</td>
<td>69 (39.4)</td>
<td>59 (33.7)</td>
<td>26 (14.9)</td>
<td>175 (100.0)</td>
</tr>
<tr>
<td>University</td>
<td>N (%)</td>
<td>46 (40.4)</td>
<td>40 (35.1)</td>
<td>12 (10.5)</td>
<td>114 (100.0)</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>N (%)</td>
<td>4 (30.8)</td>
<td>3 (23.1)</td>
<td>5 (38.5)</td>
<td>13 (100.0)</td>
</tr>
<tr>
<td>Others</td>
<td>N (%)</td>
<td>4 (44.4)</td>
<td>1 (11.1)</td>
<td>3 (3.3)</td>
<td>9 (100.0)</td>
</tr>
<tr>
<td>General</td>
<td>N (%)</td>
<td>241 (42.4)</td>
<td>167 (29.3)</td>
<td>92 (16.2)</td>
<td>569 (100.0)</td>
</tr>
</tbody>
</table>

χ² = 17.722; sd = 15; p = .278; p>.05

As can be seen in Table 20, there is no significant difference between the middle school 4th-grade students’ learning styles and their maternal education levels (χ²(15) = 17.722; p>.05). In the table,
it is seen that the students whose mothers are “Primary school” graduates (47.8%), “Middle school” graduates (42.4%), “High school” graduates (39.4%), “University” graduates (40.4%) and “Others” (44.4%) largely have the diverging learning style while the students whose mothers are in the “Post-graduate” group largely have the converging learning style (38.5%). On the other hand, the learning style adopted by the smallest number of students whose mothers are “Primary school” graduates (11.9%), “Middle school” graduates (11.1%), “High school” graduates (12.0%) and “Post-graduate” (7.7%) is the accommodating learning style. On the other hand, among the students whose mothers are “University” graduates, the converging learning style is adopted the least and among the students whose mothers are in the “Others” group, the accommodating learning style (11.1%) and the assimilating learning style (11.1%) are adopted the least.

3.15. Findings related to the Sub-problem “Is There a Statistically Significant Difference between the Middle School 4th-Grade Students’ Learning Styles and Father’s Education Level?

Table 21. The relationship between the students’ learning styles and father’s education level

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Diverging</th>
<th>Assimilating</th>
<th>Converging</th>
<th>Accommodating</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>N (%)</td>
<td>51 (44.0)</td>
<td>31 (26.7)</td>
<td>25 (21.6)</td>
<td>9 (7.8)</td>
</tr>
<tr>
<td>Middle school</td>
<td>N (%)</td>
<td>43 (46.7)</td>
<td>25 (27.2)</td>
<td>11 (12.0)</td>
<td>13 (14.1)</td>
</tr>
<tr>
<td>High school</td>
<td>N (%)</td>
<td>61 (41.5)</td>
<td>41 (27.9)</td>
<td>23 (15.6)</td>
<td>22 (15.0)</td>
</tr>
<tr>
<td>University</td>
<td>N (%)</td>
<td>75 (41.2)</td>
<td>58 (31.9)</td>
<td>26 (14.3)</td>
<td>23 (12.6)</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>N (%)</td>
<td>8 (30.8)</td>
<td>12 (46.2)</td>
<td>6 (23.1)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Others</td>
<td>N (%)</td>
<td>3 (50.0)</td>
<td>0 (0.0)</td>
<td>1 (16.7)</td>
<td>2 (33.3)</td>
</tr>
<tr>
<td>General</td>
<td>N (%)</td>
<td>24 (42.4)</td>
<td>167 (29.3)</td>
<td>92 (16.2)</td>
<td>69 (12.1)</td>
</tr>
</tbody>
</table>

$\chi^2 = 19.466; \text{sd} = 15; p = .193; p > .05.$

As can be seen in Table 21, there is no significant difference between the middle school 4th-grade students’ learning styles and their fathers’ education levels ($\chi^2_{(15)} = 19.466; p > .05$). In the table, it is seen that the students whose fathers are “Primary school” graduates (44.0%), “Middle school” graduates (48.7%), “High school” graduates (41.5%), “University” graduates (41.2%) and “Others” (50.0%) largely have the diverging learning style while the students whose fathers are “University” graduates largely have the assimilating learning style (46.2%). On the other hand, the learning style adopted by the smallest number of students whose fathers are “Primary school” graduates (7.8%), “High school” graduates (15.0%) and “University” graduates (12.6%) is the accommodating learning style. The least adopted learning style by the students whose fathers are middle school graduates (12.0%) is the converging learning style. There are no students who have the accommodating learning style and whose fathers are in the post-graduate group and there are no students who have the assimilating learning style and whose fathers are in the “Others” group.
Discussion, Results and Suggestions

The results of the study have shown that the most preferred dimension by the middle school 4th-grade students is “avoidance” and which is followed by the sub-dimensions of “confidence in problem-solving skill” and “self-control”. It has also been revealed that gender, the school attended, parents’ educational background can make no significant effect on the students’ PSS. In their study conducted to investigate university students’ problem-solving skills, Kelleci, Gölbasi, Dogan & Tuğt (2011) found that the university students preferred the “Approaching Avoiding” style referring to revision of attempts to solve problems and conducting research actively for different, alternative solutions, followed by the “Confidence in PSS” referring to the individual’s trusting in his/her PSS and “Self-Control” meaning that people’s maintaining their control in problematic situations. These findings support the finding of this study. In the current study, the gender variable was found to have no significant effect on the middle school 4th-grade students’ PSS. In their study conducted on the pre-service science teachers’ PSS, Üstündag & Beşoluk (2012) found that gender is not a factor significantly affecting PSS. Güçray (2003) reported that PSS do not vary significantly by gender. Ateş (2008), Dündar (2009), Serin (2001), Özkütük, Silkü, Orgun &Yalçınkaya (2003), D’Zurilla et al. (1998), Basmacı (1998) and Aydın (1999) also found that gender does not give a significant effect on PSS. These findings reported in the literature support the finding of this study. In the literature, there are studies reporting different findings. Korkut (2002) conducted a study on the PSS of high school students and found that the PSS of the students varied significantly depending on gender in favour of the male students. Graybill (1975), Dinçer (1995), Saracaloğlu, Serin & Bozkurt (2002), Serin & Derin (2006), İnce & Sen (2006), Germi & Sunay (2006), Çağlayan (2007) & Ertek (2014) stated that PSS vary significantly depending on gender. Haykır (2012), Nas (2015), Tezel & Tezgören (2019) found that female students’ PSS are significantly better that those of male students. On the other hand, the finding reported by Güler (2019) that female students’ level of problem solving is lower than that of male students contradicts with that of this study.

