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A Mentoring Experience: From the Perspective of a Novice Teacher

Alain Gholam
American University in Dubai

Abstract

Beginning teachers experience a variety of challenges and difficulties as they struggle to develop and progress in their teaching career. The following qualitative case study focused on a novice teacher’s perceptions concerning the mentoring experience she received in her practicum course at the American University in Dubai. The study was guided by the following two research questions: (1) What difficulties and challenges did the novice teacher face during her first year of teaching? and (2) What were the novice teacher’s perceptions of the mentoring strategies implemented in her practicum course? A questionnaire was sent to the participant during the summer break, and she was asked to answer demographic questions regarding the school and classroom she was teaching in. She was also required to answer in-depth questions regarding the difficulties and challenges she faced as a beginning teacher, the follow up sessions with her mentor, and her perceptions of the mentoring experience. Analysis of the data revealed three themes: difficulties and challenges of a new teacher, lessons from a mentoring experience, and characteristics of an effective mentor. The findings associated with this study are crucial in raising the awareness of school leaders to the needs of beginning teachers. This is an essential step towards working on designing and implementing effective mentoring programs that meet the needs and concerns of beginning teachers.

Key words: novice teachers, teacher difficulties, mentoring

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Introduction

Novice teachers. Why do some of them stay in the profession, while others decide to leave? Why do some enjoy what they do while others find themselves trapped in a vicious cycle characterized by hopelessness, despair, and desolation? Is it because the latter are overloaded with different challenging responsibilities and duties? Or is it the fact that some novice teachers might not be receiving adequate mentoring programs that address their needs, wants, and difficulties?

Teachers are arguably the most important assets of any educational organization. They are expected to maintain classroom routines and management, plan effectively, know their students and accommodate their different learning styles and needs, implement effective teaching strategies, understand how to use the different components of a curriculum in planning instruction and assessment, work collaboratively with other teachers and colleagues, and communicate effectively with parents. With so many roles to serve, they often face numerous challenges and concerns. This is particularly the case with beginning teachers. Before inquiring into the nature of challenges and difficulties novice teachers encounter, it is essential to consider how researchers define the term, novice. Farrel (2012) believes a novice could be anyone who is teaching something for the first time. There is no consensus on how many years of teaching are necessary to end a novice stage (Karatas & Karaman, 2013). For example, Kim and Roth (2011) consider any teacher with less than five years of teaching, a novice teacher, while Haynes (2011) refers to a novice teacher as a teacher with up to two years of teaching experience. What is it that really makes a novice teacher's first few years, the most difficult and stressful?

Retaining enough teachers to serve the growing numbers of students has become a key challenge in education today (Lynchet al., 2016). Fry and Anderson (2011) explain that “in an era of increased teacher accountability, new teachers are encountering unprecedented challenges” (p. 13). According to Goodwin (2012), a teacher’s first year on the job is often difficult, as many beginning teachers feel ineffective and are left isolated in their classrooms with no support or guidance (Arends & Kilcher, 2010). Novice teachers, who experience an intricate transition from the teacher education institutions to life in real classrooms, often do not feel well prepared for the difficulties they face in their first years of teaching (Senom, Zakaria, & Sharatol Ahmad Shah, 2013). Varela and Maxwell (2015) stress the fact that teacher preparation programs do not do enough to tie theory to practice. That is one of the reasons why beginning teachers find it challenging to: balance classroom management and workloads with survival and performance (Fletcher, 2013), assess student performance (Poth, 2013) and learn which particular features play a key role in improving teaching practices and student learning (Beck, Kosnik, & Roswell, 2007).

Beginning teachers are in need of teacher preparation programs that include mentoring opportunities. Womack-Wynee et al. (2011) explain that combining a mentoring process with an effective induction process can often result in providing a minimum of a year-long period of nurturing and support for teachers who are need of it. Mentoring is perceived as an effective method for supporting novice teachers as it aims at fostering a relationship of ongoing support and facilitating collaboration and the development of knowledge and skills that translate into improved teaching strategies (Cook, 2012). Mentoring is valuable for the retention of new teachers and ensuring they stay in the field (Pogrund & Cowan, 2013). Beginning teachers need effective teacher mentoring programs to assist them in exploring, reflecting upon, and developing in their career. Participating in such mentoring programs can positively affect the retention rate of beginning teachers (Grossman & Davis, 2012) and hence lead to beginning teachers staying in the teaching profession (Steinke & Putnam, 2011).

The purpose of the following qualitative case study is to shed light on a beginning teacher’s perceptions of a teacher mentoring program. It also aims at contributing to the body of research related to the challenges and difficulties novice teachers encounter and the ways in which teacher preparation
programs can be tailored to meet the needs of new teachers and ease their transition into the classroom. The study is guided by the following three research questions:

1. What difficulties and challenges did the novice teacher face during her first year of teaching?

2. What were the novice teacher’s perceptions of the mentoring strategies implemented in her practicum course?

**Mentoring: Defined**

The literature provides an extensive range of definitions for mentoring that differ based on the context in which mentoring is taking place and the interpretation of the process (Cook, 2012). Green-Powell (2012) asserts that the term ‘mentor’ and the model for its use originated in Greek mythology:

“When Odysseus went off to the Trojan War, he charged his household manager, mentor, with the development of his son, Telemachus. After the war, Odysseus was condemned to wander vainly for 10 years with his attempt to return home. In time, when he became an adult, Telemachus went in search of his father. He was accompanied on his quest by Athena, Goddess of War and patroness of the arts and industry, who assumed the form of mentor” (p. 100).

According to Green-Powell (2012), the first mentor was an older, more experienced individual who took an active interest in developing a younger person in every aspect of his/her life. Barrera, Braley, and Slate (2010) elaborate on the definition and explain that mentoring occurs when “a senior person (the mentor in terms of age and experience) provides information, advice, and emotional support to a junior person (i.e., the mentee) in a relationship lasting over an extended period of time” (p. 62). Therefore, mentoring can be described as a particular mode of learning where the mentor not only supports and guides the mentee, but also challenges them productively so that progress is attained (Smith, 2007).

Within an educational context, a mentor is a veteran teacher who works with a novice during the beginning teacher’s early experiences in the classroom. Ingersoll and Strong (2011) define mentoring as the personal guidance provided by seasoned veterans to beginning teachers in schools, for purposes of planning, application, and evaluation. Nam, Seung, and Go (2013) explain that after mentoring was introduced in education, the concept of mentoring and the role of the mentor have been expanded to include “changing from simply transferring skills and knowledge to encouraging professional development and emphasizing reflection on practice” (p. 816).

The two terms, teacher induction and mentoring, have been used interchangeably in research. However, it is important to consider the difference between the two terms. Teacher induction includes, but is not limited to mentoring, as Lozinak (2016) notes an induction program, “includes differentiated professional development activities, multiple support personnel, study groups, and strong administrative support” (p. 13). With regards to the research questions, the present case study will only focus on mentoring.

**Benefits of Mentoring Programs**

Mentoring programs have been on the rise in recent years owing to compelling testimonials by teachers who have themselves benefitted from the mentor/mentee relationship (Green-Powell, 2012). Womack-Wynne et. al. (2011) assert that “the mentoring process, combined with an effective induction process, can provide a minimum of a year long period of nurturing and support for those who need it the most” (p. 3). Mentoring plays an important role in the development of beginning
teachers, as such programs are intended to help novice teachers handle challenges within the classroom and the school environment (Roff, 2012). Therefore, when beginning teachers participate in teaching mentoring programs, they are learning to become teachers through their experience of the mentoring relationship (Nguyen, 2016). Cook (2012) elaborates on the notion and explains that the “overall goal of teacher mentoring is to foster a relationship of ongoing support, collaboration, and the development of knowledge and skills that translate into improved teaching strategies” (p. 3). Brannon et al. (2009) have previously noted that mentoring programs address new teachers’ survival skills, such as: school procedures, behavior management, parent communication, and basic curriculum. According to the researchers, when such survival skills are addressed at the beginning of the year, new teachers tend to feel more confident and focus on pedagogy and best practice. Stanulis and Floden (2009) conducted a study that examined the impact of mentoring programs on teacher improvement. The results of their study coincides with previous research and indicates that with mentoring, beginning teachers can improve in areas of teacher effectiveness.

Researchers have also studied the effect of mentoring programs on teacher retention. The results of a study that has been conducted by Pogrund and Cowan (2013) reveal that effective mentor programs contribute to the recruitment and retention of teachers. Similarly, Ingersoll and Kralik (2004) mention that mentoring programs have a positive impact on teacher retention, as they boost teacher satisfaction and confidence, reduce their isolation, and enhance their professional growth. Therefore, teachers who participate in mentoring programs are more likely to stay in teaching positions (Steinke & Putnam, 2011). Yirci (2017) expands on that notion and adds that a mentor’s psychological guidance aims to strengthen a teacher’s self esteem and competence, while their vocational development support aims to improve a teacher’s profession. As a result, novice teachers adapt to their roles, develop a sense of belonging, and remain in the teaching profession.

Effective Characteristics of Mentors

Effective mentors are described in the literature in many ways. Throughout his career, James Rowley has helped school districts design mentor based, entry-programs for beginning teachers. He has learned about mentoring programs by listening to mentors and beginning teachers and observing what seems to work best in a mentor-mentee relationship. As such, Rowley (1999) strongly believes that a good mentor is committed to the role of mentoring, accepting of the beginning teacher, skilled at providing instructional support, effective in different interpersonal contexts, a model of continuous learning, and communicates hope and optimism. McKimm, Jollie, and Hatter (2007) delineate the values and principles of effective mentors as: recognizing that people can change and want to grow, understanding how people learn, recognizing individual differences, inspiring capability, developing competence, and encouraging collaboration not competition.

Researchers, Cheryl Torrez and Marjori Krebs (2012), have previously examined student teachers’ perceptions of their mentors. They indicate that teacher candidates perceive a successful mentor as someone who is a good teacher and purposefully models good teaching, creates a positive relationship with the teacher candidate, provides opportunities and support, and is honest, trusting, and responsible. Similarly, the data from Izadinia’s (2016) study suggests that effective mentors offer encouragement and continuous support, engage in open communication, and provide feedback. Another study conducted by Brannan and Bleistein (2012) revealed that novice teachers expect their mentors to listen to them, offer help, and share their personal experiences with them.

Methodology

In order to learn about the difficulties/challenges a novice teacher faced during her first year of teaching and uncover her perceptions of a teacher mentoring experience, a qualitative exploratory case study design was implemented to gather and analyze data.
Context and Participant

In order to maintain confidentiality, the pseudonym, Rola, was adopted. Rola was born in India and brought up in Dubai. She received her Bachelor of Arts in Sports Science and Biology from the UK. After graduating, Rola started working in a school as a teaching assistant, where she discovered her interest in pursuing a field in education. She decided to join the Masters program at the American University in Dubai.

As part of the degree fulfillment requirements, student teachers enrolled in the program at the American University in Dubai are required to enroll in the Education Practicum course, which is a six credit mentored experience that takes place over the course of the semester. The University Supervisor observes, meets with and provides formal feedback to the student teacher, for a minimum of five times per semester. During her practicum course, Rola was assigned a third grade classroom at a school in Dubai. She was asked to fill in for the class teacher who had left for her maternity leave. At the onset of the practicum course, Rola reported a number of difficulties and challenges she faced in the classroom, which resulted in her supervisor visiting her classroom. After the first visit, a strong need for mentoring was identified. Rola’s University Supervisor became her mentor teacher. He arranged three classroom visits per week for a period of fifteen weeks. During that time, he modelled and conducted demonstration lessons, co-taught with Rola, and held debriefing sessions to provide support, suggestions, and feedback.

Rola and her mentor met twice a week for debriefing and reflection purposes. If Rola needed support, inquiry, or guidance, her mentor was also available over the phone. They would meet on a weekly basis in the office and engage in detailed debriefing sessions.

The school adopts the American Common Core State Standards (New York State Standards) and a variety of curricula. Examples of such curricula include: Stem-scopes for Science, Eureka for Maths, and Expeditionary Learning for English. The philosophy of the school focuses on combining academic rigor and Islamic faith in students.

The third grade classroom included 20 students from different cultural backgrounds. There were seven students in the classroom who were bilingual and could speak both Arabic and English. The classroom was diverse in terms of ability, as some students shared different educational backgrounds. For example, Rola had four students who were previously enrolled in an IB curriculum. On the other hand, she had students who were home-schooled and it was their first time attending school.

Design and Procedure

Creswell (2012) explains that “qualitative research can lead to information that allows individuals to learn about phenomenon or to an understanding that provides voice to individuals who may not be heard otherwise” (p. 206). A case study, which included an in-depth interview was selected to guide the study’s research questions.

The interview included 12 open-ended questions for the purpose of collecting and analyzing relevant data. The questions were open-ended to encourage the participant to provide elaborate responses. For the first research question, the following questions were considered:

1. What are the challenges/difficulties you face as a beginning teacher?

2. What do you do to overcome such challenges/difficulties?

As for the second research question, the following questions were considered:
1. What did you learn from your mentor that helped your teaching practice?

2. Did the mentoring experience help you overcome some of the challenges/difficulties you previously mentioned? Provide support to your answer.

3. What do you wish you learned from your mentor that you hadn’t?

4. How would it have been different if you hadn’t had the mentoring experience?

5. As a summary, reflect on the mentoring experience.

The interview also included questions related to the participant’s background and experience. Questions related to the logistics and frequency of meeting during the mentoring process were also included.

The interview was sent via email to the participant in June, 2017. She had a period of 3 months to reflect on the questions. The participant was given a period of 3 months to ensure she would provide in-depth and thorough responses supported by examples and evidence. In September, the participant sent her responses to her mentor. Once received, the interview responses were read several times. The data provided was summarized and coded. Finally, relevant themes were identified.

**Findings**

Data collected from the open-ended interview was categorized into three themes: challenges and difficulties of a beginning teacher, characteristics of an effective mentor, and lessons from a mentoring experience.

**Theme 1: Challenges and difficulties of a beginning teacher.** Rola identified three areas she found challenging during her first year of teaching. The first area was related to classroom management. Rola found it extremely difficult to set classroom rules, routines, and procedures. She mentioned, “I had to approach my mentor for advice because I started my first week of teaching without setting any classroom rules, routines, and procedures.” She struggled with keeping the children on task, managing behavior, and getting through a lesson on time.

The second area was related to lesson planning. Rola faced the challenge of designing differentiated lessons. She believed that most of her lessons were not challenging enough for the high ability students, and they lacked support and scaffolding for lower ability students. Rola explained, “For example, in Maths, I always found it hard to manage behavior because I had the higher ability students who were able to finish the task quickly whereas the lower ability students required my attention.”

The third area was related to curriculum development. Rola found it demanding to learn and inquire about different curricula and keep up with the pacing of the lessons. This was evident when she clarified the following: “Beginning teachers struggle to complete lessons on time with the Exit Ticket as we have so many lessons to plan for. It is a challenge I faced that I personally felt I was not able to complete an entire lesson.” Rola also reported that she struggled to teach the Math curriculum, as she encountered difficulties in using manipulatives and hands on activities to help her students understand mathematical concepts: “I feel Math is an area of weakness that I need to tackle. I learned my students had many gaps in their learning and my instructional material was not very easy for them to understand.”