In the current study, it was found that there is no significant difference between maternal education level and the middle school 4th-grade students’ PSS. Akpinar & Akpinar (2017) investigated university students’ PSS in terms of different demographic variables and found that the maternal education level did not cause any significant difference in their PSS. Moreover, in another study investigating the high school students’ PSS and factors affecting these skills, Yıldırım, Hacihan, Karakurt & Türkleş (2011) found no significant difference between maternal education level and PSS. In their study investigating the primary school students’ perceptions of interpersonal PSS and factors affecting their locus of control levels, Serin & Derin (2008) found no significant difference between maternal education level and PSS. Moreover, Basmacı (1998), Aslan &

In the literature, there are studies reporting similar or different results. Deniz, Aslan & Hamarta (2002) found that the total scores taken from the problem solving inventory did not vary significantly depending on maternal education level yet, the scores taken from the sub-dimensions of the problem solving inventory were found to be varying significantly depending on the maternal education level. On the other hand, Avcı & Gülbaşçe (2019) investigated the PSB of high school students in terms of different variables and they found that maternal education level caused a significant difference in their PSS. Eroğlu (2001) also stated that there is a significant difference between children’s PSS and maternal education level. Moreover, Ünüvar (2003), Saygılı (2000) and Dönmez & Demirtaş (2007) reported that maternal education level created significant differences in PSS.

In the current study, it was concluded that the middle school 4th-grade students’ PSS do not vary significantly depending on father’s education level. Korkut (2002) investigated the high school students’ PSS in relation to some variables and concluded that their PSS did not vary significantly depending on father’s education level. Yet, the findings obtained by Tümkaya & İflazoğlu (1999), Basmacı (1998) and Güzel (2004) are not parallel to this finding of the current study. However, in the study conducted by Saygılı (2000), a significant difference was found between the high school students’ fathers’ education levels and their PSS. In their study, Dönmez & Demirtaş (2007) found that father’s education level has a significant effect on the teachers’ perceptions of PSS. Çağlayan, Taşğın & Yıldız (2008) found that while father’s education level has a significant effect on the students’ problem solving inventory skills in some sub-dimensions, it does not any significant effect on them in some other sub-dimensions. These findings reported in the literature do not concur with the finding of the current study. In the study conducted by Çelik (2016), pre-service elementary school teachers’ PSS were examined and found that father’s education level has a significant effect on their PSS in the sub-dimension of avoidant.

In the current study, it was found that the middle school 4th-grade students largely used basic SPS. In general, while no significant differences were found between SPS and gender and maternal education level, significant differences were found between SPS and the school attended and father’s education level. The fact that public schools connected to the city center have different qualifications (families from different departments, different education levels, different socio-economic levels…) may also be a factor in reaching this result.

Moreover, a significant difference was found between the sub-dimension of integrated SPS and father’s education level. Şen (2019); in her study entitled “Determination of Fifth-Grade
Students’ SPS and Self-Efficacy Beliefs” found that the students’ basic process skills are high while their experimental skills are low. Öztürk (2008) aimed to determine seventh-grade students’ level of SPS and found that their basic process skills are high while their experimental skills are low. Böyük, Tanık & Saraçoğlu (2011) found that although the achievement level of middle school students in basic SPS (observation, time-space relationship, classification, use of numbers, measurements, association, prediction) is high, their level of achievement in higher-order SPS (controlling variables, interpreting data, formulating hypotheses, conducting experiments) is low. In other words, while the participating students had the highest achievement in the skill of using numbers, they had the lowest achievement in the skill of conducting experiments. The findings of this study seem to concur with the findings of the current study related to the use of the sub-dimensions of SPS by the students.

In the current study, it was concluded that the gender variable did not have any significant effect on the middle school 4th-grade students’ SPS. However, Aydınlı (2007) reported that gender had a significant effect on the students’ basic and integrated SPS. This finding does not support the finding of the current study. In their study investigating SPS, Öztürk (2008) and Hazır & Türkmen (2008) found no significant difference between the male and female students’ levels of SPS but the mean score of the female students was found to be higher than that of the male students. While this finding supports the finding of the current study as no statistically significant difference was found, it is contrary to the finding of the current study as the female students’ mean score was found to be higher. Karar (2011) determined that seventh grade students’ SPS vary significantly depending on gender. This difference was found to be in favour of the female students in the sub-skills of identifying and controlling variables, formulating and defining a hypothesis, drawing and interpreting graphs. Karataş, Delen, Cengiz, İkto & Birinci (2018) found that Anatolian high school tenth-grade students’ SPS are related to their gender but the effect size is small. In their studies, Aydoğdu (2006), Tatar (2006) and Arslan (1995) also concluded that the students’ SPS did not vary significantly depending on gender. Kuru & Akman (2017) did a study on pre-school children and found that SPS were not significantly affected by gender. These findings support the finding of the current study.

In the current study, it was found that maternal education level did not lead to any significant effect on the middle school 4th year students’ SPS. In their study entitled “Evaluation of the Degree to Which the Science and Technology Course Imparts SPS to Primary School 5th-Grade Students”, Gürbüztürk & Katrancı (2010) found that maternal education level did not lead to any significant difference in the acquisition of SPS by students. This finding is in compliance with the finding of the current study. In the literature, there are studies reporting different findings. Aydınlı (2007) found that students’ basic and integrated SPS varied significantly depending on maternal education level. Karataş, Delen, Cengiz, İkto & Birinci (2018) concluded that with increasing education level of mothers who take an active role in children’s education, children’s SPS also increase. Saraçoğlu,
Böyük & Tanık (2012) found that students’ SPS were significantly affected by maternal education level and that the students whose mothers are university graduates had a significantly higher mean score than the students whose mothers are primary school and middle school graduates. Öztürk (2008) found that the mean SPS scores of the students whose mothers are university and high school graduates are significantly higher. Moreover, it was also found that mothers’ increasing level of education led to increasing science process scores on the part of the students. Germann (1994) and Aydınlı (2007) also concluded that maternal education level had a significant effect on the students’ acquisition of SPS. In the current study, the middle school 4th-grade students’ SPS were found to be varying significantly depending on father’s education level. Aydınlı (2007) found significant differences among basic and integrated SPS of the students whose fathers have different education levels. Aydoğdu (2006) also reported that the students’ scores taken from the SPS test varied significantly depending on their fathers’ education levels. Doğan (2018) investigated the SPS of middle school seventh-grade students and found that with increasing education level of fathers, the scores taken from the SPS test also increased and that this variable created a significant difference. Saraçoğlu, Böyük & Tanık (2012) found that the students whose fathers are university graduates had a significantly higher mean score than the students whose fathers are in the “Others” group. In their study investigating elementary school second level students’ SPS in relation to different variables, Böyük, Tanık & Saraçoğlu (2011) found that father’s education level caused significant differences in SPS. The findings of these studies concur with the finding of the current study. There are also some other studies reporting different findings. Zorlu, Zorlu, Sezek & Akkuş (2014) compared the relationship between middle school 4th-grade students’ SPS and achievement test scores and found no significant difference between SPS and father’s education level.