**Theme 2: Lessons from a mentoring experience.** According to Rola, the mentoring experience helped her develop self-awareness, implement effective instructional strategies, design a successful classroom management plan, and build strong student-teacher relationships.
Throughout the mentoring experience, Rola became more aware of who she was as a teacher. She was able to engage in self-reflection and understand her strengths and weaknesses. There were times when she would doubt herself and would want to quit her job. However, with her enhanced self-esteem, confidence, and determination, Rola learned to challenge difficult and demanding times: “but my mentor’s belief in me taught me to be resilient.”

The debriefing sessions Rola had with her mentor helped her improve and develop her instructional strategies. She recognized the importance of presenting information in a simple manner: “The biggest takeaway from this teaching experience has been keeping it simple for students to understand. I learned to present information in an easy manner so students can process what they are expected to do.” Rola provided a variety of visual examples to scaffold learning and allow students to internalize learning: “For instance, when I was teaching students about main idea and key details, I gave them the example of a house where the roof is the main idea and the rooms are the key details.” Rola also learned that modelling is imperative in teaching. She had thought modelling would hinder students from inquiry. She realized that at times it is important that teachers do talk and engage in lecturing: “I have learned that sometimes it is important for teacher talk where I have to model or lecture to the students for them to understand a concept.” Rola understood the importance of knowing students’ prior knowledge before adding to their learning: “For instance, when I was working on a science PBL, students did not understand the concept of food webs and chains. The next day, I had to use a PowerPoint to help them learn the concepts. I realized how vital pre-assessment is.”

The mentoring experience helped Rola work on and improve her classroom management skills: “I learned that classroom management is extremely important and it should be fostered right at the beginning. I learned it the hard way.” Rola asserted that her mentor pinpointed which areas in classroom management required work and provided guided steps and strategies to help her manage her classroom. She mentioned: “After my first informal observation, I learned that I had to establish clear rules, routines, and procedures. For example, I co-constructed the classroom rules with the students. I gave every child a post-it and asked students what should be the rules of the classroom. The class rules were generated as a class and we all agreed on the rules.” Rola came to realize the importance of allowing students to generate their own classroom rules, which reinforces a feeling of ownership.

Rola’s mentor modeled the importance of talking to students about issues and events outside the curriculum. As a result, Rola was later able to develop care for children and form strong student-teacher relationships. The strong bonds were a source of motivation to Rola’s students. She mentioned: “When you genuinely care about your students’ learning, it reflects on to them and they also put in the effort to work hard to improve themselves.” In addition, the strong bonds Rola formed with her students, helped her to get to know her students better and understand what works best for each one: “For example, simply by talking to children about what they enjoy to do, helped me to understand what type of learners they are. The students in my class who love sport and exercise are the one who need to move around.”

Rola asserted that without the mentoring experience, knowledge of teaching would have cased at the theory level: “What I learned in theory at university is different than the actual classroom atmosphere.” She added that classroom management would have continued to be a struggle. Rola concluded by providing three strategies to best make use of mentoring. First, she believed it was important to build a relationship of trust and comfort with your mentor. Second, she advised beginning teachers to keep an open mind and accept constructive feedback. Third, Rola recommended that they stay positive with their mentor.

Theme 3: Characteristics of an effective mentor. Rola identified the effective qualities of her mentor that made the mentor/mentee relationship a successful one. The qualities may be organized into two general categories: attitude, interpersonal and communication skills, and professional competence and experience.
Rola provided a variety of characteristics that belonged to the first category – attitude, interpersonal, and communication skills. She believed her mentor was supportive, non-judgmental, helpful, encouraging, believed in all students, and showed positivity especially during challenging times: “He was non-judgmental, which made me feel comfortable. A very supportive mentor, who was always positive even when things did not seem like they were going the right way.” Rola added that her mentor established a very comfortable and relaxed relationship, engaged in open-ended conversations, and maintained an open student-teacher relationship, similar to rapport between students and their class teacher. She noted: “I was very comfortable engaging in open ended conversations with my mentor because he made me feel relaxed during our feedback meetings. I think having a good student-teacher rapport like we have in the classroom is similar to one having with your mentor. We had an open student-teacher relationship. My mentor made sure to give me both positive feedback as well as areas that required improvement in a very professional way.”

As for the second category – professional competence and experience, Rola described the mentoring relationship by listing several aspects of good mentoring practice. She believed her mentor provided both positive feedback as well as areas that required improvement in a professional way: “My mentor tackled the issue of classroom rules, student grouping, differentiation, and questioning.” She felt her mentor pushed her to succeed and helped her reflect upon her experience: “Especially, the co-teaching and his weekly informal observations helped me to grow and become an effective teacher. There were times when I would doubt myself and wanted to quit, but my mentor’s belief in me taught me to be resilient. He also provided strategies in a systematic way. Rola stated the following: “My mentor gave me a lot of classroom management strategies after every observation which helped a lot to improve behavior. It is key to have an experienced mentor who has taught in a primary classroom setting as he was able to pin-point exactly which areas in classroom management required work. He was able to give me a step by step plan on how to administer it.” Finally, Rola asserted that her mentor modeled student-teacher rapport and mini lessons: “Watching my mentor communicate with the students in break time helped me understand the importance of talking to students about things outside the curriculum.” and “Especially, when my mentor taught a mini lesson on modelling in Maths and English, I learned that I can also use it in Science.”

Discussion

The participant indicated three areas she considered challenging during her first year of teaching. Her responses referenced classroom management, such as setting classroom routines, rules, and procedures; managing student misbehavior; and time management. The findings reported by the participant supported previous research concerning the difficulties and challenges beginning teachers face. In their research, Simonsen and Myers (2015) indicated that classroom management was a major challenge for beginning teachers and a source of frustration for experienced teachers. The results are also consistent with Fletcher’s (2013) research, where results indicated that beginning teachers found it difficult to balance classroom management and workload with survival and performance. In their study, Beck, Kosnik, and Rowsell (2007) identified time management as a challenge for novice teachers: “most of the new teachers were quite surprised at the lack of time available to implement their program” (p. 63). This was evident in the participant’s response, when she mentioned the difficulty she faced in getting through a lesson on time.

The next most frequently mentioned challenge was differentiating instruction for students. This finding supports the research by Beck, Kosnik, and Rowsell (2007), where they reported that a large portion of teachers highlighted the reality of dealing with the ability range in their classrooms. Roiha (2014) stated that teachers find numerous challenges in classroom differentiation including a lack of time, resources and knowledge of differentiation. This was also evident in the participant’s responses.

The last mentioned challenge was curriculum development. The participant expressed her struggle in teaching Math and the difficulty she encountered in using manipulatives and hands on
activities to help students understand a certain mathematical concept while making the lesson more engaging. Rock and Brumbaugh (2014) reflected on the notion and reported that teachers usually face a number of challenges as they teach mathematics: how to effectively motivate students, present material in an interesting way, treat individual differences, and find applications.

As for the mentoring experience, the participant reported several positive outcomes. She maintained that the mentoring experience helped her reflect on her weaknesses and strengths, improved her instructional strategies, enhanced her classroom management skills, and empowered her to build strong student-teacher relationships. Such benefits had previously been addressed in the literature. In their research study, Ingersoll and Strong (2011) mentioned that novice teachers who participated in mentoring programs showed significant improvements in areas related to classroom management and teaching practices. Grossman and Davis (2012) strongly believed that to support beginning teachers, schools need to make sure the mentoring they provide addresses their difficulties, needs, and concerns. That same notion was evident in the participant’s responses, when she emphasized that the mentoring program targeted her challenges and areas of need. The participant stressed the fact that without the mentoring experience, knowledge of teaching would have ceased at the theory level. In that case, what she had previously learned at university would have proved inapplicable in an actual classroom atmosphere. This is aligned with what Darling-Hammond (2006) explained: “there is nothing as practical as good theory and nothing as theoretical as good practice” (p. 154). Smith also considered the crucial role of mentoring and clarified that: “Effective mentoring increases teacher retention, develops teaching expertise and confidence, reduces isolation, and fosters beginning teachers’ reflection and development” (p. 316). Some of these factors were reflected in the participant’s responses where she mentioned that the mentoring experience increased her confidence, extended her thinking in new ways, developed her self awareness, pushed her further to work on her weaknesses, and allowed her to feel proud of her accomplishments. Other positive responses to the mentoring experience reported by the participant included the fact that she: was observed by her mentor, observed her mentor teaching, co-taught with her mentor, built a relationship of trust and comfort, accepted constructive feedback, and participated in debriefing sessions. Such responses coincide with previous research (Brannan & Bleistein 2012; Torrez & Krebs 2012; Izadinia 2016) and the three basic elements of mentoring model that were considered essential for the implementation of an effective relationship (Sowell, 2017). First, the mentor must build a trusting relationship with the mentee. Second, the mentor must support and guide the mentee in designing classroom environments that are productive and supportive of learning. Third, the mentor must support and guide the mentee in designing effective and appropriate instructional strategies.

While this case study sheds light on the difficulties, challenges, and needs of a beginning teacher, it is still important to note that these will differ according to several factors: school philosophy and culture, teacher’s character and experience, and students’ characteristics. Since the study focused on one teacher’s experience, such factors were neglected. It is recommended that future qualitative studies investigate the effect of such factors on difficulties, challenges, and needs of beginning teachers. It is also significant that such studies follow up with beginning teachers to monitor their growth and inquire into their difficulties, challenges, and needs as they develop. On the other hand, the study considered the teacher’s perceptions of her mentoring experience. Other factors were also neglected such as, mentor selection criteria, mentor training, and exemplary mentoring programs. It is also recommended that future qualitative studies investigate into mentor selection, training, matching to novices, and investigate how such factors affect the quality of teacher mentoring programs.

Conclusion

Mentoring programs support novice teachers, as they help them adjust to their new professional responsibilities and encourage them to remain in the teaching profession (Chesley & Jordan, 2012). The following case study contributes to the research that had been conducted in the teacher mentoring field. The findings provide a solid foundation for educational legislators to plan and design effective mentoring programs for novice teachers in the UAE. The difficulties that were
documented in this case study could provide insights to the challenges faced by beginning teachers and therefore assist school coordinators and administrators in implementing constructive workshops that address the needs and concerns of beginning teachers.

In order to implement successful mentoring programs in schools, some factors need to be taken into consideration. First, school administrators need to make sure they design supportive environments for novice teachers. Second, the mentoring program needs to include one-on-one mentor-to-mentee relationship. Third, the mentor-to-mentee relationships needs to reflect factors of trust, warmth, acceptance, and transparency. Forth, the mentoring program needs to include hands-on and practical workshops that address the specific needs to beginning teachers. With such strategies, first year teachers will feel productive, encouraged, empowered, supportive, and safe.

References


Hannah Arendt’s “The Human Condition” in the Realm of Early Childhood Education: Perceptions and Reality

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Abstract

This article is an academic commentary on the concept of sociology of education. The authors have ventured through the lens of Hannah Arendt’s *The Human Condition* and discuss its impact might have had if the corresponding mode of education and pedagogy be carried out in reality according to what Arendt had inspired her readers. A cross reference has been made on the recent 2017 early childhood reform document in Hong Kong on Play with the anticipated forms of education which the authors have perceived in Arendt’s *The Human Condition*, namely the ‘labor’, ‘work’ and ‘action’. Since “free play” is highly promoted in the latest early childhood reform document and is tempered by the role of the teacher. As teacher is endorsed to perform the role of “feedback-giver” in the process of play, it has matched precisely with Arendt’s perception of “works of art” and eventually paving the way to “action-vita-activa” as forms of education for the promotion of democratic collaborative learning. Since “Sociology” has an intimate connection with politics, it is anticipated that following the implementation of free play for young children in the early childhood classroom and by the tactic guide of the teachers, the educational landscape of the early years education in Hong Kong will be changed significantly. The impact of this on the society at large has yet to be examined in the long run.

Key words: Hannah Arendt, *The Human Condition*, play, early childhood education, sociology of education

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Introduction

When talking about Hannah Arendt and Education, many authors will base their discussion on Arendt’s books, such as “Hannah Arendt and education: Renewing our common world” (2008), and “The crises in education” (1954). The authors of this article, however, have chosen Arendt’s another famous book, “The Human Condition”. Applying her socio-philosophical perceptions, with particular reference in the pedagogy of Play and its educational effect expected in the most recent educational reform in early childhood education in Hong Kong.

Arendt’s (1958/1998) “The Human Condition” is regarded as the “founding” text of the sociology of knowledge which has reflected primarily the way it was taken up in Anglo-American sociological circles. By association with sociology, Arendt tried to identify the issue of loneliness as Riesman (1954), her friend did in America. Like Riesman, Arendt had a political thought in mind deep down in her heart while tackling the issue of loneliness.

Loneliness as the consequence of The Human Condition in the modern world

It is a fact that “Loneliness” had been a normal part of the American landscape of dreams and reality for a long time (King, 2013, p. 36). Arendt seemed to sympathize with the condition of loneliness on which her friend Riesman did. Riesman lamented that “What is feared as failure in American society is, above all, aloneness.” (Riesman, 1954)

Thoughts of Arendt on the topic of loneliness

According to a letter written by Arendt to Riesman, Arendt asserted that the situation of mass-men in Europe would bear similarity with the situation in America. Arendt wrote, What struck me in your paper is that people are not (even if they say so) satisfied with respect in their community, that they want more; they want here again the impossible, they want the active approval, amounting to friendship, of exactly everybody. And, of course, make friendship impossible because of this. (King, 2013, p. 37)

From what we could read about Arendt’s letter to Riesman, we understand that Arendt did agree with Riesman’s observation of the loneliness of people in the modern age. However, when we read Arendt’s book The Human Condition, which was written a few years later, we might realize that deep down in Arendt’s heart, she did not agree with the cause for loneliness as Riesman did.

Causes of Loneliness according to Arendt

In the later section of “The Human Condition”, Arendt talked of “world” and “earth alienation.” She saw the former as arising, in part, from the “subjectivism of modern philosophy” including everyone from Descartes to existentialism to pragmatism. And pragmatism breeds material consumption. To go with the problem of indulgences in material consumption which manifest the pursuit of private interest rather than public interest, Arendt showed her concerns over the fate of the public world. Her fear on the fate of the public world basically stems from the deprivation of the intellectuals for an exchange of ideas in the public world, through the plurality effort of ‘men’ and making the participatory politics possible. The reborn power to start things afresh is similar to a new born (nativity) and could only be achieved by Arendt’s notion of “action”. The authors will deal with this issue later on in this article.

According to King (2013, p. 36), it is said that, at the heart of conflict between the political and social that ran throughout Arendt’s thought were the warring impulses between the creation of the public world and the pursuit of private interests, especially its contemporary expression, the pursuit of
consumer happiness (King, 2013, p. 36) in the capitalist society. To Arendt therefore, she had an obvious choice for the creation of the public world where elites could have a ground to voice out their political opinions for the good of the polis as if in the olden days in the Greek culture.

Arendt, as an intellectual, lamented that the differentiation of ideologies with the common public might account for the lonely isolation situation in America. She wrote, “While ideology, with its logical deduction….prepares each individual in his lonely isolation” (Arendt, 1950, cited in King, 2013, p. 37). What Arendt mentioned here of “loneliness” could refer to those few intellectuals who wish to protest against the contamination of mass conformity “knowledge industry” in the academic circle. These few intellectuals (like Arendt) would inevitably felt the impact of loneliness because of their intellectual segregation from the rest in the crowd. But according to Arendt’s own writings, one could understand that she had related the cause of loneliness of people in the modern age to the “residual” effect under the totalitarian regime. The regime, as blamed by Arendt, is responsible to reduce the form of “work” to “labor”. The regime which has allowed the transgression of “labor” and “work” in the private realm to the public realm of “action”, causing the degradation of the later to the world of social (see Figure 1 for a visual representation of the three forms of activities in Arendt’s *The Human Condition*).