In the current study, the highest number of the middle school 4th-grade students was found to have the diverging learning style, while the smallest number of students was found to have the accommodating learning style. Moreover, the school attended was found to have a significant effect on the students’ learning styles but not maternal education level and father’s education level. Biçer (2010) tried to determine the relationships between grade levels, genders, academic achievements and the school subjects of the sixth, seventh and eighth grade students and their learning styles and found that the students most preferred diverging learning style in math, Turkish, English and Science and Technology classes. Kaya (2007) conducted a study on elementary school 6th, 7th and 8th-grade students and found that the learning style most preferred by the students is the diverging learning style. Suliman (2006) found that the most preferred learning style among university students is the diverging learning style. These findings support the finding of the current study. However, in the literature there are studies reporting different findings. Denizoğlu (2008) found that while the most preferred learning styles among pre-service science teachers are diverging and assimilating learning styles, accommodating and converging learning styles are the least preferred ones. Mutlu (2008)
investigated the learning styles of the education faculty students and found that the students largely have the assimilating learning style. Karaşık (2006) and Kılıç (2002) reported that the participants mostly preferred the assimilating learning style. Although Can (2011) found the age did not have any significant effect on the pre-service teachers’ learning styles, with increasing age, thinking ability, awareness of values and meanings, focusing on abstract concepts and ideas, decision making and planning ideas were found to have developed more. Moreover, she found that the individuals in the age group 17-23 prefer the assimilating learning style while those who are 23 years old or older prefer the converging learning style. As a result, it can be concluded that while higher graders adopt assimilating learning style more, lower graders adopt diverging learning style more. Dikmen, Tuncer & Şimşek (2018) found that the dominant learning style among university students is assimilating learning style.

In the current study, the gender variable was found to have no significant effect on the learning styles of the middle school 4th-grade students. While Başbay, Bıyıklı & Demir (2018) found that gender may have small-medium effect on middle school students’ learning styles, Denizzoğlu (2008) conducted a study on the pre-service science teachers and found that there is no significant difference between learning styles and gender. Mutlu (2008) and Can (2011) stated that there is no significant difference between the learning styles and gender of the education faculty students. Moreover, findings reported by Güzel (2004), Bahar, Özen & Gülaçtı (2007), Numanoğlu & Şen (2006) also support the findings of the current study.

In the current study, maternal education level was found to have no significant effect on the middle school 4th-grade students’ learning styles. Yenilmez & Çakır (2005) also found that there is no significant difference between the primary school students’ learning styles and their maternal education levels. Çağlayan & Şirin (2009) also reported that the high school students’ learning styles did not vary significantly depending on their maternal education levels. Gürol (2010), Demir (2010), Gürpinar, Batı & Tetik (2011), Topuz & Karamustafaoğlu (2013) concluded that there maternal education level is not significantly correlated with learning styles of their children. The findings reported in these studies concur with the finding of the current study.

In the literature, there are studies reporting different results. Tazegül & Ülker (2009) investigated the learning styles of the blind students and found a significant difference between the students’ learning styles and their maternal education levels. Similarly, Ortar (2006), Baran (2000) and Merter (2009) found that maternal education level is an important variable leading to differences in students’ learning styles. Bakır & Mete (2014) concluded that while elementary education second level students’ independent learning style scores vary significantly depending on maternal education level, their passive, cooperative, dependent, competitive and participatory learning style scores do not vary significantly.
In the current study, the middle school 4th-grade students’ learning styles were found to be not varying significantly depending on father’s education level. Yurtseven (2010) investigated the relationship between the primary school 5th-grade students’ academic achievement in the social studies course and learning styles and concluded that there is no significant difference between the students’ learning styles and their fathers’ education levels. Bakr & Mete (2014) found that independent learning style scores of the elementary education second level students vary significantly depending on father’s education level while their passive, cooperative, dependent, competitive and participatory learning style scores do not vary significantly. Yenilmez & Çakır (2005) and Güzel (2004) also found no significant difference between father’s education level and learning styles. These findings support the finding of the current study. However, Ortar (2006), Baran (2000) and Merter (2009) found a significant difference between learning styles and father’s education level. On the basis of the results of this study, these suggestions can be made:

- Qualitative research to be conducted to explore the reasons for the changes in the levels of using PSS and SPS in different schools in the same school district will help fill the void in the literature.

- Students’ learning styles can be determined at the beginning of the school year and the instruction can be delivered in compliance with the students’ learning styles. Thus, students can learn more effectively.

- As the majority of the students have the diverging learning style, instructional activities should be planned to include group works and to provide feedbacks to individual students; thus, learning of students will be more permanent and effective.

- By designing the contents of education systems in such a way as to develop PSS and SPS, it is possible to improve these skills, but different learning styles can also be considered during this design process. Thus, it can be ensured that students learn subjects in a meaningful way and use them to solve problems they encounter in daily life.

Generally, the current study concluded that the middle school 4th-grade students used the avoidance sub-dimension the most, followed by the confidence in problem-solving skill and self-control sub-dimensions. No significant difference was found between the PSS and gender, the school attended, maternal education level and father’s education level. The majority of the students were found to use the basic SPS. While no significant difference was found between the SPS and gender and maternal education level, a significant difference was found between the SPS and the school attended and father’s education level. In the context of these results, it can be said that school difference may affect students’ scientific process skills due to factors such as the effect of teacher
experience, the number of students in the school, on the academic achievement of students. Moreover, a significant difference was found between the SPS and the father’s education level. The great majority of the students were found to have the diverging learning style while the accommodating learning style was possessed by the smallest number of students. The students’ learning styles were found to be varying significantly depending on the school attended yet not depending on gender, the maternal education level and the father’s education level. As a result of the current study, it is seen that 4th-grade students’ PSS and scientific process skills are not at the desired level. Another result obtained in the study is that there is no significant effect of different variables on scientific process skills and learning styles. In fact, this can be interpreted as that students are prone to solving problems in line with the formal education they receive at school, while trying to find solutions in difficult situations, and that they try to cope with problems by using their own learning style.

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The Impact of Digital Storytelling on the Academic Achievement and Democratic Attitude of Primary School Students

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Abstract

The aim of this study is to explore the impact of digital storytelling (DST) on the academic achievement and democratic attitude of 4th-grade primary school students and to reveal their experiences in the DST process. The study was conducted with a mixed-method approach. The quantitative part of the study adopted a pretest and posttest quasi-experimental design with 30 students. In the qualitative part of the study, two focus group interviews were carried out with 15 students in the experimental group. The quantitative data was collected through an academic achievement test and a democratic attitude scale. The qualitative data was obtained through two focus group interviews. Descriptive analysis, t-test, and qualitative content analysis were used for evaluating data. Results revealed that the students in the experimental group performed significantly better than the students in the control group in terms of academic achievement and democratic attitude. Focus group interviews highlighted that DST is effective in promoting constructivist learning and lack of experience is the biggest problem in the DST process.

Keywords: Digital Storytelling, Democratic Attitude, Academic Achievement, Primary School, Mixed Method Research.