<table>
<thead>
<tr>
<th>Private realm</th>
<th>Public realm</th>
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<td>House whole</td>
<td>Polis</td>
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</tbody>
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Animal laborers/Repetitive  Homo faber/boundedness/gradually untiring  Freedom/boundlessness

Labor  Work  works of art  Action/Vita Activa

Figure 1. The demarcation of forms in the Human Activity

Explanation of Figure 1: Within the private realm, the human activities involve labor and work. Within the public realm, the human activities involve action. Together with labor, work, and action form the three forms of human activity.

Labor involves the producing what must be consumed for life, such as food or wages. Arendt had contempt towards labor since in her mind, labor is the form of human condition that was employed by the socialist, Karl Marx, who, according to Arendt, “[has defined] man as an animal laborers and then leads him into a society in which this greatest and most human power is no longer necessary.

Work involves the making of enduring objects;

Action involves the intervening in the flow of events, by which citizens display freedom and encourage by facing their world’s challenges (Clohesy, 2004).

Arendt warned that, ever since the rise of market society, work and especially labor would have dominated life with a corresponding eclipse of action, so that politics, even in democracies, would inexorably changing into economic administration while the shared public world, the space for action whereby individuals could appear, would threaten to vanish (Clohesy, 2004).

To further elaborate her ideas, Arendt, due to her hatred of the totalitarian regime, had related the cause of loneliness to the practice of animal laborers in spare time, which had boosted commercialized consumption, and this condition was inspired by Marx’s philosophy. Under this philosophy, Arendt (1958/1998) wrote,
labor power is assumed like any other energy, can never be lost, so that if it is not spent and exhausted in the drudgery of life it will automatically nourish other, “higher” activities. The guiding model of this hope in Marx was the Athens of Pericles which, in the future, with the help of the vastly increased productivity of human labor, would need no slaves to sustain itself but would become a reality for all (p.133).

Arendt pointed out the “wrongs” of Marx’s philosophical thinking on this assumption and practice as she wrote,

A hundred years after Marx we know the fallacy of this reasoning; the spare time of the animal laborers is never spent in anything but consumption, and the more time left to him, the greedier and more craving his appetites. That these appetites become more sophisticated, so that consumption is no longer restricted to the necessities but, on the contrary, mainly concentrates on the superfluities of life, does not change the character of this society, but harbors the grave danger that eventually no object of the world will be safe from consumption and annihilation through consumption….The rather uncomfortable truth of the matter is that the triumph the modern world has achieved over necessity is due to the emancipation of labor, that is, to the fact that the animal laborers was permitted to occupy the public realm; and yet, as long as the animal laborers remains in possession of it, there can be no true public realm, but only private activities displayed in the open. The outcome is what is euphemistically called mass culture, and its deep-rooted trouble is a universal unhappiness, due on one side to the troubled balance between laboring and consumption and, on the other, to the persistent demands of the animal laborers to obtain a happiness which can be achieved only where life’s processes of exhaustion and regeneration, of pain and release from pain, strike a perfect balance (Arendt, 1958/1998, p. 133).

From this writings of Arendt, one might get an idea of how she understood the cause of loneliness.

Traces of Arendt’s background which led her to think differently from Riesman when identifying the cause of loneliness

Arendt was a Jew who was born in Germany. She grew up in a middle-class Jewish family in Konlgsbery, then part of East Prussia, attended the universities of Marbery and Heidelberg, studied with Heidegger and Jaspers, wrote a dissertation on the concept of love in Augustine and seemed on her way to a comfortable academic career as a philosopher (Berkowitz, 1999, p. 46).

All that changed on February 27, 1933, the day when Nazis burned the Reichstag. She explained, “I was no longer of the opinion that one can simply be a bystander”. Arendt fled Germany for France in 1933 and eventually arrived in the United States in 1940. Her subsequent work can be understood as an attempt to understand how and why the Holocaust could have happened and developed a response: from The Origins of Totalitarianism (1951) to The Human Condition (1958/1998) to Eichmann in Jerusalem (1964) to The Life of the Mind (1978). Arendt tried to work through such fundamental issues as the constitution of identity and the crises in understanding precipitated by the experiences of totalitarianism and the Holocaust. Democracy, freedom, totalitarianism, evil, plurality, natality, authority and responsibility are some of the subjects central to her writing. One might understand why Arendt had overtly declared her quest for political involvement in the public realm to yearn for the homo fiber of “action” than her friend Riesman did for his expectation of the “other-directed personality” (Lau & Ho, 2016) as a sure way to remedy loneliness.

Critics of Arendt mention that the greatest contribution of Arendt is her ability to stir people to think, despite of her less than immaculate identification of labor to the construction of consumer market in the social world.
Arendt’s attempt to deal with the issue of loneliness

Arendt’s attempt to deal with the issue of loneliness is perceived as a deeper layer of thinking than those of Riesman as her approach has exhibited explicitly politics by nature. A review of literature of Arendt suggested that she preferred her readers to gain an understanding in the realm of politics just as Berkowitz (1999, p.48) suggested, “in order to break free from the “world alienation”—loneliness, it is necessary to understand politics properly. For that one must study the ancients, especially the ancient Greek polis and those artists and thinkers who experienced politics in its original and authentic form, recorded its glories, and set down its principles.” Accordingly, it is found that Arendt drew several crucial distinctions traceable to ancient Athens for understanding politics. People inhabit both a private realm as family members, where economic activities maintain life, and a public realm where they speak and act together as citizens (Clohesy, 2004, pp.24–26).

For Arendt, the ills of modern time—the focus on the satisfaction of material need, the quest for comfort, and the conformism and isolation bred by mass society will lead to loneliness and most of all will suppress the experiences that nourish the desire for a life in the public realm (Berkowitz, 1999, p. 47).

Constructively speaking, if modern society is to leave ground for the intellectuals to exchange cherished ideas in the public realm (as if the ancient Greeks did), the boundary between public realm and private realm must be closed. If the private realm (labor and work) is closed, there is no chance for them to cross the border and making the polis a social ground for commercial purpose. The private realm is the household that is described as “a space devoted to fulfilling the necessities of life and governed by the strictest inequality”. This is a sharp contrast with the kind of activities took place in polis, which is a setting for free interaction among equals. In this way, polis in the public realm will become the breeding ground for politics. This understanding of the authors is confirmed by Berkowitz (1999, p.48) when he wrote, “The Greeks knew that politics consists in collective deliberation in the public realm, in the giving of speeches in the presence of one’s fellow citizens, in persuading and being persuaded in turn”. According to our understanding of Arendt’s message, the public realm should be preserved so as to leave room for elites to interchange of ideas and thereby to construct knowledge of politically important, this could be a way to avoid loneliness.

The following quotation is taken from Arendt’s (1958) words in The Human Condition to illustrate the situation.

For the Greeks, the experience of the significance of politics and of action was rooted in the separation of the household, a space devoted to fulfilling the necessities of life and governed by the strictest inequality, from the polis, a setting contrast, names, a constellation of developments—including the growth of large-scale markets and the commodification of labor; the corresponding preoccupation of nation-states with economic imperatives; and the growth of a spirit of conformism that helps reduce human activity to scientifically predicable and administratively tractable “behavior”—which, taken together, have broken down the old distinction between public and private, giving rise to a “new realm” in which the labor and the life process, once confined to the household, have become the focus of public concern. (p.32)

Arendt’s emphasis on the expansive, transgressive qualities of the social realm, which she said has an “irresistible tendency to grow, to devour the older realms of the political and the private.” (Markell, 2011, p.21)

Further on to the ideas in Arendt’s message, one might understand that, to abide to the biological quest of self by conforming to the social is a degradation of self in a sense. Thereby, Kateb (1994) concluded Arendt’s message by saying that, “there is a need for the modern society to resurrect and preserve the fragile and valuable experience of action.”
In order to enable her readers to have a better understanding of how action is the most preferred form of *The Human Condition* in lieu of labor and work in the cause of political action, Arendt had carefully chosen the medieval diction of ‘vita activa’—which referred to “all kinds of active engagement in the things of this world” (See Figure 1 presented earlier) in her choice of vocabulary and semiotic use of language in the second chapter of *The Human Condition*, “The Public and the Private Realm.”

**Linking Plurality with Natality in Arendt’s concept for action**

As mentioned earlier, Arendt was much indebted to enforce her notion of “action” in the public realm than Riesman’s identification of the other-directed man (Lau & Ho, 2016), what the authors are going to do next is to explain how Arendt’s idea of “action” could be materialized for political act in such a way.

By echoing what have written earlier, “The Greeks knew that politics consisted in collective deliberation in the public realm, in the giving of speeches in the presence of one’s fellow citizens, in persuading and being persuaded in turn.” In here, one could apply Arendt’s notion of “natality” and “plurality” to explain the situation. In Arendt’s term, “plurality” means that human beings are alike in that each is unique and irreducible. This shared uniqueness and irreducibility—otherwise known as individuality—is connected to another feature of *The Human Condition*, which Arendt called “natality”. Natality, “the new beginning inherent in birth,” is, Arendt held, the ground of the distinctively human capacity, “the capacity of beginning something new, that is, of acting.”(Berkowitz, 1999, p. 54). Following on this explanation of terminology, one would then understand that each individual will deliver one’s specific speeches on one unique understanding of the political issue, the situation is like a new born introducing something new to the people in the polis. But since one cannot begin something new alone, and one cannot engage in action by oneself, hence, human beings must act with other human beings to see and to be seen, to speak and to listen, to disclose oneself and to witness the self-disclosure of others in order to realize an action. This is where the notion of plurality stands for.

In short, plurality and natality were Arendt’s weapons against the recurrence of the Holocaust, against the forms of organization that prevent the exercise of human freedom (Coulter, 2002, p. 200).

**Action is only possible in the public realm in Arendt’s *The Human Condition***

In Arendt’s *The Human Condition*, action is only possible in the public realm. The public realm provides the place where human beings can meet together for the discussion of the drudgery of everyday life, the concern with production and reproduction, with labor and family, but also burst the chains of necessity. “Action can be judged only by the criterion of greatness because it is in its nature to break through the commonly accepted and reach into the extraordinary, where whatever is true in common and everyday life no longer applies because everything that exists is unique and generic” (Berkowitz, 1999, p.48). Action is not some sort of individual right that government is obliged to protect, and it is not a good that can be promised equally to all. Action is accomplishment and a grand one. Arendt therefore suggested that people must act “plurality” for action.

The effective way to achieve this end is through education to people, and especially to the young. Arendt mentioned the need of applying the philosophy of existentialism, pragmatism in a socially constructed manner to education as a way of educating the young so as to keep them apart from the mainstream of “ill-practice” in the modern society on one hand. On the other hand, the politician may prepare the future generation for their political appetite through education. To Arendt, the approach of education which is underpinned by the existential-pragmatic ideology would be the perfect match of realizing politics collaboratively for action in the public realm. In here, the authors are of the opinion that Arendt had under-estimated the “destructive” power of this approach when she wrote in *The Human Condition*, “To be political, to live in a polis, meant that everything was decided.
through words and persuasion and not through force and violence.” By thinking that each individual could voice out his unique opinion, which is endorsed by the concept of natality, and then by an exchange of opinions and persuasion in plurality (with people other than oneself), productive ideas could be formed. In such a way, Arendt mistakenly assumed that “violence” would not have its place whenever there was space and action since violence was silent. In our analysis, Arendt had underestimated the power (through words of political thought) that would be initiated by the collective opinions of the people in the public realm. She had not considered the effects of these political speeches being implanted in the mind of others, such was the case of Rousseau to the political leaders in the French Revolution in 1789.

Hence, to this suggestion of Arendt when applying the philosophy of existentialism and pragmatism to educate the young, the authors of this article have reservation about this contention as many parents of young children did in the realm of education.

**The paradoxical situation of the worker protruding the boundary in the private realm of the works of art to the public realm of action**

The paradoxical situation of the worker in the private realm of the “works of art” protruding the “wall or boundary” towards the public realm of “action” in Arendt’s description of *The Human Condition* (see Figure 2) is perplexed by standing in the middle-of-the road situation, just like the situation of the other-directed type in Riesman’s terminology (Lau & Ho, 2016). The situation could lead to political change through the plurality of action.

Also, as with Riesman’s the other-directed type had got the potential for revolutionary action, Arendt’s plurality of action also got the potentiality of causing the action. If speaking in the contemporary societal human condition, the call for revolutionary action is made possible through the media devices. The silent nature of these devices might validate what Arendt meant it for violence in the semiotic term. It is because by location, they are (in mass) freely come and go or doing the mix and match, as if marching through the boundary from work to action under Arendt’s category of vita active.

Private realm—house whole Public realm —polis

Animal laborers/Repetitive——Homo faber/boundedness/gradually untiring——freedom,boundlessness

Labor---------------- Work—works of art*---------------- Action

Figure 2

For Arendt and her polis, action is meant to be taken by intellectuals, by those elites who are capable to bring forth productive changes for the betterment of societies. These elites have derived their consent decisions by an exchange of ideas instead of blindness consent to the prevalent political agenda. This *polis* is a sacred place and must be reserved for those who are capable only. Hence, the wall between “work” and “action” and between “labor” and “work” must be bound.
Arendt’s determination to reset the boundary for the separation of labor, work and action

Arendt’s notion of keeping *polis* intact for the political discussion is a lot better than Riesman’s notion of allowing the transgression of boundaries for the same motive (Lau & Ho, 2016). When compare with what Arendt did in her book with those of Riesman, Arendt was obviously intelligent enough as to set firm the boundary for labor, work and action. This is to ensure the separation between the public and the private realm against its modern erosion.

The unique role of “works of art” in Arendt’s *The Human Condition*

Arendt’s concept of the work plays a unique role in her scheme, because it is the point at which her two pairs of concepts meet. In terms of the amount of weight it bears in the book, work and not action is the most important concepts in *The Human Condition* (Markell, 2011, pp.27–28).

The meaning of “work” itself changes over the course of the chapter that bears its name, as Arendt turned her attention from the distinction between labor and work to the articulation of “work” and “action”—a joint that she explored in the dense but crucial final section of that chapter, on the “works of art”.

Work, the shift that takes place late in that chapter from an account of work centered on the production of useful objects, which occupies its first five sections, to an account of work centered on the production of “works of art”, which appears rather abruptly in the final section of the chapter, and is strikingly different in tone from what precedes in it. In one sense, there is no discontinuity involved in this shift: what useful objects and works of art share is that they are durable, at least when compared to the stuffs consumed by the life process and the fragile webs spun out by speech and action (Markell, 2011, p. 27).

In the “works of art”, Arendt’s understanding of these “private” phenomena was significantly different. The very fact that the “works of art” is “the human capacity for thought, as man’s propensity to truck and barter” is sufficient to enable us to understand that it bears the quality much resembling to that of “action”. It is because thought will bring forth action. It becomes not difficult for us to understand the role played by the “works of art” designed by Arendt is served as a means to “transform” or “in-transition” to the public realm of action by its nature. It is through the “works of art” that “human capacity which by its very nature is world-open and communicative of action” (since thought will bring forth action). It is through the works of art that “human capacity which by its very nature is world-open and communicative transcends and releases into the world a passionate intensity from its imprisonment within the self.” (Arendt, 1958/1998, p. 168; Markell, 2011, p. 33)

The corresponding form of education to Arendt’s *Human Condition* of “labor”

For Arendt, labor is about survival. Much of teaching involves “labor” and “work”. Indeed, organizing children to learn is a form of “labor” and “work”, that is, a continuous effort to keep children engaged.