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**Introduction**

In the 21st century, when technology is highly influential, students are expected to take on the role of "empowered learner" and "knowledge constructor" in the learning process (International Society for Technology in Education [ISTE], 2016; Trilling & Fadel, 2009; Kırıkçı, Çiğerci, & Arıkan, 2020). To develop such student characteristics, student-centered instructional technologies are employed. One of the effective ways to achieve that is digital storytelling (DST) (Chan, 2019; Robin, 2008; Valkanova & Watts, 2007). Several studies reveal that DST is effective in activating these learner characteristics. Because DST allows students to analyze, present, and communicate ideas about any type of content with the support of technology, it enables student engagement, cooperative learning, and creativity, makes students active learners, enhances learning, motivation, and academic achievement, and improves civic engagement (Sadik, 2008; Gyabak & Godina, 2011; Dogan & Robin, 2009; Erbaş, 2020; Ohler, 2006; Hung, Hwang & Huang, 2012; Yigit, 2020). By creating digital stories, students connect with daily life and their learning process is shaped accordingly (Dreon, Kerper & Landis, 2011). DST allows students to learn by themselves and provides permanent learning (Ohler, 2006). Besides, DST is useful in the educational process in uncovering the understandings of students via their thoughts and voices (Yuksel-Arslan, Yildirim & Robin, 2016). With all these benefits, DST has a positive impact on learning as it allows the students to reflect on their experiences in the learning process.

Although DST is a widely used instructional strategy, it remains a challenging issue to effectively apply this strategy to the teaching process. The problems that arise can be caused by the teacher, the student, and the structure of the course. For example, some teachers still have problems in including technology in the teaching process (Yang & Wu, 2012). Moreover, the lack of experience of teachers and students regarding the DST process, limited duration of courses, incorrect technology choice (online or offline tools) in the DST process, boringness of story writing and storyboarding, and difficulty in finding material are some of the problems (Dogan & Robin, 2008; Silseth, 2013; Smeda, Dakich & Sharda, 2014; Kotluk & Kocakaya, 2017; Rahimi & Yadollahi, 2017, Durak, 2018). Also according to the systematic review by Wu and Chen (2020), DST studies about social study topics are limited in the literature. As revealed by various studies, different problematic aspects of DST may emerge. Thus, it has become a necessity to test the effects of DST implementations on different age groups and variables and to evaluate the implementation process.

The review of the literature from this point of view shows that there is limited research on the implementation of DST at the primary school level. At the same time, this limitation at the primary level continues about the impact of DST on democratic attitude and academic achievement, and the evaluation of the DST process. Although there are studies at the primary school level about language teaching (Anderson & Wales, 2012), developing computing skills (Tsai, Shen & Lin, 2015),
promoting twenty-first-century skills and student engagement (Niemi & Multisilta, 2015), revealing students' dreams and life experiences (Duveskog et al., 2012), investing the DST effects on visual memory capacity and writing skills (Çıralı-Sarıca & Koçak-Usluel, 2016), there is no research examining the effects of DST on achievement and democratic attitudes in Human Rights, Citizenship and Democracy course (HRCD). Therefore, this study aims to explore the impact of digital storytelling (DST) on the academic achievements and democratic attitudes of 4th-grade primary school students and to reveal their views on the DST process. For this purpose, the answers to the following research questions were sought.

RQ1: Is there any significant difference between the students in the experimental and control group in terms of their academic achievement in the HRCD course?

RQ2: Is there any significant difference between the students in the experimental and control group in terms of their democratic attitude in the HRCD course?

RQ3: What are the experimental group students’ experiences about the process of learning with DST?

Digital Storytelling

Storytelling is inherent in the roots of civilization. Through storytelling, we can easily make sense of the world (Lambert, 2013), protect our culture (Wang & Zhan, 2010), and lay a bridge between past, present, and future (Harris, 2007). Besides, storytelling is an effective way to uncover experiences (Bruner, 1996). With these benefits, storytelling tradition is important for shaping personal ideas and social structure by providing self-expression; however, the development of technology has changed written storytelling. Thus, traditional storytelling was combined with various types of multimedia, and DST appeared. DST emerged towards the end of the 20th century. Storytelling experiences were enhanced by The Center for Digital Storytelling which combined storytelling tradition with multimedia (Lowenthal & Dunlap, 2010). This center was established by Joe Lambert, Dana Atchley, and Nina Mullen in the late 1980s (Behmer, 2005). They became the first representatives of DST (Storycenter, 2019). Afterward, DST has become a prominent teaching strategy that is not only constructed with various software but also designed in Web 2.0 environments.

There are many definitions of DST. DST is a practice-based instructional strategy in which students create multimedia combined with short stories on their personal real-life experiences (Hartley & McWilliam, 2009). DST is a short narrative that reflects the storyteller's experiences and can be viewed from different technological devices (Davis, 2004). DST is a digitalized version of storytelling for a specific subject (Kobayashi, 2012; Robin, 2016). Thus, traditional storytelling is tried to be made more effective. DST is also a student-centered learning activity that provides reflective thinking
(Nelson, Hull & Roche-Smith, 2008; Valkonava & Watts, 2007; Demirbaş & Şahin, 2020). Students are at the center of the DST process. For this reason, they write a script, organize a storyboard, combine the story with multimedia, record their voices, and share them. All of these steps need to be done in a certain order (Kocaman-Karaoglu, 2016). These processes were presented by Lambert (2010) as seven elements of digital storytelling. These are a point of view, dramatic question, emotional content, the gift of your voice, the power of soundtrack, economy, and pace. In other classification, Talan (2021) emphasized these phases in educational processes as pre-production (determining the topic and creating ideas), production (digitalization of scenario and images), post-production (putting the fragments together and arrangements), and distribution (sharing the stories to get comment). By following these steps, teachers or students can create effective digital stories. Although digital stories are developed and brought into the classroom by teachers, they have the greatest impact when they are developed by students individually or in small groups (Robin, 2008). The construction process of digital stories belongs to the students, which enables the learners to structure the information by themselves. Thus, DST can be called a teaching strategy that allows students to learn by reflecting on their experience and knowledge.

**Digital Storytelling and Academic Achievement**

Previous studies have emphasized that there is a positively strong relationship between DST and academic achievement. This positive effect on academic achievement was observed in different research areas. Social Studies education (Hernández-Ramos & De La Paz, 2009; Kırıkçı, Ciğerci, & Arıkan, 2020), science education (Hung, Hwang & Huang, 2012), foreign language education (Yang & Wu, 2012), and physics education (Kotluk & Kocakaya, 2017) are some of them. Stories provide effective learning by linking daily life and course content (Harris, 2007). Learning motivation increases with experiences reflected in digital stories, thus academic achievement is positively affected (Wu & Yang, 2008). DST activates constructivist learning and higher-level cognitive processes by directing students to research (Robin, 2016, Demirer, 2013). In this way, students shape and present the information they reach according to their own experiences. On the other hand, some studies also show that DST does not have a differentiating effect on academic achievement. For example, in the study conducted by Nam (2017), there was no significant difference in academic achievement due to the structure of the teaching process. A similar result was found in the study conducted by Sarıtepeci (2016). Further studies are necessary to test the impact of DST on academic success because there have been contrasting outcomes revealed by various studies.