The corresponding form of education to Arendt’s *The Human Condition* of “labor” is the traditional educational mode. The traditional curriculum mode has typically involved a teacher conveying facts to students. The curriculum focuses on a specific body of knowledge to be transmitted to students and relies heavily on memorization and drilling of facts and formulas. Education systems founded on traditional curriculum focus on the subject matter being taught and favor measurement of educational objectives via a great deal of testing. Traditional curricula may include transmission of moral standards, social conduct and skills which educators consider important for students to learn. Students are typically expected to learn what they are taught without questioning it (Traditional
education, 2017). Following on this characteristic of traditional curriculum, Morris and Adamson (2010, p.49) wrote, “to some degree, all school curricula focus on teaching students about the aspects of their own society, including its culture, the nation’s history and geography, and its young into the beliefs of a given religion (e.g. Catholicism or Islam) or of a political ideology (e.g. Nazism or Communism). The goal is to shape the views of the young so that they match with those of the prevailing orthodoxy”. In other words, the goal or final product of the traditional education is to expect a standardized product, be it of knowledge, culture or of a given belief/ideology/orthodoxy manifested on the student on which the traditional education is to be bestowed on.

Morris and Adamson (2010, p. 49) continued to lament that, “Orthodoxies, by definition, believe in fixed answers to relevant questions and the task of the schools is to ensure that pupils know these answers. Pupils are not encouraged to consider alternatives”.

As such, one might see the close analogy between the operation of the traditional curriculum has had on the students for a fixed outcome of learning with those of the mass mechanical production (with standardized/homogeneous project) or of what Arendt said of in the “animal laborers” condition. Even should there be “play” element included in this type of traditional education, the activity will be teacher-planned game, with the teaching objectives in mind, and looking for homogenous, fixed learning outcomes.

Aligned with the traditional curriculum is the teacher-directed pedagogy. This teaching pedagogy involves a teacher lecturing students and students repeating what they have memorized, then being tested on it (Traditional education, 2017). This teaching pedagogy could best be represented in the highly structured, academically oriented classes as observed and being criticized in many of the kindergartens most commonly found before the educational reform in Hong Kong before the 1980s (Lau & Ho, 2013). But ironically speaking, most of the kindergartens which have religious affiliations in the colonial period have adopted this mode of education and could “produce” many good students excel both in academic results and in conduct. The possible explanation of this outcome of learning could be aligned with the teacher-directed pedagogy with the structured curriculum in a teacher-centered classroom, the teacher might be able to play a strong role in trying to induct the young into the beliefs of a given religion (including moral behaviors or politics) or to induct a political ideology (Morris & Adamson, 2010, p. 49).

With the understanding that the teacher-directed pedagogy and its structured curriculum in a teacher-centered classroom are responsible for inducing a political ideology in the minds of the young, Arendt would definitely snare at this form of education which has its element with the totalitarian form of “labor”. Hence, this kind of curriculum is the least preferred type of curriculum according to what Arendt has inspired her readers to think of in The Human Condition.

The corresponding form of education to Arendt’s Human Condition of “work” and “works of art”

On the better level than “labor” in the eyes of Arendt is “work”. “Work” involves more autonomy as far as teaching is concerned. It involves the very arrangement of the furniture in classrooms and owes much to the teacher’s sense of what he or she believes to be the appropriate environment for good teaching.

The “work” together with the “works of art” under the private realm of “work” in The Human Condition (see Figure 1 and 3), is a hybrid mode which allows room for the young children to study in the traditional subject-based curriculum while at times would allow young children to play autonomously after the main subjects have been taught, though in play, children might receive some minimal guidance from the teacher (in the works of art region).
Theoretically speaking, this hybrid mode (see Figure 3), due to its flexibility and its boundless-mobile nature, is accountable to causing action for a change. The hybrid mode is identified in Arendt’s (1958/1998) book as the “works of art” in the private realm of “work” and transgressing towards the public realm of “action”. The corresponding mode of education for this hybrid mode is the different combination of the traditional work curriculum and play curriculum, allowing within which different degree of autonomy to foster action.

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Democratic</th>
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<tbody>
<tr>
<td>Solitary study</td>
<td>Co-operative activity</td>
</tr>
<tr>
<td>Didactic teaching</td>
<td>Co-operative and participatory learning through play</td>
</tr>
<tr>
<td>Teacher as authority</td>
<td>Shared authority among peers</td>
</tr>
</tbody>
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Figure 3. Different forms of hybrid mode (Lau & Ho, 2016)

If speaking more precisely, it is under the condition of “works of art”, teacher will have the authority to guide and to set the path for the young children to democratizing via the activities of play, apart from asking the young children to fulfill their obligatory duty of work before they are allowed to play. This hybrid mode of educational design allows teacher to take control of what is to be taught (curriculum content) and can exercise his/her authority of how it is to be taught (pedagogy) on one hand. On the other hand, at times, the teacher could lessen her control over what is to be taught and how it is to be taught and have the young children taken over the control of learning by themselves in varying degree within the same lesson. The teacher might seize the opportunities to teach and/or to be the feedback provider to young children knowledge or behaviors on the spot while the young children are playing.

The similarity between Arendt’s forms of play and the newly advocated play curriculum in the 2017 reformed document in Hong Kong

In the recent early childhood educational reform in Hong Kong, the authors have found from the reform document published by the Curriculum Development Council (CDC, 2016), the similarities with Arendt’s hybrid mode of curriculum under the category of “work” and “works of arts” in her “The Human Condition”. For example, the document has carried the slogan, the “Joyful Learning through Play: Balanced Development All the Way”. It has listed in detail the newest requirement of the curriculum and pedagogic practices (which is Play) in 2017, following the implementation of the 15 years free education in Hong Kong, is self-explanatory of the situation.

On page 27, section 4.5 of the captioned document, for example, the document has stressed the need to strengthen the element of free exploration of play by giving its reader the rationales and the proposals for implementation. Under 4.5.1.3, it is written that, “as one of the key elements in play, free
exploration is a catalyst for children’s effective learning, enabling them to maintain or even enhance their concentration on and interest in learning”.

These sections seem to encourage young children to explore freely in their play so that they might learn effectively. One might realize that it is unquestionable that “free play” is highly promoted in the latest early childhood reform document. The requirement on free play has matched precisely with Arendt’s perception of “action-vita-activa” as forms of education for the promotion of democratic collaborative learning. The application of which will be discussed later on in this section.

On the other hand, however, as could be seen on page 28 of the reform document (CDC, 2016), it is written under section 4.5.2.3 about the role of the teachers,

“In addition to the roles of ‘provider’ and ‘participant’, teachers should also perform the role as ‘feedback-giver’ in the process of play. After play, teachers should invite children to share their experiences, feelings and the new knowledge and skills learnt; and provide timely and positive feedback to children.”

What have been requested in the latest curriculum reform guide of having play as curriculum and the role of teacher in children’s play is beyond doubt that it bears a lot of similarities with the model set by Arendt in the “work” and “works of arts” in The Human Condition. In other words, play, on one hand, is highly esteemed in young children’s learning; play, is nevertheless, has to be facilitated by the teachers so as to ensure it has reached some pre-determined outcomes expected by the teacher. Curriculum and its aligned pedagogy in education, if designed in such a way, will fit well with Arendt’s purpose of preparing the way for realizing politics for action in the public realm ultimately in the “vita activa” region.

To confirm the above findings of the authors, it was found in a review of literatures, that Arendt did prefer a certain degree of authority exercised by the teacher while doing activities with the young children (Fonseca, 2016, p. 505).

Carvalho (2002, cited in Fonseca 2016, p. 505) also highlights the influence of teachers have had on education in an academic paper talking about Arendt and education, “the best form of cultivating and transmitting democratic values and also of taking part in citizens ethical formation is to be present not only in words, but also in our actions as teachers and education professional”.

The Role of Teachers in Applying the Concept of Sociology in Early Childhood Education

According to Goldfarb (2015), “Sociology” has an intimate connection with politics and to that extent, the term of political sociology is used. According to the understanding and observation of the authors of this paper, very often, this concept of sociology can be fostered via the teaching pedagogy of the teachers in the early childhood classroom.

Arendt’s suggestions of retaining the authority of the teacher at children’s play, though are found different from what the humanistic scholar like Dewey has advocated, has a purpose on which her contemporary might not realize nor understand. Her purpose is to ensure that the teacher will safeguard her students by providing them an environment to socialize among with peers. By doing so, the teacher can facilitate children to express their social concerns over issues which are different from their peers. By providing an opportunity for young children to exchange their ideas with one another, teachers have set up an initial breeding ground for the young children as if to live in a democratic society and to acquire political concepts. Authors like De Melendex, Beck and Fletcher (2000) in “Teaching Social Studies in Early Education” have mentioned that,
Political socialization begins in childhood and focuses on building knowledge about the role of government and its relationship to the individual in a democracy. Political socialization—development of an understanding about power, rules, and the role of government as an authority—is grounded in politics, not in partisan politics, but rather in politics as a framework for implementing the rules of democracy. Politics is a broad field and describes the activities and behaviors that people exhibit in relation to the power structure and the governing processes. Political activities with peers or adults take place in all the settings where children interact: at home, in the classroom, and around the neighborhood (p. 197).

During the socializing moment, according to research documentation, young children’s progressive acquisition of the concept of politics can be made (De Melendex, Beck & Fletcher, 2000). Following the requirement of the 2017 Curriculum Guide in Early Childhood Education (ECE) that advocates free play and by giving power for the teachers to “provide feedback” to children so as to legitimize the exchange of ideas among the young children when they are at play, the Guide has essentially provided the good ground for nurturing the political minds of the children in the ECE classroom when these children are at their most receptive stage of learning through the role of the teachers.

Under the “work” category, the teacher can exercise many of her authority, teacher could “select” those students whom she thinks have got the best qualities both in character, aptitude and intellectual capacity to be the future leaders in the political field. The situation bears much similarities with those in the Platonic times when only the elites with good moral conducts, good dispositions and intellectual capability could debate in the polis (that is society in the modern sense).

But in order not to allow all the students under the “work” category enter into the “vita activa” stage of The Human Condition, the gateway between “work” and “vita activa” must be closed and will momentarily open via the “works of arts” only. The teacher in the “work” category, would therefore closely observed her class of young children and then identify those who have the potential to be future leaders of the society during the “play” activities arranged by herself/himself and then “select” them to join a specially arranged group as if they are the elites in the polis for democratic political discussion.

The corresponding form of education to Arendt’s The Human Condition of “action” – the vita activa

The best form of education, according to Arendt, is an active classroom where autonomous or free play is promoted. In here, children are given a free choice to do any activities they preferred. This form of curriculum is considered as a play-based curriculum which foster “genuine” play for young children. In this genuine play activity, teacher should exercise minimal control or direction over the children. If teacher exercises her authority over the planning of the activities or making use of the opportunities to teach children while they were playing is already reverted to work or labor.

Same as what Dewey (1916/1944) thought of, it is understandable that if Arendt is to instill the political spirit for future elite citizens, she must start preparing the mind of the children when they are still young. There is no wonder she had shown concern for creating a democratic classroom by interweaving John Dewey’s ideas and certain fundamental existential preoccupations, particularly those of Merleau-Ponty (1964) for play.

As with the play activity under Arendt’s “work” and “works of art”, play activity in the “action” realm has found its ally in the 2017 Hong Kong educational reform document (CDC, 2017). For example, on page 28 of the reform document (CDC, 2016), under section 4.5.2.3, it is stated that “teachers should encourage children to participate in ‘free play’ and allow them to arrange play on their own, such as choosing playmates and making rules…..”.

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As such, the reform document seems to employ “play” to create the possibility for democratic praxis as with Arendt did. For Arendt, she wished to have the democratic praxis installed in a hostile world and deemed that as valuable for herself and for those interested in democratic education. Her concern for creating the possibility for democratic praxis in a hostile world is especially valuable for those interested in democratic education.

With reference to Arendt’s teaching, action must be initiated in plurality. Hence, a corresponding form of education would be an application of Dewey’s “learning by doing” (Dewey, 1916/1944, p.324) as pedagogic practices in a socially constructed classroom. At times, Vygotsky’s (1978) social constructivist form of scaffolding technique could be used as supplement to the learning by doing pedagogy. A socially constructed classroom is a kind of classroom which could foster the shared culture of peers and is relevant to Arendt’s vita activa of action in the public realm.

It is anticipated that the intention of Arendt to enforce a kind of curriculum which is proactive “with action” and thereby to equip young children to engage in political exchange of ideas as if they are in the ancient polis. The best form of such curriculum would be through the co-operative play among the young children. De Melendez et al. (2000, p. 198) are of the opinion that young children could exhibit their political sense through engaging in the co-operative play. Examples of such expressions could be through the positions the young children have assumed; by the views that the young children have expressed and many more expressions cited below.

By inquiring about things that happened;
When they participate in making decisions;
When making choices;
By acknowledging the existence of a governing source;
By supporting the ideas of others;
By participating in class and group activities;
By showing preferences;
By taking the initiative;
By promoting change.

An example of this kind of play is facilitated in the following manner:

In order to foster the free exchange of thoughts as if the elites in the polis in ancient Greece did, teacher who fosters Arendt’s form of Human Condition of “action” will facilitate a play environment whereby young children could play collaboratively. To form a band, for example, get tires up a ladder, or work in an office, children need the support of at least one like-minded partner.

Hohmann & Weikart (1995, p. 399), however, reminds these teachers that forming and sustaining play partnerships is not a simple task. It depends on young children’s emerging social competence, intentionality, desire for friendship, and ability to sustain the idea of “we” over “me”. Psychologists Rubin and Everett (1982) observe that,

“Such egalitarian relationships give children opportunities to assert themselves, to present their own views of the world, and to argue freely with peers concerning different social-cognitive viewpoints. Such conflicts and interactions may ultimately help children to understand that others may have different thoughts, feelings, and perspectives than their own.”(p.106)
In their study of four to six year olds, developmental psychologists Das and Berndt (1992) found that young children seek playmates based on positive social criteria, including,

(a) Lack of aggressive behavior (He is never mean to me);
(b) Similarity (We both like dinosaurs);
(c) Sociability (He plays with me);
(d) Perceptions of being liked by the peer (She likes me);
(e) Prior association (I have known him for many years).

But will this kind of collaborative shared culture educating young children the true meaning of friendship? Or has it inculcating in the mind of the young the negative spirit of compromise at the expense of genuine friendship that the ancient great philosopher Aristotle has espoused?

The second associated query is that, will collaborative peer learning bring forth other issues that would challenge the teacher and her authority? A review of literature in Corsaro (2011), suggests a response to the question raised. It is said that a universal aspect of children’s peer culture is children’s tendency to challenge adult authority. Schwartzman (1978) argues that children not only experiment with and refines aspects of the adult world in play but also use play as an “arena for comment and criticism” (Lau & Ho, 2016).