**Digital Storytelling and Democratic Attitude**

Traditional storytelling contributes to individuals by enabling them to evaluate democratic practices and regulate their democratic perspectives (Combs & Beach, 1994). Similarly, the digital form of traditional storytelling, DST is also an effective method for solving antidemocratic problems.
such as racism, discrimination, and feeling of exclusion, and strengthening democratic dispositions (Lambert, 2013; López-Bech & Zúñiga, 2017). The use of DST is effective in revealing hidden discriminatory discourses and regulating them (Rolón-Dow, 2011; Malita & Martin, 2010; Matias & Grosland, 2016). DST acts as a mirror by giving individuals the chance to share their positive and negative experiences (Gubrium & Scott, 2010). DST serves as an effective tool in democratic processes by enriching critical thinking, open-mindedness, cultural awareness, and civic engagement (Chan, 2019; Ribeiro, 2016; Truong-White & McLean, 2015). DST strengthens tolerance and respect for differences by giving students from different social and ethnic backgrounds an equal chance for expressing and demonstrating different experiences (Gachago, Condy Ivala & Chigona, 2014; Kim & Li, 2021). In particular, DST is effective in ensuring social inclusion of migrants and refugees (Svoen, Dobson & Bjørge, 2019). Despite all these positive effects, it can not be said that DST strengthens democratic attitudes in every implementation (Balaman, 2015). This assumption makes it necessary to test its impact on democratic attitudes in different grades, cultures, and courses.

**Method**

**Research Model**

This study used a mixed research approach that allows combining quantitative and qualitative data. To achieve that, the explanatory sequential design was used. The explanatory sequential design consists of a two-stage process in which the researcher collects quantitative data first, analyzes the findings, and then plans the qualitative stage (Creswell & PlanoClark, 2011). Therefore, in the first part of the research, a quasi-experimental design with a pretest-posttest control group was employed (Fraenkel & Wallen, 2003). The independent variable of the research was DST. Dependent variables were the students' democratic attitudes and academic achievements in the course of Human Rights, Citizenship and Democracy. The teaching process was continued with DST in the experimental group; while in the control group, the traditional teaching process was implemented without any intervention. The qualitative part of the research was carried out through the focus group interviews after the analysis of quantitative data. Focus group interview is a qualitative data collection method that is frequently used in process evaluations (Glesne, 2010). In the qualitative part of this study, the DST experiences of the students were investigated. The students in the experimental group were divided into two groups and were included in the focus group interviews. The research process was presented in Figure 1.
Participants

The participants of the research consist of 4th-grade primary school students in a Central Anatolian province of Turkey in the 2018-2019 spring term. The simple random method was used to determine the research group. A simple random method is a sampling method in which all individuals have an equal chance of being assigned to any group. This sampling method does not include any specific criteria for sample selection (Fraenkel & Wallen, 2003). The experimental and control groups were created through random sampling. Before the implementation process of the research, pre-tests were applied to the determined classes to test the equivalence of the groups and it was understood that there was no difference between them. As shown in Table 1, 30 students, 15 in the experimental group and 15 in the control group, participated in the study. When the participants were examined in terms of gender, it was seen that there was an almost equal distribution of male and female participants.

Table 1. The characteristics of the participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Experimental group (%)</th>
<th>Control group (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>7(46.67%)</td>
<td>9(60%)</td>
<td>16(53.33%)</td>
</tr>
<tr>
<td>Female</td>
<td>8(53.33%)</td>
<td>6(40%)</td>
<td>14(46.67%)</td>
</tr>
<tr>
<td>Total</td>
<td>15(100%)</td>
<td>15(100%)</td>
<td>30(100%)</td>
</tr>
</tbody>
</table>

Instruments

In the qualitative part of this study, the Academic Achievement Test for Human Rights, Citizenship and Democracy course, and Democratic Attitude Scale (DAS) were used, and in the quantitative part of the study, focus group interviews were utilized.

Academic Achievement Test for Human Rights, Citizenship and Democracy Course which was developed for a doctoral thesis by Aydoğan (2018), was used to measure fourth-grade students’ academic achievement. The academic achievement test consisted of 16 questions. The questions were
formed with 4 options in accordance with the age group. The minimum score from the achievement test is 0, and the maximum is 16. The K-20 reliability coefficient of the test was calculated as 0.76.

Democratic Attitude Scale (DAS) was used to measure students’ democratic attitudes. The DAS consisted of two sub-factors: reconciliation and empathetic sensitivity, and 25 items were developed by Özer (2004). Some examples of the items in the scale are as follows: “I accept the decisions determined by the group”, “I respect the thoughts of others”, “I don't want to admit it when I'm wrong”. In the scale, a 3-points Likert-scale was used (disagree, neutral, and agree). The Cronbach-Alpa internal consistency coefficient of DAS was calculated between 0.81 and 0.85. Thus, it was assumed that the Democratic Attitude Scale will reliably measure the democratic attitudes of primary school students.

In the qualitative part, the students were divided into groups and 2 focus group interviews were conducted to reveal the views of the experimental group students on the process carried out with DST. A semi-structured interview form was used in the focus group interview. While preparing the interview form, draft questions were created by considering the DST literature, and then expert opinions were taken from two academicians from the field of educational technology. Then, the form consisting of six questions was prepared for implementation. Some of the questions are:

- Could you tell us about the positive aspects of digital storytelling?
- Could you tell us about the difficulties of digital storytelling?
- Would you like to use digital storytelling for your course in the future? Why?

Settings

This study was designed to examine the impacts of DST on the academic achievement and democratic attitude of 4th-grade primary school students and reveal their experiences about DST. The research was conducted in Human Rights, Citizenship and Democracy (HRCD) course which is a compulsory course in primary school 4th grade in Turkey. The course duration is 2 hours per week. The HRCD course aims to enable students to adopt the values regarding democracy, human rights, and citizenship and to embody these values in their daily lives (Ministry of National Education, 2018). Before the research, was contacted with the school and necessary permissions were obtained from the provincial directorate of national education, the school, and the teacher. Afterward, through an interview with the teacher about the DST process, the research process was explained in detail, and the research was started the following week.

In the beginning, four hours of training were given to experimental group students about the DST process and MS Photo Story 3 software. In the research, MS Photostory 3 was used to construct
digital stories instead of more complex tools considering the students’ age. In the last part of the training, sample digital stories were created with the students. During the training, digital story creation processes were conducted as stated by Robin (2008). This process consists of identifying the subject, researching it, writing the script, creating an interesting story, combining the story with various multimedia tools (recorded audio, music, video, etc.), and watching it. These steps were followed in the creation and presentation process of digital stories by the experimental group. While creating stories, students were supported on technical issues, and they were provided with an internet connection. After training, pre-test data were collected from both the experimental and control groups.

Then, between the 4th and 11th weeks of the study, digital stories were developed in line with the curriculum. A collaborative design was preferred in the DST. Thus, the students were divided into three groups. Each group consisted of five students who were selected randomly. Each group developed two digital stories with a length of three to five minutes for eight weeks. Digital stories developed by the groups were collected, uploaded to the smartboard, and watched with the whole experimental group students. Finally, at the end of the implementation process, the post-test was applied to the students. As a result of the analysis of the quantitative data, significant differences were found in favor of the experimental group, and focus group interviews were conducted within the scope of the qualitative dimension to investigate the reasons for that. The research process lasted for 13 weeks including training, data collection, and DST implementation. The research process was given in detail in Table 2.