Conclusion

Hannah Arendt’s *The Human Condition* has inspired her readers for further thoughts on the educational issue

The perception of the authors is that what works well in the ancient Greece for a democratic exchange of political ideas in Polis among the adult elites is not applicable to young children via the form of education they receive to achieve these ends. To do so is to instill in the minds of the young children with some pre-maturely political thoughts while they are still very young, which is not appropriate. The overly proactive character so trained while they are at a tender age right through their adult years will eventually bring harm to the society. The way to implant such pre-mature socio-political thoughts in the mind of the young children is, inevitably, done by unsuitable form of education, and in this case, the free play curriculum associated with the “works of arts” and “vita activa” advocated by Arendt in her conceptual thought in *The Human Condition*. Following the determination of the policy enforcers and their protagonists, it is anticipated that the educational landscape of the early years education in Hong Kong will be changed significantly in not too distant a future.

But on the other side of the coin, if we are to reduce Arendt’s ascendancy to the spirit of the times would also do an injustice to her powerful scintillating mind and to the sweep of her accomplishments (Berkowitz, 1999, pp. 57–58). Our discussion will temporary end here due to the limitation of space, but will re-open again, as we consider the inspiration gained through analyzing Arendt’s book *The Human Condition* is by no means exhaustive.

After all, in the study on Arendt’s *The Human Condition*, the authors of this article have found that Arendt’s book is a good one in terms of clarity and in her identification and application. Eventually, we agree with the reviewers of the Arendt’s book “*The Human Condition*” that the popularity of the book rests in inspiring its reader to think rather than to read them literally.
To the thought-provoking question, “Will action bring forth goodness to society? Or will it bring forth changes to the society that will turn the society upside down and its original orderliness? The question is still open to debate.

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Relationship between the Tendency to Tolerance and Helpfulness Attitude in 4\textsuperscript{th} Grade Students

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Abstract

The purpose of this study is to investigate the relationship between the tendency to tolerance and helpfulness behavior in 4\textsuperscript{th} grade primary school students. Relational screening model was used in the study. Simple random sampling method was used in the study. 265 students from the 4\textsuperscript{th} grade of the primary school students have participated to the study. The data in the study were collected by using the scale of tolerance and the scale of helpfulness attitude. Descriptive statistics were used in the analysis of the data pearson product moments correlation analysis and multiple linear regression analysis were used in the analysis of data. As a result, it was found that a medium level significant relationship in the positive direction existed between the tolerance tendency scores and helpfulness attitude scores of fourth grade students, that the value belonging to tolerance displayed a significant relationship with acceptance and empathy sub-dimensions and that all three variables together explained 24\% of the helpfulness attitude. This result has also revealed a predictive relationship between students' tendencies towards tolerance and helpfulness attitudes. Based upon the findings, following recommendations have been provided.

Keywords: Values education, tolerance, helpfulness, primary school, attitude.

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Introduction

One of the aims of primary education is to equip the children with the cultural values of the environment they are living in. A certain part of those cultural values is formed by the values belonging to that community. It has been defined by Halstead and Taylor (2000, p. 169) as “principals and fundamental convictions which act as general guides to behavior, the standards by which particular actions are judged to be good or desirable”. Each community transfers its values to new generations. As a consequence, in schools, values belonging to that community are applied. In that respect, from the first moment students begin to go to school, an effort is made to equip them with values such as tolerance, helping each other, love, respect, equality, justice.

Tolerance is described as a democratic value. Because it is founded on “respect for others” (Akbas, 2011; Cookson, 2001; Leirvik, 2007; Yesil & Aydin, 2007). A person with tolerance is able to understand a thought or behavior which is not adopted by different people and to tolerate it. In order to live a happy life together people should tolerate their differences, mistakes and approach each other with comprehension (Caliskan & Saglam, 2012). Despite the emergence of the concept of tolerance in the last quarter of the twentieth century as we use it today, it has emerged in Turkish society as a result of the integration of elements of Islam with elements of Turkish culture, human love and goodwill, especially with the acceptance of Islam (Kalin, 2013). It may be wise to mention that Hacı Bektaş Veli, Mevlana and Yunus Emre had great contributions to make individuals acquire the value of tolerance. As indicated by Hacı Bektaş Veli "Seventy-two nationsare one in our dervish convent." all people are approached with tolerance. Similarly, in his rubaie that emphasizes tolerance, Mevlana stated that "Be heretic or zoroastrian or pagan. Or ruin a hundred times your repentance ... This is not the door of despair, come as you are." The value of helpfulness is also one of the most prominent features of the Turkish people (Aktepe, 2010). In fact, there are numerous social organizations with the purpose of helping our society. Moreover, one of the best examples of this is "collective work" in our society. It means that villagers work with cooperation in a complimentary and sequential manner (Aktepe, 2010).

Helping each other represents the mutual assistance existing between persons or groups whose needs are met by the other (Koylu, 2016). Mutual assistance as a value which increases and strengthens the relations between individuals in the community, makes up deficiencies, fills gaps and strengthens the union, also reinforces respect, love and tolerance between individuals and thus contributes to ensure a continuing peace (Aktepe, 2010). Helpfulness means to love mutual assistance. Karatekin, Eksi, Isilak, Ottrak, Koc-Yildirim and Durmus (2012, p. 14) have described helpfulness as" doing something for another person without making any calculation; using the power and means that the person has for the benefit of others, relieving a person from a trouble, assisting that person in overcoming difficulties, supporting, sharing responsibilities; eliminating the hardships of the one who is in a difficult position in a willing, sincere manner without feeling any annoyance. Helpfulness is a set of behaviors that have emerged as a result of solidarity and commitment in society. The survival of a society depends on the solidarity within society, and therefore, individual's helpfulness. It is wrong to perceive the value of helpfulness as the material criteria. Sometimes sharing a statement, sadness, sometimes listen to the problems and give hope is the expression of helpfulness (Aktepe, 2010). It is important not to give so much, but to give it readily.

When the literature in Turkey is examined, a small number of studies examining the tolerance tendencies of students (Caliskan & Saglam, 2012; Oztaskin-Bektas, & Icen, 2015; Yesilkayali, & Yildiz-Demirtas, 2013) and their attitude of helpfulness with regard to different variables were found. No study on the relationship between the tolerance tendencies of students and their attitude of helpfulness was found. This was seen as a deficiency by the researcher and decision was made to undertake this research. Koylu (2016) stated that the values of tolerance and helpfulness are two interrelated concepts. Indeed, various researchers have pointed that while teaching one value to the students, other values are also gained (Aslan, 2016). The top universal values that should be acquired by primary school students are the values of tolerance and helpfulness. These two values seem to be
attached great importance considering the updated primary school programs in Turkey (Ministry of National Education [MNE], 2017a; 2017b). In addition, values education needs to be emphasized in schools since rapidly developing and changing living conditions require values. In this respect, it has become inevitable to examine primary school students’ tendencies towards tolerance and their helpfulness attitudes their relations. Therefore a study on the tolerance tendencies of students and their helpfulness attitude was considered to be a subject worth researching. This research is expected to constitute a feedback for primary school teachers in equipping students with these values.

The purpose of this study was to examine the relationship between tolerance tendencies in 4th grade students and their helpfulness attitude. An answer was sought to the questions below in the scope of the research:

1. Is there a significant relationship between the tolerance tendencies and helpfulness attitude of students?

2. Is there a predictor value between the students’ tolerance scale sub-dimensions and helpfulness attitudes?

Research Method

Model of Research

The model of the research consists of the relational screening model which is one of the screening models. The relational screening model has been described by Christensen, Johnson and Turner (2014, p. 45) as “researches conducted for explaining and estimating relationship between variables”. Tekbiyik (2014) has stated that the method of correlational research presents the opportunity to explain the relationship between variables and to estimate the results. Hence, the relational screening model was used in the current study so as to determine the relationship between tolerance tendencies of fourth grade primary school students and their helpfulness attitudes.

Population and Sampling

The population of the study consists of students in the fourth grade of primary school in the province of Elazig. The sampling of the research is formed by 265 primary school fourth grade students selected by simple random method. According to this sampling method all participants need to have equal chances in participating to the research (Fraenkel, Wallen & Hyun, 2014). Due to the students being included to the study on the basis of equal chance, the simple random sampling method has been selected. 147 of the students are female and 118 are male. The research sample was selected among students studying at public schools. The reason for the selection of primary school students is the importance of encouraging students to acquire universal democratic values starting from earlier years.

Data Collection Tools

Two types of data collection tools were used in the study. Those are:

Tendency to Tolerance Scale (TTS): This research has employed the “Tendency Tolerance Scale” developed by Caliskan and Saglam (2012). Exploratory factor analysis has been primarily conducted. As a result of the analyses made it was determined that the scale consisted of three sub-factors and 18 items which explain 47.97% of the total variance. The first factor of the scale was named as “value” it was noted that it explained 35.22% of the variance and consisted of 9 items; the second factor was named as “acceptance”, it was found that it explained 6.88% of the variance and consisted of 5 items; the third factor was named as “empathy” and it was found that it explained 5.87%
of the variance and consisted of 4 items. The factor load concerning the items of the scale varies between 0.41-0.75. It was noted that the Cronbach Alpha internal consistency coefficient for the scale in general was .89; for the first factor it was .86, for the second factor .70 and for the third factor .63. A confirmatory factor analysis was made in developing the scale and the fit index belonging to the model were found to be adequate. The lowest point obtained from the scale can be 18 whereas the highest point is 90.

Helpfulness Attitude Scale (HAS): In the study, the “Helpfulness Attitude Scale” developed by Aktepe (2010) was used. In order to study the construct validity of the scale, the Exploratory Factor Analysis (EFA) was used. After determining that the data were in conformity with the factor analysis, the analysis was made by using the principal components technique. In EFA, it was noted that the scale consisted of two factors and that it explained 54.38% of the total variance. As a result of the EFA, it was noted that the “Helpfulness Attitude Scale” was gathered under 7 factors and consisted of 26 items. The first factor was named as “Self-Sacrifice”, it explains 22.876% of the variance and consists of 5 items; the second factor is named as “Compassion”, it explains 7.854% of the variance and consists of 5 items ; the third factor is named as “social responsibility” it explains 5.698 % of the variance and consists of 4 items ; the fourth factor is named as “cooperation”, it explains 5.179 % of the variance; the fifth factor is named as “sharing”, it explains 4.603% of the variance and consists of 3 items; the seventh factor is named as”generosity” it explains 3.856% of the variance and consists of 3 items. The Cronbach Alpha coefficient of internal consistence was found as .85; the first factor as .68, the second factor as .71, the third factor as .71, the fourth factor as .46, the fifth factor as .63, the sixth factor as .57 and for the seventh factor .46 (Aktepe, 2010). In the scale there are 19 positive and 7 negative items. The lowest point to be obtained from the scale is 26 whereas the highest point is 130. The scale was graded as 5 point likert scale.

Within the scope of the study, permission was obtained for both scales, and they were used in this research. The tolerance tendency scale was developed through including secondary school students in the sample, while helpfulness attitude scale was developed by selecting fourth class students of primary school as a sample. These measurement instruments used in the research were presented to three specialist faculty members and their opinions were asked about whether the scales could be used for the fourth class students of the primary school. In consideration of the feedback from the experts, the scales were used in the research. Explanatory factor analysis related to scales was carried out once more. The results were in line with those of the actual scales. Moreover, internal consistency coefficients of the scales were also examined. Hence, Cronbach Alpha coefficient of tolerance tendency scale was found as .81, the Cronbach Alpha coefficient related to the helpfulness attitude was found as .77. Based on these results we can state that the scale is reliable (Fraenkel, Wallen & Hyun, 2014).

Data Collection

The data were collected by the researcher between 01-30/05/2017 in the spring semester of 2016-2017 academic year. The researcher went to elementary schools and distributed the scales to the students and told them how to fill the scales. Correct filling of the scales have been reminded to the students. Students were provided with filling the scales within the framework of the voluntary principle. Before the scales were applied, official permission was obtained from the school administrations. It lasted 40 minutes for students to respond to the scales.

Analysis of Data

The data of the research were analyzed by using SPSS 21 package program. Beforehand, whether parametric tests would provide general conditions or not was checked. Whether data displayed a normal distribution was checked by Kolmogorov Smirnov test. In the Kolmogorov Smirnov test, it was noted that the tolerance tendency with (KSW=.168, p<.05) and helpfulness attitude scale were not displaying a normal distribution with (KSW=.081, p<.05). In order to be able to
make a final decision concerning normality of data belonging to the scales, the coefficients of skewness and kurtosis and the Q-Q graphic were studied (Ho, 2006; Secer, 2015). Following reviews, data were observed to ensure a normal distribution. In the analysis of data obtained in the research, Levene’s test was used to test the homogeneity of variances. In the analysis of data, the Pearson Product Moments Correlation Analysis and Multiple Linear Regression analyses were used. To determine the correlation between the students’ tolerance tendencies and helpfulness attitudes, the Pearson Product Moments Correlation analysis was used. Tan (2016) has indicated that to apply a correlation analysis the two variables had to be of continuous variable type, that a normal distribution should exist, that the correlation between variables should be linear and covariance hypothesis should be ensured among variables. Since all these assumptions are met in this research, Pearson Product Moments correlation analysis was used. Furthermore, in this research Multiple Linear Regression Analysis (MLRA) was used. Whether certain assumptions were met was checked in order to make a MLRA. To use a MLRA; a sufficient number of samples (Pallant, 2005), absence of multiple linear correlation (Field, 2009), ensuring single and multivariate normality and absence of extreme values are indicated as requirements (Pallant, 2005; Secer, 2015). In the study, it was noted that all these requirements were met and MLRA was used.

Findings

In this section, findings are stated on whether a significant relationship the tolerance tendencies of students and their helpfulness attitude and whether the dimensions belonging to their tolerance tendencies predicted their helpfulness attitude or not.

The relationship between the student’s tolerances tendencies and their helpfulness attitudes is studied and presented in Table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Tolerance Tendencies</th>
<th>Helpfulness Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance Tendencies</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Helpfulness Attitude</td>
<td>.480*</td>
<td>1</td>
</tr>
</tbody>
</table>

N=265, *p<.01

As a result of the Pearson correlation analysis made to determine whether a significant relationship existed between students’ tendency to tolerance and their helpfulness attitude; a moderate positive relationship (r=.480, p<.01) was found between their tolerance tendencies and helpfulness attitudes (Tuna, 2016). Accordingly, it can be said that in the event of an increase in the tolerance tendency of students, their helpfulness attitude points shall also increase.

Whether the value belonging to the acceptance and empathy sub-dimensions of the students’ tendency to tolerance predicted their helpfulness attitude or not was studied and the results are presented in Table 2.