Table 2. Research process

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topics</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Week</td>
<td>Introduction to digital storytelling and training for MS Photo Story 3</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2nd Week</td>
<td>Pre-test (Academic Achievement and Democratic Attitude)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3rd Week</td>
<td>Consensus (Content: Causes of human conflicts, consensus ways to resolve conflicts, results of conflict and consensus situations)</td>
<td>Digital Storytelling (Writing script, Storyboarding, Visual collecting, Combining story with multimedia, editing, sharing, and watching)</td>
<td>Traditional Methods (Direct instruction, question-answer method)</td>
</tr>
<tr>
<td>4th Week</td>
<td>Rules (Content: The relationship between rule, right, and freedom, the contribution of rules to living together, implementation of rules)</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 2. Research process
Data Collection Process

The data collection process of the research consists of three stages. Firstly, Academic Achievement Test and DAS were applied as pre-tests to experimental and control group students before the DST process. The independent t-test was employed to the pre-test data to find out if there were any statistically significant differences between the groups. Because there was no significant difference between the groups, the implementation process was started. Secondly, at the end of the implementation process, the “Academic Achievement Test” and “DAS” were distributed to students to gather data as a post-test. Thus, all quantitative data within the scope of the research were obtained and analyzed. Lastly, after the post-tests, two focus group interviews were carried out with the experimental group students to reveal their opinions on digital storytelling. Focus group interviews lasted 120 minutes.

Data Analysis

Different data analysis methods were used for quantitative and qualitative data. In the first phase, quantitative data were analyzed with the IBM SPSS Statistics 22.0 program. Before the analysis of quantitative data, the Shapiro Wilk normality test, the coefficient of kurtosis, and skewness were examined. It was found that the kurtosis and skewness values were in the range of +1.5 and -1.5 as recommended by Tabachnick and Fidell (2013). To analyze quantitative data, independent group t-test and paired group t-test were used.

In the second phase, the content analysis which is one of the qualitative analysis methods was used (Lichtman, 2010). Qualitative data were analyzed by the five stages specified by Robson (2015). The qualitative analysis process was carried out in the following order: collecting data, generating initial codes, determining the themes, creating thematic networks, integrating, and interpreting data.
After the coding, Miles and Huberman’s (1994) coding reliability of two experts was calculated as 93%. Data were presented with direct quotes.

**Results**

**Academic Achievement**

In the first part of the findings, the academic achievement mean scores of the experimental and control groups were analyzed to answer the first research problem. The results of the pre-test of the experiment and control groups are presented in Table 3 below.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiment</td>
<td>15</td>
<td>10.73</td>
<td>7.00</td>
<td>14.00</td>
<td>1.79</td>
<td>1,494</td>
<td>0.146</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>9.87</td>
<td>7.00</td>
<td>12.00</td>
<td>1.36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 3, there was no statistically significant difference between the groups in terms of academic achievement (t= 1.494, p>.05). Therefore, students’ academic achievement in the “Human Rights, Citizenship and Democracy” course in both groups were similar before the experiment. The independent samples t-test results of the post-test in terms of academic achievement are presented in Table 4.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiment</td>
<td>15</td>
<td>15.00</td>
<td>11.00</td>
<td>16.00</td>
<td>1.37</td>
<td>5.880</td>
<td>.000*</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>10.60</td>
<td>5.00</td>
<td>13.00</td>
<td>2.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

As seen in Table 4, there was a statistically significant difference between the groups’ post-test results in terms of academic achievement (t= 5.880, p<.05). This finding shows that the independent variable makes the experimental group more successful than the control group. Furthermore, paired t-test results are showed in Table 5 below.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>15</td>
<td>10.73</td>
<td>7.00</td>
<td>14.00</td>
<td>1.79</td>
<td>-10.461</td>
<td>.000*</td>
</tr>
<tr>
<td>Post-test</td>
<td>15</td>
<td>15.00</td>
<td>11.00</td>
<td>16.00</td>
<td>1.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

When Table 5 was examined, a significant difference can be seen regarding academic achievement between the pre-test and post-test mean scores of the experimental group (t=-10.461,
p<.05). The paired samples t-test of pre-test and post-test results of the control group in terms of academic achievement are presented in table 6.

**Table 6.** Comparison between pre-test and post-test results of the control group in terms of academic achievement

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievements</td>
<td>Pre-test</td>
<td>15</td>
<td>9.87</td>
<td>7.00</td>
<td>12.00</td>
<td>1.36</td>
<td>-1.749</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>15</td>
<td>10.60</td>
<td>5.00</td>
<td>13.00</td>
<td>2.56</td>
<td></td>
</tr>
</tbody>
</table>

According to Table 6, there was no statistically significant difference between the pre-test and post-test of the control group in terms of academic achievement (t= -1.749, p>.05). When the findings are examined, a low increase in the academic achievement of the control group can be observed. This is an indication that the traditional instruction has been ineffective in increasing achievement in the course "Human Rights, Citizenship and Democracy".

**Democratic Attitude**

In the second part of the findings, the democratic attitude mean scores of the experimental and control groups were analyzed to answer the second research problem. The results of the pre-test of the experiment and control groups are presented in Table 7 below.

**Table 7.** Comparison of democratic attitude in pre-test results of the experiment and control groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconciliation</td>
<td>Experiment</td>
<td>15</td>
<td>2.69</td>
<td>1.86</td>
<td>3.00</td>
<td>0.37</td>
<td>0.479</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>2.63</td>
<td>1.79</td>
<td>3.00</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>Empathetic Sensitivity</td>
<td>Experiment</td>
<td>15</td>
<td>2.70</td>
<td>1.64</td>
<td>3.00</td>
<td>0.42</td>
<td>0.655</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>2.60</td>
<td>1.73</td>
<td>3.00</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>Democratic Attitude</td>
<td>Experiment</td>
<td>15</td>
<td>2.69</td>
<td>1.76</td>
<td>3.00</td>
<td>0.37</td>
<td>0.598</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>2.62</td>
<td>1.96</td>
<td>3.00</td>
<td>0.30</td>
<td></td>
</tr>
</tbody>
</table>

According to Table 7, there was no statistically significant difference between the groups in terms of democratic attitude (t=0.598, p>.05), reconciliation (t=0.479, p>.05) and empathetic sensitivity (t=0.655, p>.05). Therefore, students' democratic attitudes in both groups were similar before the experiment. The independent samples t-test post-test results for democratic attitude are presented in Table 8.