<table>
<thead>
<tr>
<th>Predicted variable</th>
<th>Predictor Variables</th>
<th>B</th>
<th>Standard Error</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>Double r</th>
<th>Partial r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helpfulness</td>
<td>Fixed</td>
<td>1.284</td>
<td>.404</td>
<td>.268</td>
<td>3.179</td>
<td>.00</td>
<td>.448</td>
<td>.217</td>
</tr>
<tr>
<td></td>
<td>Value</td>
<td>.685</td>
<td>.191</td>
<td>.268</td>
<td>3.590</td>
<td>.00</td>
<td>.443</td>
<td>.154</td>
</tr>
<tr>
<td></td>
<td>Acceptance</td>
<td>.264</td>
<td>.105</td>
<td>.178</td>
<td>2.519</td>
<td>.01</td>
<td>.443</td>
<td>.154</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
<td>.135</td>
<td>.065</td>
<td>.131</td>
<td>2.071</td>
<td>.03</td>
<td>.341</td>
<td>.127</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R=  .486</td>
<td>R²=.237</td>
<td>F(3,261)= 26.958</td>
<td>p= .00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The value found as a result of the multiple linear regression analysis made to display how value belonging to the tolerance tendency, acceptance and empathy sub-dimensions predicted the students’ helpfulness attitude has displayed, together with the acceptance and empathy variables, a significant relationship with their helpfulness attitude ($R=0.486$, $R^2=0.237$) ($F(3,261)=26.958$, $p<0.01$). Together with the subject three variables, it explains approximately 24% of their helpfulness attitudes. According to the standardized regression coefficients the order of importance of the predictor variables on helpfulness attitudes is value ($\beta=0.268$), acceptance ($\beta=0.178$) and value ($\beta=0.131$). When the significance tests of regression coefficients are taken to account, the three predictor variables are observed as significant predictors on their helpfulness attitude.

**Discussion, Conclusion and Recommendations**

A positively moderate significant relationship was found in the students’ tendency to tolerance and their helpfulness attitude. Accordingly, in the event of an increase of the students’ tendency to tolerance scores, it can be said that their helpfulness attitude scores shall also increase. Kaymakcan (2007) has described tolerance as “one of the principal values needed by individuals in order to live together with their differences in our day when the rights and liberties of individuals are under guarantee and personal freedoms are important”. While, Celik (2014) has defined helpfulness in its simplest meaning as "The case of providing willingly any material or moral assistance to someone who is in need without looking for any return or personal benefit". The value of tolerance is closely related to love, respect, mutual assistance. In fact, Kolac (2010) has indicated that tolerance included concepts and values such as trust, understanding, acceptance, democracy, harmony, freedom, mutual assistance. In this respect, the presence of a significant relationship between the students’ tendency to tolerance and their helpfulness attitude is an expected situation. This result of the research is supportive of this situation which is expected. In the research made by Oztaskin-Bektas and Icen (2015), the relationship between the tendency to tolerance of secondary school students and their democracy perceptions. As an outcome of the research, a positively significant relationship was found between the students’ tendency to tolerance and their democracy perceptions. In the research performed by Yesilkayali and Yildiz-Demirtas (2013) a weak level of relationship was found between the parents’ attitude on children’s rights and the children’s tendency to tolerance.

The value belonging to the tendency to tolerance scale, the value found as a result of the multiple linear regression analysis aimed to assess how acceptance and empathy sub-dimensions predict, with their helpfulness attitude were found to display a significant relationship on the helpfulness attitude of students. All three variables explain approximately 24% of the helpfulness attitude of the students. According to the result of the research the order of importance of predictor variables are value, acceptance and value. According to the result of the research, the value, acceptance and empathy sub-dimensions of tendency to tolerance were found to be significant predictors regarding their helpfulness attitudes. It can be said that for fourth grade students, to meet others’ thoughts with respect and tolerance, to love people, to accept that others’ thought might be correct, to forgive the errors of others, not to hate people, to put themselves into another’s place, to be able to understand how someone is feeling (Caliskan & Saglam, 2012) increase their helpfulness attitude.

The following proposals were developed in the scope of the research:

1. As a result of the study, it was found that there was a relationship between the students’ tendency to tolerance and their helpfulness attitude and that the tendency to tolerance predict the helpfulness attitude. In this respect teachers, by implementing activities aimed at equipping students with tolerance, may develop the students’ helpfulness attitudes in the positive sense.

2. Doing researches the tendency to tolerance and helpfulness attitude of students at secondary education and high school levels shall contribute to the literature.
3. Doing qualitative researches that examine the tolerance and helpfulness values in detail shall be useful.

References


A Paradigm Shift in School Readiness: A Comparison of Parents’, Pre-service and In-service Preschool Teachers’ Views

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Abstract

School readiness is associated with children’s subsequent school based-outcomes. School readiness covers skills, behaviors, and attitudes related to whole child development. It is a multidimensional issue regarding readiness in children, and for parents and schools. Therefore, the issue concerns parents, teachers, and researchers. In the present study, a phenomenological research design was used to examine and compare parents’, pre-service and in-service preschool teachers’ views on school readiness. The participants of this study were 50 parents, 50 pre-service and 50 in-service preschool teachers. The participants were selected using the purposive sampling method. Semi-structured interview protocols were used to collect the data. The participants were asked four main questions regarding the definition of school readiness, factors related to school readiness, problems in school readiness, and their suggestions for improvements in school readiness. The findings revealed that the participants mostly defined school readiness from a maturationalistic perspective regarding children’s developmental domains, especially cognitive and psychomotor skills. Mothers and preschool teachers were described as the most effective people in the school readiness process. Participants’ explanations regarding problems in the school readiness process and their suggestions to improve children’s school readiness were discussed in light of the literature.

Keywords: school readiness, parents, pre-service, in-service, preschool teacher, views

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Introduction

School readiness is an important notion, and researchers have investigated the influence of children’s school entrance skills on their subsequent school-based outcomes from past to present (Cartlon&Wishler, 1999; Grissmer, Grimm, Aiyer, Murrah, & Steele, 2010; Porche, Costello, & Rosen-Reynoso, 2016; Quirk, Grimm, Furlong, Nylund-Gibson, & Swami, 2016). Previous studies have mainly focused on children’s academic/cognitive competencies and their association with their later school achievement (Bradley et al., 1989; Tong et al., 2007). Recent studies have consistently shown that children’s academic/cognitive, socioemotional, language, and psychomotor competencies are related to their effectively engaging school life and school-based outcomes (Pratt, McClelland, Swanson, & Lipscomb, 2016; Quirk, Dowdy, Goldstein, & Carnazzo, 2017; Sabol & Pianta, 2012). Therefore, it is an important issue for children to have an effective and successful start to school and high achievement. School readiness is a multidimensional issue, and there are numerous school readiness definitions (UNICEF, 2012). The National Educational Goals Panel (NEGP, 1997) constructed a conceptual framework for school readiness. NEGP (1997) approached school readiness in terms of readiness in children, readiness for parents, and readiness for schools. The theoretical background of the notion of school readiness has evolved over the past 100 years, and different perspectives have emerged to explain the notion (Cartlon&Winsler, 1999; May & Kundert, 1997; Winter & Kelly, 2008). Winter and Kelley (2008) categorized these perspectives under three approaches: maturationalist, early program, and contemporary models.

The Maturationalist or Nativist Approach (1930s)

The maturationalist approach was derived from the ideas of Arnold Gesell, Granville Stanley Hall, and Alfred Binet on children’s development in relation to the Child Study Movement (Cartlon&Winsler, 1999; May & Kundert, 1997). Hall and his student, Gesell, advocated that children have an inner or biological time clock responsible for their development and their development was preprogrammed. Children need to reach a certain maturation level, especially mentally, to profit from school and instruction because development is accepted to advance learning (Cartlon&Winsler, 1999; Kagan, 1990; Touvell, 1992). The idea that deficits in school readiness lie within the child and the development of children cannot be changed or pushed beyond their biological developmental level by experience and teaching (Cartlon & Winsler, 1999; Winter & Kelley, 2008). The maturationalist perspective suggested that children should be given the “gift of time” to mature and a child’s entry to school should, if necessary, be postponed for one year (called academic redshirting) or a child should repeat kindergarten (Mathews, 1996). The application of academic redshirting has been questioned based on a child’s right to education and in relation to discrimination issues since studies pointed out that lower-class children are more likely to enter school one year later than upper- and middle-class children and more boys than girls are redshirted (Frey, 2005: May, Kundert & Brent, 1995). In addition, previous studies have failed to provide a clear picture of the contribution of academic redshirting on children’s development and achievement (Cartlon&Winsler, 1999; Katz, 2000). Furthermore, some researchers have reported that children who are redshirted or retained in the same year are more likely to be placed in special education than children who enter school on time (Graue & DiPerna, 2000; May, Kundert & Brent, 1995).

Early Program Models (1960s)

The Economic Opportunity Act of 1964 in the United States was passed to combat poverty (Roopnarine & Johnson, 2005). Ruth (1983) highlighted that economically and socially disadvantaged children are more likely to fail elementary school and have poor school readiness skills. To enhance disadvantaged children’s school readiness and close the achievement gap before they enter elementary school, High Scope Perry (1962), Head Start (1964), and the Bereiter Engelman (1964) model emerged during the mid-1960s. Head Start is one of the well-known federal funded early intervention programs aiming to reduce social inequality (Ruth, 1983; Wortham, 2006). This program supports the
development and learning of disadvantaged children by providing educational, health, and family services to meet children’s emotional, social, educational, health, and nutritional needs (Halle, Hair, Wandner, & Chien, 2012; Magnuson, Meyers, Ruhm, &Walfogel, 2004). Head Start began as an eight-week summer program and then was extended to a full-year remedial program (Roopnarine & Johnson, 2005; Ruth, 1983). The theoretical background of this program was based on Gesell’s maturationist theory, Sear’s personality and social development theories, Piaget and Bloom’s ideas on cognitive development, and Lewin’s group dynamic theories (Lascarides & Hinitz, 2000; Roopnarine & Johnson, 2005). In the related literature, numerous studies have investigated the contribution of these early intervention programs on children’s development and learning. The follow-up cost-benefit studies of High Scope Perry reported that the high-quality preschool program contributed to children’s school readiness and educational success as short-term gains, reduced drop-off school and crime rates as well as increased social and economic welfare in the long term (Belfield, Nores, Barnett, & Schweinhart, 2006; Luster & McAdoo, 1996; Rolnick, & Grunewald, 2003; Schweinhart, 2003). However, researchers have commonly pointed out that the Head Start program has a short-term contribution in terms of a child’s cognitive, social, and emotional development and school readiness, but studies fail to provide a clear picture of the long-term contribution (Garces, Thomas, & Currie, 2000; Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006; Ludwig & Philips, 2008; McKey, Condelli, Ganson, Barrett, McConkey, & Plantz, 1985). Early program models demonstrated the benefits of preschool education in terms of children’s development and school readiness, but these studies pointed out that the contribution depends on elements such as the quality of the program, parent involvement, and social-economic features of the neighborhoods (Henrich & Gadaire, 2008; Vaden-Kiernan, D’elio, O’Brien, Tarullo, Zill, & Hubbell-McKey, 2010).

Contemporary Models

Urie Bronfenbrenner (1979) examined children’s development in an ecological framework. Bronfenbrenner (1979) proposed that human beings develop within complex and nested environments and there are dynamic interactions between each level of the environment. A child is at the center of the systems, and all systems influence human development (Bronfenbrenner, 1999). Family is the innermost environment, while society is an outer one (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998). Similar to Bronfenbrenner, Vygotksy (1978) emphasized the role of the sociocultural context and advocated that learning can lead to development by scaffolding children’s learning in the zone of proximal development (Berk, 2012; Smidt, 2009). The idea underlying the notion of ecological system and sociocultural theories is that children’s development and school readiness policies can be targeted to affect multifaceted and nested environments from family to society (Hindman, Skibbe, Miller, & Zimmerman, 2010; McWayne, Hahs-Vaughn, Cheung & Wright, 2012). The school readiness paradigm shifted to more of a collaborated community phase (Carlton & Winsler, 1999; Freeman & Power-Costello, 2008; Winter & Kelley, 2008). Brain research made another contribution to the contemporary school readiness notion (Winter & Kelley, 2008). Brain studies showed that the first three years of life are a crucial period for brain development and there are sensitive periods of brain and overall development (Hawley, 2000; Shonkoff & Phillips, 2000). Such studies show that the brain is sensitive to effect of insufficient stimulation, nutrition, and interaction; this has an impact on children’s overall development and school readiness (Winter & Kelley, 2008). In regard to the contemporary perspective, school readiness is a holistic community issue and early experiences are key to children’s development and school readiness from the beginning of life. School readiness is a multifaceted issue, and it concerns parents, teachers, and researchers. Studies showed that parents’ and teachers’ school readiness beliefs are associated with their practices and children’s school outcomes (Jung, 2016; Lally, 2010). In the national context, previous studies examined in-service teachers’ (Tantekin-Erden&Altun, 2014; Kotaman, 2014; Şahin, Sak, &Tuncer, 2013), preservice teachers’ (Şahin-Sak, 2016), and parents’ (Yeşil- Dağlı, 2012) views about school readiness in an isolated way. Therefore, the aim of the study was to investigate and compare parents, preschool in-service teachers’, and pre-service teachers’ views about school readiness in a holistic approach.
Method

A phenomenological research design was used to understand parents’ and teachers’ views about school readiness in this study. Creswell (2009) stated that phenomenological research aims to elicit people’s understanding and experiences concerning a phenomenon. The present study aims to reveal parents’ and teachers’ views about school readiness, children’s problem with school readiness issues, and their solutions through interviews.

Participants

The participants in this study were 50 parents, 50 pre-service and 50 in-service preschool teachers. Purposeful sampling was used to select the participants. All the pre-service preschool teachers were in their senior years and completed “Preparation for Elementary School and Curriculum” course. The course is compulsory for early childhood education undergraduate programs. Among the pre-service teachers, 40 were female and 10 were male.

All the preschool teachers worked in public schools, and their teaching experience ranged from five to 25 years. Most of the preschool teachers were female (n=48). Most teachers (n=32) had a bachelor’s degree from an early childhood department. Of these teachers, three (6%) had a master’s degree from an early childhood department, and 15(30%) graduated from a child development vocational faculty.

Most of the parents were mothers (n=46). All the parents have preschoolers. Most had two children (n=24). Among the parents, 10 had a single child and six had three children. The range of parents’ monthly household income was 1.250–10.500 TL (M=3.275TL ≈ 856$).

Data Collection Tool

Semi-structured interview questions were prepared based on the previous studies (Şahin- Sak, 2016; Şahin, Sak, & Tuncer, 2013). The interview protocol covers four main questions regarding the definition of school readiness, factors related to school readiness, problems in school readiness, and suggestions for improvement in school readiness. In previous studies, participants were required to rank factors (parents, children, teacher, school, and society) related to school readiness as first, second, and third, according to their importance in the school readiness process (Şahin- Sak, 2016). In the present study, participants were required to rate each factor on a continuum between 1 to 10 (minimum–maximum) rather than rank them first, second, and third. The study attempted to gain information about participants’ views for each factor. Besides, the participants were asked to explain their reasons to clarify their point of view about school readiness. In addition, brother/sister was added to as a factor in the list, and participants were asked to add this new factor to the list.

Data Collection

The data were collected during the spring semester of the 2016–2017 academic years in Turkey. The participants were interviewed one by one in a quiet and comfortable environment. The interviews were audio recorded. The range of the interview period was 18–46 minutes.

Data Analysis

The audio-recorded interviews were transcribed as a word document for each participant. Then, tables were constructed for each question. Parents’, in-service teachers’, and pre-service teachers’ responses were grouped under separate headings. The responses were read a number of times, and the word frequency technique (Bernand, Wutich, & Ryan, 2016) was used to determine
codes and then themes. To establish reliability, a second coder coded the data separately. Inter-coder agreement reached 92% for the codes. In the second round, the researcher and the second coder compared 8% of the disagreement codes, and then inter-coder agreement reached 97%.

Findings

Understandings of School Readiness

Participants were asked to explain their ideas about school readiness and define it in their own words. Their answers mainly focused on maturation, and they explained school readiness in terms of developmental domains. Most of the parents (n=32), pre-service teachers (n=40), and in-service teachers (n=44) expressed that cognitive skills are an important agent in children’s school readiness. As Table 1 indicates, psychomotor development is the second-most stated domain. Participants mainly emphasized psychomotor skills required for learning the reading and writing process (holding and using a pencil properly, painting, and cutting). The fewest number of participants mentioned the importance of self-care skills in their school readiness definition.

In addition, pre-service (n=25) and in-service (n=16) teachers mentioned one of the aims of the national early childhood education program is to prepare children for primary school and to foster their school readiness. Detailed information on the participants’ definitions in terms of developmental domains is presented in Table 1.

Table 1. Participants’ Definitions of School Readiness Regarding Developmental Domains

<table>
<thead>
<tr>
<th>Developmental Domains</th>
<th>Parents</th>
<th>Pre-service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>32</td>
<td>40</td>
<td>44</td>
</tr>
<tr>
<td>Psychomotor</td>
<td>24</td>
<td>42</td>
<td>41</td>
</tr>
<tr>
<td>Language</td>
<td>15</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>Emotional</td>
<td>18</td>
<td>30</td>
<td>27</td>
</tr>
<tr>
<td>Social</td>
<td>15</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td>Self-care</td>
<td>13</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td>-</td>
<td>25</td>
<td>11</td>
</tr>
</tbody>
</table>

Agents of School Readiness

Participants were scored for each agent regarding individuals’ and institutions’ importance for children’s school readiness. Parents stated that mothers (M=9.35, SD= 1.25) were the most effective individuals in the school readiness process. According to the parents’ responses, the second-most effective group was teachers (M=9.17, SD= 1.62), followed by children (M=8.60, SD= 2.08). Parents gave the lowest scores for society (M=6.03, SD= 2.00).
Table 2. Participants’ Score Distributions Regarding Effective Agents of School Readiness

<table>
<thead>
<tr>
<th></th>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Range</td>
</tr>
<tr>
<td>Mother</td>
<td>9.35</td>
<td>1.25</td>
<td>5-10</td>
</tr>
<tr>
<td>Father</td>
<td>7.01</td>
<td>2.14</td>
<td>2-10</td>
</tr>
<tr>
<td>Brother/Sister</td>
<td>8.25</td>
<td>1.47</td>
<td>4-10</td>
</tr>
<tr>
<td>Preschool Teacher</td>
<td>9.17</td>
<td>1.62</td>
<td>2-10</td>
</tr>
<tr>
<td>Child</td>
<td>8.60</td>
<td>2.08</td>
<td>1-10</td>
</tr>
<tr>
<td>School</td>
<td>8.17</td>
<td>1.88</td>
<td>5-10</td>
</tr>
<tr>
<td>Society</td>
<td>6.03</td>
<td>2.00</td>
<td>2-10</td>
</tr>
</tbody>
</table>

When pre-service teachers’ answers were examined, mothers (M=9.19, SD= 1.21) were the most effective agents in the school readiness process. Teachers (M=9.11, SD= 1.18) were the second-most important group of people, and children (M=9.04, SD= 1.63) were the third most important. Similarly, pre-service teachers gave the lowest scores for society (M=6.41, SD= 2.18).

As Table 2 indicates, in-service teachers indicated that a child (M=9.64, SD= .87) is the most effective person in the school readiness process. According to teachers’ answers, a teacher (M=9.58, SD= .82) is the second-most important person and a mother (M=9.21, SD= 1.51) is the third-most important person. In-service teachers rated brothers/sisters (M=6.25, SD= 2.24) as the lowest.

In addition to this agent list, the participants were asked to add new factors related to children’s school readiness. Parents (n=22, M=7.85), pre-service teachers (n=13, M=7.05), and in-service teachers (n=18, M=6.90) emphasized that technology and technological devices (smart phones, tablets, and computers etc.) are related to children’s school readiness. The participants mainly mentioned the supportive features of the technological devices and applications on children’s school readiness. However, some parents (n=9), pre-service teachers (n=3), and in-service teachers (n=8) indicated negative effects of the devices and applications (distractibility, screen addiction, immobility). Lastly, a few parents (n=8, M= 5.80) stated that babysitters (education level, behavior, attitude) are important for children’s school readiness process.

Mothers

When asked about the reasons for labeling mothers as a school readiness agent, most parents (n=38) and pre-service teachers (n=31) noted how mothers spend most of their time with their children and take care of them, so a mother is an important person in her child’s school readiness process. Most of the in-service teachers (n=34) emphasized family-school cooperation and the importance of parent involvement in children’s educational process.
Table 3. Participants’ Explanations for Mothers’ Role in the School Readiness Process

<table>
<thead>
<tr>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The person who spends the most time with the child/takes care of him/her</td>
<td>38</td>
<td>31</td>
</tr>
<tr>
<td>The first teacher is within the family; education starts with the family</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>School-family cooperation</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Role model</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>My influence at home partially continues at school. My child gives importance to everything the teacher says and does it at school</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>As a working mother, I spend limited time, but I am trying to follow up and do the best I can</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

As Table 3 indicates, only a few parents (n=4) stated that they had limited time to share with their children, but they tried to do their best to support their children’s development and education. Of these pre-service teachers, 14 indicated that mothers are role models for children’s behaviors. According to in-service teachers’ responses, three mentioned mothers’ opinions (positive, negative) about schools, particularly that mother can directly influence children’s opinions about school and their teachers.

**Fathers**

According to the parents’ responses, the majority (n=30) stated that fathers are less influential than mothers. Fathers shared limited time with their children due to working outside, being busy, and exhaustion. Similarly, pre-service teachers (n=16) and in-service teachers (n=23) indicated that fathers are less influential than mothers in the school readiness process.

Table 4. Participants’ Explanations for Fathers’ Role in the School Readiness Process

<table>
<thead>
<tr>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less influential than the mother because of spending less time due to work/being busy/exhaustion</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>The father is as influential/equally influential as the mother</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>He she listens to his/her father more; closer to his/her father; the father is more</td>
<td>7</td>
<td>14</td>
</tr>
</tbody>
</table>

43
The father who is very effective financially school expenses; sending to better school

<table>
<thead>
<tr>
<th>Role model</th>
<th>Role model</th>
<th>Role model</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>9</td>
<td>11</td>
</tr>
</tbody>
</table>

In contrast, some of the participants (parents =13, pre-service teachers=21, in-service teacher=18) emphasized that the father is equally influential as the mother in the school readiness process. As seen in Table 4, seven parents indicated that fathers are more influential than mothers. Only a few parents (n=3) stated that fathers are very influential due to providing financial sources and opportunities.

**Brothers/Sisters**

The participants described a range of reasons for the role of brothers/sisters in the school readiness process. Most of the parents (n=28) emphasized that the older brother /sister is an important model for children. The older brother/sister’s influence can be both negative and positive based on his/her characteristics (school achievement, attitude toward school, temperament, and the relationship between brothers). Similarly, pre-service (n=17) and in-service teachers (n=25) emphasized the brother/sister’s role in the same way.

**Table 5. Participant’s Explanations for Brothers/sisters’ Role in the School Readiness Process**

<table>
<thead>
<tr>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior knowledge and awareness of the school for the child</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Being a positive/negative model</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>The experience of parents with parenting; school-teacher collaboration roles for the first child</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>The experience of parents with parenting; school-teacher collaboration roles for the first child</td>
<td>9</td>
<td>The age difference among the siblings is significant</td>
</tr>
<tr>
<td>Gender of the siblings (sisters are usually more supportive)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Among the parents, 23 focused on the first child enabling them to gain experience with parenting. They said that they learned how to communicate with teachers and cooperate with the school through their first child. Similarly, some of the teachers (pre-service=9, in-service=19) stated that older children foster parenting skills. Lastly, few in-service teachers emphasized age (n=11) and gender (n=6) differences of older brothers/sisters as related to their role in the school readiness process.
Preschool Teachers

According to the participants’ responses, most parents (n=34) indicated that a preschool teacher is the first teacher for their children. If their children like the first teacher, they will like subsequent teachers and school life. Teachers’ attitudes toward children are so important because children leave the home environment and are introduced to the school environment for the first time. As Table 6 indicates, a few parents (n=9) mentioned the quality and endeavor of teachers as an important factor in the school readiness process.

On the other hand, pre-service (n=38) and in-service teachers (n=41) indicated that preschool teachers support children’s development and education. Specifically, nine of these in-service teachers emphasized that they have key roles to improve school readiness of socio-economically disadvantaged children.

**Table 6. Participants’ Explanations for the Role of Preschool Teachers in the School Readiness Process**

<table>
<thead>
<tr>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first teacher—if he/she likes his/her first teacher, then he/she likes school</td>
<td>Supportive of the child’s development/education</td>
<td>Supportive of children’s development/education</td>
</tr>
<tr>
<td>The most important counselor (guide/main hero/information source)</td>
<td>The first teacher he or she met. The person who made him/her like the school/teacher</td>
<td>The first teacher he or she met. The person who made him/her like the school/teacher</td>
</tr>
<tr>
<td>It is important that the teacher is good/interested/loves his or her profession</td>
<td>The most influential person after the family</td>
<td>The most important person to make up for the shortcomings of children from uninterested/disadvantaged families</td>
</tr>
<tr>
<td>He or she is complementary of the missing aspects of children’s education at home by their parents</td>
<td>Who prepares an appropriate educational environment and life</td>
<td>Who corrects wrong or incomplete teachings at home</td>
</tr>
</tbody>
</table>

Children

All the participants stressed that a child is a key person and s/he is in the center of the school readiness process. On the other hand, most of the parents (n=39) stated that their children’s interest, motivation, and attitudes toward school are important in the school readiness process. Most of the pre-service (n=42) and in-service (n=46) teachers indicated that children’s developmental level, potential, and capacity are key factors in the school readiness process. Only a few teachers (n=3) mentioned that some special cases (divorce, migration) are also related to children’s school readiness process. Detailed information is presented in Table 7.

**Table 7. Participants’ Explanations of Children’s Role in the School Readiness Process**

<table>
<thead>
<tr>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Love/willingness/enthusiasm about school</td>
<td>Child’s level of development/capacity/potential</td>
<td>Child’s level of development/capacity/potential</td>
</tr>
</tbody>
</table>
Skills/capacity 14 Love/willingness/enthusiasm about school 15 Love/willingness/enthusiasm about school 19
Personality characteristics/temperament 8 Personality characteristics/temperament 3 Personality characteristics/temperament 4
The special situations that the child is facing (divorce, migration etc.) 3

Preschool Education

Most parents (n=29) emphasized that the preschool environment and physical conditions are important in children’s school readiness process. Similarly, pre-service (n=32) and in-service (n=37) teachers mentioned the importance of the school environment. In addition, parents (n=21), pre-service teachers (n=36), and in-service (n=43) teachers stressed that the classroom environment and materials are important for children’s school readiness process.

As seen in Table 8, 13 parents mentioned the quality of the education. In a similar vein, 15 pre-service and 11 in-service teachers indicated the role of early childhood education program/curriculum in the school readiness process. In addition, 17 in-service teachers focused on the number of children per class and the teacher-child ratio. Only a few of the in-service teachers stated problems related to the period of education time (part- or full-time education) and the number of school staff.

Table 8. Participant’s Explanations for the Role of Preschool Education in the School Readiness Process

<table>
<thead>
<tr>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>f</td>
</tr>
<tr>
<td>The physical conditions/</td>
<td>29</td>
<td>32</td>
</tr>
<tr>
<td>environment of the school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom equipment materials</td>
<td>21</td>
<td>36</td>
</tr>
<tr>
<td>Giving good-quality education</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Social facilities/events</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Number of school staff</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Support/approach of the</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Period of education (all day/half day)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Society

With regard to the role of society in the school readiness process, 23 of the parents mentioned peers’ and friends’ behaviors and attitudes toward school as important. In addition, 19 of the parents stated that a child being accepted by classmates is closely related to the child’s motivation in school. Most pre-service (n=40) and in-service teachers (n=34) stressed that environmental features and
stimulants are important in children’s development. Of these in-service teachers, 12 of them mentioned Bronfenbrenner’s ecological system theory to explain the environment’s influence on children’s development and school readiness.

Similarly, parents (n=10) and in-service teachers (n=14) emphasized that comparing a child to other children can create anxiety for the child. As seen in Table 9, a few of the in-service teachers (n=7) stressed that the environment is a multifaceted issue; for this reason, society has a multidirectional influence on children’s school readiness process.

Table 9. Participants’ Explanations for Society’s Role in the School Readiness Process

<table>
<thead>
<tr>
<th>Environment</th>
<th>Parents</th>
<th>Pre-Service Teachers</th>
<th>In-service Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peers’/friends’ behaviors/attitudes/are important</td>
<td>2 3</td>
<td>Social environment/stimulants/opportunities are important in the child’s development; Nature vs nurture Bronfenbrenner ecological theory</td>
<td>4 0</td>
</tr>
<tr>
<td>His/her environment affects his/her/imitate others’ behaviors/role models</td>
<td>2 1</td>
<td>His/her environment has effect on his/her others behaviors/role models</td>
<td>2 8</td>
</tr>
<tr>
<td>Comparing him/herself with other children in the environment affects his/her psychology/ can create anxiety</td>
<td>1 0</td>
<td>Peers/relatives/neighbors are important</td>
<td>1 7</td>
</tr>
<tr>
<td>I do not think that it is as directly effective as other factors</td>
<td>8</td>
<td></td>
<td>1 4</td>
</tr>
<tr>
<td>Multidimensional about the financial situation and education level of the family</td>
<td></td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

Problems in the School Readiness/Transition process

In terms of problems in the school readiness process, most of the parents (n=32) focused on children’s fear of leaving home. According to the teachers’ responses, pre-service (n=38) and in-service teachers (n=45) stressed that children have limited time for play, and activities are based on academic and didactic learning in general rather than play-based learning in the first grade. In addition, participants (parents =28, pre-service teachers=16, in-service teachers=20) pointed out a sudden increase in course numbers, course contents, and homework.

Furthermore, parents (n=17), pre-service teachers (n=18), and in-service teachers (n=21) indicated that strict rules and school discipline can cause children to become bored in school. Pre-service and in-service teachers mainly emphasized children’s problems in the primary school transition process. Of these in-service teachers, 39 stated changes in the classroom environment. Similarly, pre-service teachers (n=26) and parents (n=19) mentioned problems related to the first-grade environment features, such as desks and limited materials.
Table 10. Participants’ Explanations for Problems in the School Readiness/Transition Process

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Parents ( f )</th>
<th>Pre-service Teachers ( f )</th>
<th>In-service Teachers ( f )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of leaving home/Not wanting to stay in school without his/her mother</td>
<td>32</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>The sudden increase in course numbers, course contents, and homework (learning reading and writing, mathematics, etc.)</td>
<td>28</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Reduced playing time/free play/play opportunities/play-based learning/immobility</td>
<td>23</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>Change in the classroom environment (school desk, material, toy)</td>
<td>19</td>
<td>26</td>
<td>39</td>
</tr>
<tr>
<td>Strict rules, discipline, and responsibilities</td>
<td>17</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Inadequate development of self-care skills</td>
<td>9</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>First-grade classroom is more crowded than preschool.</td>
<td>3</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Missing preschool school friends and teacher/concerns about making new friends and getting used to the teacher</td>
<td>15</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Not having pre-school education</td>
<td>4</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Learning to read and write anxiety/competition</td>
<td>13</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Inadequate parent support/parental involvement/uninterested families</td>
<td>3</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Overprotective families/helicopter parenting</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

As seen in Table 10, parents (n=9), pre-service teachers (n=13), and in-service teachers (n=19) mentioned that the inadequate development of self-care skills can cause autonomy problems for children. The children have problems going to toilet alone and eating meals on their own. According to teachers’ responses, pre-service (n=3) and in-service teachers (n=9) indicated that inadequate parental support and involvement in children’s education process might cause school readiness problems. Only a few in-service teachers (n=3) stated that helicopter parenting led to school readiness problems due to hindering their children’s autonomy.