**Table 8.** Comparison between the experiment and control groups in terms of democratic attitude in post-test

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconciliation</td>
<td>Experiment</td>
<td>15</td>
<td>2.85</td>
<td>2.29</td>
<td>3.00</td>
<td>0.22</td>
<td>2.545</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>2.59</td>
<td>1.79</td>
<td>3.00</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>Empathetic Sensitivity</td>
<td>Experiment</td>
<td>15</td>
<td>2.85</td>
<td>2.18</td>
<td>3.00</td>
<td>0.25</td>
<td>2.502</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>2.61</td>
<td>1.91</td>
<td>3.00</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>Democratic Attitude</td>
<td>Experiment</td>
<td>15</td>
<td>2.85</td>
<td>2.24</td>
<td>3.00</td>
<td>0.22</td>
<td>2.771</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>2.61</td>
<td>2.00</td>
<td>2.92</td>
<td>0.28</td>
<td></td>
</tr>
</tbody>
</table>

*p <.05.
As seen in Table 8, there was a statistically significant difference between the groups’ post-test results in terms of democratic attitude ($t=2.771$, $p<.05$), empathetic sensitivity ($t=2.502$, $p<.05$), and reconciliation ($t=2.545$, $p<.05$). These findings show that the process carried out with digital storytelling increases students’ democratic attitudes. The paired samples t-test pre-test and post-test results of the experiment group for democratic attitudes are presented in Table 9.

**Table 9.** Comparison of pre-test and post-test results of the experiment group in terms of democratic attitude

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconciliation</td>
<td>15</td>
<td>2.69</td>
<td>1.86</td>
<td>3.00</td>
<td>0.37</td>
<td>-3.317</td>
<td>.005*</td>
</tr>
<tr>
<td>Empathetic</td>
<td>15</td>
<td>2.85</td>
<td>2.29</td>
<td>3.00</td>
<td>0.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>15</td>
<td>2.70</td>
<td>1.64</td>
<td>3.00</td>
<td>0.42</td>
<td>-3.201</td>
<td>.006*</td>
</tr>
<tr>
<td>Democratic</td>
<td>15</td>
<td>2.69</td>
<td>1.76</td>
<td>3.00</td>
<td>0.37</td>
<td>-3.637</td>
<td>.003*</td>
</tr>
<tr>
<td>Attitude</td>
<td>15</td>
<td>2.85</td>
<td>2.24</td>
<td>3.00</td>
<td>0.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p <.05.

When Table 9 was examined, a significant difference regarding democratic attitude ($t=-3.637$, $p<.05$), empathetic sensitivity ($t=-3.201$, $p<.05$), and reconciliation ($t=-3.317$, $p<.05$) between the pretest and posttest mean scores of the experimental group was observed. The paired samples t-test on the pre-test and post-test results of the control group for democratic attitude are presented in table 10.

**Table 10.** Comparison of pre-test and post-test results of the control group in terms of democratic attitude

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconciliation</td>
<td>15</td>
<td>2.63</td>
<td>1.79</td>
<td>3.00</td>
<td>0.35</td>
<td>1.169</td>
<td>.262</td>
</tr>
<tr>
<td>Empathetic</td>
<td>15</td>
<td>2.59</td>
<td>1.79</td>
<td>3.00</td>
<td>0.33</td>
<td>-.459</td>
<td>.653</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>15</td>
<td>2.60</td>
<td>1.73</td>
<td>3.00</td>
<td>0.33</td>
<td>-1.196</td>
<td>.239</td>
</tr>
<tr>
<td>Democratic</td>
<td>15</td>
<td>2.61</td>
<td>1.91</td>
<td>3.00</td>
<td>0.28</td>
<td>.823</td>
<td>.424</td>
</tr>
<tr>
<td>Attitude</td>
<td>15</td>
<td>2.62</td>
<td>1.96</td>
<td>3.00</td>
<td>0.30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 10, there was no statistically significant difference between the pre-test and post-test of the control group in terms of democratic attitude ($t=.823$, $p>.05$), empathetic sensitivity ($t=-.459$, $p>.05$) and reconciliation ($t=1.169$, $p>.05$). This finding shows that the teaching process carried out with traditional methods does not increase students’ democratic attitudes.

**Focus Group Interviews**

After the content analysis of focus group interviews, three categories emerged about the implementation of DST. These are “Pros of digital storytelling”, “Cons of digital storytelling”, and “Formative recommendations”.

Pros of Digital Storytelling

The effects of DST lead students to individual learning. This effect frees students from the traditional teaching process and allows them to construct their knowledge enjoyably. The ability of students to blend their old and new knowledge in this process makes the teaching process desirable. Many students in the experiment group agree on that. Thus, constructivist learning has emerged as the most repeated code in this category. The teaching process carried out with DST makes students active learners. Students also seem satisfied with this process. The views of the students are as follows:

S8 - “We did our task freely. In other courses, we listened to our teacher and wrote in the notebook. But in this course, we used the internet, wrote stories and organized them. We did everything”.

S11 - “We collected the information. Then we wrote our story. It was very enjoyable to do them on ourselves. I watched our story many times and have not forgotten the information. Because we made it”.

S6 – “This lesson was very different. Because our teacher gave us responsibility and wanted us to achieve the desired things. We did everything about our stories and had fun”.

Other important advantages emphasized by students are technology support, cooperative learning, increase in motivation, and doing research. The students of the experimental group stated that the DST made the course interesting with the support of technology and provided more motivation. It was also a pleasure to collaborate and do research in the learning process. The positive emphasis of the students on different features of the DST process is an important indicator that DST is adopted by the students. For these reasons, students stated that they wanted to use DST in future courses. The students' views on that are presented below.

S15 – “It was nice to be able to do something. It was also nice that there was no noise in the classroom. So everyone did their duty carefully. Every group studied on their own story. Our teacher told us to focus on the task of our group at the beginning of the course”.

S9 - “I liked the course more when we did many things on the computer. We placed the pictures, we edited them in this course”.

S3 – “Our teacher divided us into groups. Even my best friends came to my group. So we studied together. We had so much fun. Sometimes we didn't even take a break”.

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Cons of Digital Storytelling

The students stated that although there were mainly positive things about the DST process, there were also some problems. One of the most important problems mentioned by the students regarding the teaching process carried out with DST is the story writing stage. The students indicated that because they did not write a story in previous courses, they had difficulty in constructing the story and determining the characters and places of the story. The main reason for this negative aspect is thought to be the lack of experience in imagining and using creativity in the process of story writing.

Besides, under this category, it is important that the students do not express any problems regarding technology use or technical support. Some of the student views are as follows;

S13 - “We just had a little bit of trouble in the story-writing process. Especially we had trouble identifying people and places. Because we had to design detailed things here. Apart from that, the course was nice”.

S3 - “I had difficulty in writing the story with my group friends in the first courses because we thought and decided together. Since we have never done this before, it is hard to decide. Initially, it was hard. Then I got used to it”.

The other important problem is about doing research. The students of the experimental group stated that they had difficulty in the process of collecting information and visuals. This problem also gives important clues about how the previous lessons were handled. It is thought that the teacher's maintaining the traditional lesson structure in previous lessons plays an important role in the students' inadequate research skills. According to them, these details slowed down the story formation process.

S14 - “Gathering information was difficult in the first weeks of the course. Our teacher said nothing this time. She said that you will find it. …We tried really hard to gather information. We even thought a lot about which information to use with my friends”.

S1 - “I had trouble trying to find a picture. Because we wanted to find proper pictures of our story. But it took quite some time to find the one that fits our story. We searched a lot online. We were finally able to decide”.

Formative Recommendations

The last category of the qualitative part was formed within the scope of the students' suggestions regarding the process carried out with DST. In this category, the main emphasis is on the experience. Increasing the experience of writing stories and gathering information comes to the forefront as students make most of the suggestions through further stages. Students think that the process will be more effective as the experience of the stages of DST increases. Besides, the data
obtained for this category show consistency with the other categories. Examples of students’ views are presented below.

S6 - “I think more stories should be written. When we got used to writing, we wrote different things and it was easier”.

S10 - “I'd like to get information easier. You might find it hard to investigate. It would be easier if we were used to it. If we could find information easier, we wouldn't have any trouble”.

S9 – “I think, we should write more stories before teaching. I was a little surprised because we did not write often before. Then I got used to it”.

**Discussion**

Although integration of technology into teaching processes appears to be important, it is not easy to achieve it effectively. Many factors such as time, experience, cost, usability, etc. affect the integration of technology into the teaching processes. However, DST is regarded in the literature as one of the teaching strategies that reduce the effect of these obstacles (Behmer, 2005, Kobayashi, 2012, Gyabak & Godina, 2011). Thus, it provides ease of use to the practitioners. As a result, studies have been investigating the effectiveness of DST in different areas. However, it has been concluded that research on academic achievement, democratic attitude, and process evaluation at the primary school level is limited. Therefore, this study aims to explore the impact of DST on academic achievement and democratic attitude and to reveal students’ experiences on the DST.

According to the results of this study, DST has a significant impact on academic achievement and the democratic attitude of 4th-grade students. Besides, DST provides constructivist learning; therefore, students develop positive perceptions towards the learning process (Demirbaş & Şahin, 2020). In terms of academic achievement, results are consistent with the qualitative dimension of the research. Thanks to constructivist learning, students constructed their knowledge, thereby, academic achievement in the HRCD course was increased significantly compared to the control group. This result was supported by previous studies (Sadik, 2008; Hung, Hwang & Huang, 2012; Yang & Wu, 2012). For instance, Demirer (2013) found that DST increased academic achievement in Social Studies courses and indicated that one of the most important reasons for this was the reflection of the constructivist understanding of the teaching process. Similarly, in the study by Hernández-Ramos and De La Paz (2009), the same positive effect emerged in the Social Studies course. Likewise, in the meta-analysis study conducted by Talan (2021), it was concluded that digital storytelling is more effective in increasing academic achievement compared to the traditional approach. In contrast to all these studies, it was also found that DST did not increase academic achievement (Nam, 2017). To illustrate, the research done by Sarıtepeci (2016) in the Social Studies course revealed that DST did
not make a difference in the students' post-test academic achievement. The lack of experience mentioned in the qualitative results of our study may be a cause of these contradictory results. These studies, which have contradictory results, necessitate new studies to investigate the impact of DST on academic achievement.

When examining the results in the sense of democratic attitude, we see that a positive effect has occurred. Students' formation of meaning together with DST affects democratic attitudes and strengthens democratic dispositions. Earlier studies support these claims (López-Bech & Zúñiga, 2017; Truong-White & McLean, 2015; Gachago, Condy, Ivala, & Chigona, 2014; Rolón-Dow, 2011; Gubrium & Scott, 2010; Matias & Grosland, 2016; Ribeiro, 2016; Kim & Li, 2021; Svoen, Dobson & Bjørge, 2019), too. For instance, Chan (2019) investigated the impact of DST on critical and reflective thinking mindsets. The researcher reported that DST reduces youths’ ethnocentric views. Likewise, Malita and Martin (2010) stated that both the digital storytelling process and product strengthened democratic tendencies. Thus, it can be concluded that the students' views on life and democratic disposition may change through DST. As stated in the qualitative results, by directing students to the research and enabling them to create their own stories, DST strengthens democratic tendencies. However, the findings of the current study do not support the previous research done by Balaman (2015), which indicated that DST does not affect students' democratic value judgments. This result is an indication that the relationship between DST and democratic tendencies should be examined by further studies.

The qualitative results of the study were also consistent with the quantitative part. As a positive effect of DST, the experimental group stated that the information was learned by them. Thus, it was determined that constructivist learning was achieved with the aid of technology and it had a significant effect on the dependent variable. In the results of their study, Lowenthal and Dunlap (2010) stated that with DST, the students reflect their thoughts and perspectives. In parallel with this research, Kocaman-Karaoglu (2016) also found that the learning process became more enjoyable due to the practical structure of DST. Similarly, Kırıkçı, Ciğerci, and Arkan (2020) also concluded that students' interest in Social Studies course and learning motivation increased due to DST. In another study, Yuksel-Arslan, Yildirim and Robin (2016) reported that DST is effective in the formation of knowledge, especially in transforming abstract knowledge to concrete knowledge. In addition to these positive aspects, the DST process has some drawbacks as expressed in the qualitative part. In this context, the lack of DST experience and the difficulty of conducting research has come to the fore (Silseth, 2013). In the study conducted by Yigit (2020), the lack of experience was defined as one of the negative aspects of the DST process. Similar problems were also mentioned in the study conducted by Dreon, Kerper and Landis (2011). They indicated that problems concerning students' learning needs might arise. Likewise, Durak (2018) conducted a study on programming with middle
school students and found that one of the difficulties was finding materials to use in the story. In the study, conducted by Wang and Zhan (2010), technical problems in the formation of digital stories occurred. However, the researchers stated that this problem disappeared as the DST experience increased.

Conclusions and Recommendations

DST is a technology-supported effective instructional strategy. DST enriches teaching processes because it requires low-cost material and includes a student-centered and constructivist learning process. Thus, unlike traditional teaching, it enables students to construct knowledge by themselves. This assumption was supported in this research as well. This study set out to investigate the impact of digital storytelling on academic achievement and democratic attitude and reveal 4th-grade students’ views about DST. Three main conclusions were reached after the research. Firstly, this study has shown that compared to the traditional teaching process, digital storytelling has a better effect on students’ academic achievement in the HRCD course. Secondly, it is more effective than traditional teaching in increasing the democratic attitude of 4th-grade students. Finally, despite some difficulties, students enjoy the process of teaching with DST, construct their knowledge, and want to use it again in the future. Overall, this study strengthens the idea that DST is an effective technology-supported teaching method adopted by students.

Although the study has gone some way towards enhancing our understanding of teaching with DST and its impacts on academic achievement and democratic attitude, it has certain limitations. The major limitations of this study are the small sample group and including participants only from a single middle school. To eliminate these limitations, further studies should be conducted in multiple schools and with larger numbers of samples. Besides, the qualitative part of the research provides limited data. Qualitative data may be expanded with case studies that investigate students’ experiences in teaching with DST. The implementation process covers eight weeks except for training and data collection. Therefore, academic achievement and democratic attitude change in the HRCD course should be tested with longitudinal studies. This research was based on the comparison of DST and traditional teaching. This makes it necessary to compare the effectiveness of DST with different teaching methods such as problem-based learning, cooperative learning, etc. In this research, students were divided into groups and DST was maintained in this way. This necessitates research in which DST is carried out individually. Finally, other researchers may design research with different data collection tools to investigate the effects of DST on academic achievement and democratic attitude in the HRCD course.
References