Participants’ Recommendations for Promoting School Readiness

Finally, participants asked for recommendations to enhance school readiness. Their responses addressed both preschool and primary grade practices and the physical environment. Most participants (parents=20, pre-service teachers=38, in-service teachers=43) suggested providing opportunities to play in first grade and promoting play-based learning. Parents (n=16), pre-service teachers (n=28), and in-service teachers (n=39) suggested a more comfortable, material-rich first-grade classroom environment. As Table 11 indicates, pre-service (n=41) and in-service teachers (n=40) emphasized that preschool education should be expanded nationwide. According to the parents’ responses, 18 of the parents demanded seminars/educations for improving their children school readiness. Of these parents, 11 suggested first-grade orientation activities to motivate children to go to school.
With regard to teachers’ suggestions, pre-service (n=12) and in-service (n=21) teachers mentioned that preschool term developmental observation reports may share with first-grade teachers and establish cooperation between preschool and first-grade teachers. Detailed information is presented in Table 11.

**Table 11. Participants’ Recommendations for Promoting School Readiness**

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Parent</th>
<th>Pre-service Teacher</th>
<th>In-service Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>The physical environment of the classes can be adjusted to the level of the child’s development.</td>
<td>16</td>
<td>28</td>
<td>39</td>
</tr>
<tr>
<td>Lessons can include play-based learning. They may be given the opportunity to play games/mobility.</td>
<td>20</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>Pre-school education should be made widespread/compulsory.</td>
<td>8</td>
<td>41</td>
<td>40</td>
</tr>
<tr>
<td>Education/seminar/information should be given to parents. School-parent cooperation should be strengthened.</td>
<td>18</td>
<td>23</td>
<td>15</td>
</tr>
<tr>
<td>Preschool developmental observation reports may be shared with the first-grade teacher, and an information exchange may be done.</td>
<td>-</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>School management must ensure that children love school with activities, such as (theater, drama, play etc.)</td>
<td>11</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Primary school visits can be organized for children in preschool.</td>
<td>7</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Classroom rules should be increased gradually (duration of lesson, duration of playtime, freedom of movement in class).</td>
<td>15</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Teachers must welcome students with loving and smiling faces and enable children to love school.</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Class sizes must be reduced.</td>
<td>3</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>Additional support should be provided to the children of disadvantaged families/immigrant/foreign children when they start school.</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>

**Discussion**

The present study examined and compared parents, pre-service teachers’, and in-service teachers’ school readiness views. First, the participants’ school readiness definitions were examined. All the participants explained school readiness from a maturationalist perspective. All groups primarily stressed the cognitive domain in their definition and these findings were consistent with previous studies (Abu Taleb, 2013; Jung, 2016; Lau, 2014; Şahin et al., 2013; Şahin-Sak, 2016). When the participants expressed their school readiness definition, they focused on academic skills, such as learning to read and write and math, which children gain in first grade. Therefore, the cognitive domain can be seen to dominate the other developmental domains. In this context, the participants’ second most frequent domain was psychomotor skills. Most of the participants mentioned holding a pen properly as well as drawing lines and letters. Previous studies support these findings (Buldu & Er, 2016; Kotaman, 2014; Şahin-Sak, 2016). Learning to read and write is one of the key issues in the first grade. Thus, the participants might have stressed cognitive and psychomotor domains. Besides, half of the pre-service teachers and a few in-service teachers stated that the preschool education program aims to foster children’s school readiness skills. Pre-service teachers had just completed a course related to school readiness. Therefore, they might emphasize the preschool education program more than in-service teachers in their own school readiness definitions.
Second, the parents and teachers rated the influential people and factors in the school readiness process. Pre-service teachers stated that the most effective factors were mothers, teachers, and children, respectively. Şahin-Şak’s (2016) findings revealed that pre-service teachers ranked parents as the most effective people, followed by children and teachers. In the present study, mothers and fathers were rated separately rather than as a single parent category. The mothers received higher scores than fathers. Most participants stated that mothers spend more time with their children and take care of them. The findings were supported by previous studies (Altun, 2016; Altun & Tantekin-Erden, 2015). Although the clear associations between fathers’ involvement/fathering skills and children’s school readiness was reported in a meta-analysis study (McWayne, Downer, Campos, & Harris, 2013), fathers’ role in the school readiness process was ignored in participants’ responses. Therefore, the association between fathers’ involvement and children’s development needs to be strengthened in Turkey context.

One of the interesting findings of the present study was that the participants added technological devices and applications as agents of school readiness. Today’s children are accepted as digital natives. Their daily lives are surrounded by technology. Buldu and Er (2016) pointed out that technological devices can support children’s school readiness if children use them properly. In the present study, the parents had two different opinions. Some advocated that technology fosters children’s development and education while others argued that technology hinders children school readiness. Further studies should examine the influence of technology on children’s school readiness process.

According to the in-service teachers’ responses, the most effective individuals were the children themselves. In-service and pre-service teachers emphasized that children’s developmental level and capacity are important, and higher levels allow them to benefit more from early childhood education. Parents focused on children’s interest, motivation, and positive attitudes toward the school and the teacher as being important to children’s school readiness process. The findings indicate that parents generally avoid talking about their children’s developmental level and developmental deficiencies. They tend to connect their children’s school readiness with external factors. Finally, society was rated highest by in-service teachers, followed by pre-service teachers and parents. Teachers focused on social and environmental features and opportunities as being sources for children’s development. Parents emphasized peers, friends, and other peoples’ influence on children’s behavior. Teachers obtained professional education about child development; therefore, their explanations might be more detailed and multidimensional.

Third, the participants described a wide range of school readiness problems. They indicated problems related to both the school readiness and school transition processes. Parents mostly emphasized children’s fear of leaving home, the increasing number and content of the academic activities, and reduced play time. Teachers mainly focused on the decreased play time, play environment, and play-based learning activities in the first grade. Children have limited opportunities for free play. These problems have been reported in previous studies (Tantekin Erden & Altun, 2014; Şahin-Şak, 2016). In addition, teachers stressed that the first-grade classroom environment is not appropriate for children’s developmental level. Children are accustomed to a comfortable classroom environment in preschool with rich materials and toys, where they are free to move around. In the first-grade classroom environment, on the other hand, children are required to sit at their desk for 40 minutes, and their mobility is limited. The new classroom environment and strict rules might be boring for children. The dramatic changes in the classroom environment and rules have been addressed in previous studies (Tantekin-Erden & Altun, 2014; Şahin-Şak, 2016; Yapıcı & Ulu, 2010). The findings revealed that the school transition from preschool to first grade is not smooth for children. The first grade classroom environment should be arranged in a developmentally appropriate way.

Finally, the participants proposed their suggestions to improve children’s school readiness. Similarly, the participants emphasized that the first-grade classroom environment, activities, and classroom rules should be adjusted to children’s developmental features. The findings of the present
The study results were consistent with previous studies (Tantekin-Erden & Altun, 2014; Şahin et al. 2013; Şahin-Şak, 2016; Yaşıcı & Ulu, 2010). In addition, the participants suggested that preschoolers might visit primary school with their preschool teacher. Chan (2010) reported the same suggestion in his study. To promote children’s experience and awareness of primary school, such school trips can be beneficial for children. The other suggestion is that preschool education should be widespread/compulsory nationwide. Previous studies have shown that preschool education fosters children’s cognitive (Dursun, 2009; Siva, 2008), psychomotor (Toluç, 2008), language (Altun, 2016; Taner&Başal, 2005), self-care (Toluç, 2008), and social development (Erbay, 2008; Özbek, 2003). Preschool education is not compulsory in Turkey. The Ministry of National Education (MONE) statistics showed that the schooling ratio for five-year-old children is 58.79 and the schooling ratio for three- to five-year-old children is 35.52 (MONE, 2017a). According European Commission Report (2014), Turkey had the lowest preschool participation rate (43%) between European countries. The findings revealed that early childhood education should be accessible for each child. Primary education is compulsory in Turkey. The first-grade enrollment age range is 60–72 months; 60–65-month-old children’s first-grade enrollment is not compulsory. It is based on their parents’ application. Enrollment for those 66–68 months of age is compulsory, but if their parents make a petition, their children will not be enrolled in first grade. For 69–71-month-old children, enrollment is compulsory, but if they have a medical report, they will not be enrolled; 72 months is compulsory for each child (MONE, 2017b).

To support children’s school orientation, first grade and preschool start one week before the other grades. The orientation week has been conducted since the 2006–2007 academic year. It aims to support children’s smooth transition to the school environment, to reduce their school concerns, and to introduce new friends and a teacher (MONE, 2016).

One of the striking findings of the present study is that school readiness is a multidimensional issue encapsulating readiness for children, parents, and schools. However, participants mainly focused on children’s dimension regarding maturation. Thus, the awareness of parents’, schools’, and societies’ role in the school readiness process should be established. Further studies should examine parents’ and teachers’ practices regarding promoting children’s school readiness. In addition, the researcher will examine how schools and teachers prepare children for a smooth transition from preschool to primary school.

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A Twice-Exceptional Child - A Case Study

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Abstract

This is a qualitative case study of a gifted twice-exceptional student with impulse control disorder (ICD) co-diagnosed with depression. This study follows the ‘case study’ pattern (precedence). The data set of this study is composed of documents from a study involving a twice-exceptional student with adverse event sampling who has been selected through purposive sampling (activity papers, drawings), minutes of interviews with the student’s mother and teachers and observation notes kept throughout the process. Data have been analyzed using the content analysis methodology. At the end of this study seeking to find out what this gifted student with impulse control disorder [ICD] co-diagnosed with depression goes through in the event of being also twice-exceptional and whether or not his/her condition of being gifted is overshadowed by him/her having psychological; the fact that disadvantaging traits of such twice-exceptional child has been found to dwindle almost down to none can be interpreted as the positive outcome of the effective approach towards the analyzed unit of the two emerging main categories, i.e. school and family. The consistent and supportive attitudes of the family have ensured to eradicate the tantrums (temper fits) of the twice-exceptional child, toppled with treatment of the child and a fine administration of the drug doses. At school, on the other hand, the available supervision policy, intervention methodologies in support of treatment and the professional approach of the teachers have contributed to the formation of a socially-enabling environment for the twice-exceptional child, including, also, backing by his/her peers. Taking into consideration that mere drug treatment would not be sufficient, support of the family as well as of the school reveals that the symptoms linked with the depression-co-diagnosed-ICD of the twice exceptional child were prevented from suppressing the child’s giftedness.

Keywords: Twice exceptional, gifted/talented, impulse control disorder

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Introduction

Having special needs, as a concept, covers differences either above or below the average in terms of physical or behavioral performance. When this definition is focused on individuals with special needs, the concept immediately expands to cover gifted as well as prodigal children (Ataman, 2012, p. 20). Cavkaytar's (2008) definition of the concept in the Implementing Regulation on Special Services under the Ministry of National Education is as follows:

"The individual requiring special education is an individual who, for a variety of reasons, is significantly different than his/her peers, in terms of personal features and educational competencies. This is a general definition, which comprises all children who have different traits and require special education and training (p. 5).

These students, they display an outstanding performance in terms of intellect and ability but their learning challenges are what endangers their academic success. These students are considered as gifted/talented individuals challenged in terms of learning. As a concept they are referred to as 'twice gifted' (Weinfeld, Barnes- Robinson, Jeweler, Shevitz, 2006, p. 15). It is hard to estimate the number of twice-exceptional students. According to the US. Department of Education, there are approximately 360.000 twice exceptional students in America’s schools (as cited in Baum, Owen & Schader, 2017, p. 25). On the other hand how many twice exceptional students in Turkish schools in not known.

Having indicated the three sub-groups of twice gifted students, Beckley (1998) shares certain clarifications regarding this group: The first of these groups face challenged at school and their level of success is below expectations. They have been diagnosed as gifted but also with learning challenges. These children go through lacking achievements, a weak academic perception of the self, insufficient motivation and indolence for the learning challenges that befall them are not diagnosed. The circumstances in time become harsher and augmented academic challenges give way to learning difficulties. Students in the second group have been diagnosed with challenged learning but such traits as being gifted or having other talents have not been found. Measurements performed on the students, low IQ scores and analysis of intellectual data have been found to be insufficient. These students stand out at first glance not with their talents but with what they cannot achieve. Then, the third and the last group comprises of children who have been diagnosed neither with a gift nor with learning difficulty and who do not stand out in generalized classes. These children are considered to lack capabilities required for services which are offered to gifted children. They are assumed to be mediocre for their gifts and challenges overshadow one another. Their performance is borderline, which is, as a matter of fact, below their potential.

Diagnosing a child with being gifted/talented is critical in terms of teacher's assistance when this condition has been identified, especially during primary school. Recognition, especially of twice exceptional children by their teachers, peers and parents displays a series of ups and downs and painful events. As a result of their study Şekeral and Özkardeş (2013, p. 216) indicate that gifted children, as regards symptoms of learning deficit, suffer from moderate to severe challenges in terms of hypermobility and attention skills, as teachers suggest. The higher frequency of such problems as hypermobility and attention alludes to two possibilities. One of these possibilities is that gifted children learn easier and quicker than their peers whereby repetition of certain academic concepts might bore them. And the second is that such hyper-mobility can be a harbinger of attention deficit and hyperactivity.

Considering that a teacher encounters through his/her career hundreds of children, one can expect them to feel this twice exceptionality upon recognition of the conflicts that these children go through. For example, a student with attention deficit is capable of making advanced calculations in his/her mind. However, it would not be a trusted methodology to expect such in-depth observations from each and every teacher. Teachers need to be informed about twice exceptional children through certain trainings and the use of certain documents. One of the prominent schools in the world, focusing
on this matter, Montgomery County Public Schools [MCPS] lists the characteristics of twice exceptional children as follows (MCPS, 2015, E1):

**Graph 1.** Characteristics of twice exceptional students

<table>
<thead>
<tr>
<th>Those without challenges</th>
<th>Those with challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick in learning basic concepts and subjects and acquires information easily and without requiring many repetitions.</td>
<td>Experiences cognitive challenges frequently during the learning of basic concepts and subjects, requires to learn compensative strategies so as to acquire information.</td>
</tr>
<tr>
<td>High-level of verbal skills.</td>
<td>High-level of verbal skills but experiences difficulties in writing most of the time where s/he may also fail in timely and appropriate use of language.</td>
</tr>
<tr>
<td>Adorned with the ability to read earlier.</td>
<td>Frequent experience of reading difficulties depending on the weakness in cognitive processes.</td>
</tr>
<tr>
<td>Keen observation skills.</td>
<td>Memory deficiencies despite keenness of observation powers.</td>
</tr>
<tr>
<td>Adorned with high critical, problem solving and decision-making skills.</td>
<td>Very good at solving real life problems with heightened critical thinking and decision-making skills; individual improvement achieved often through balancing strategies.</td>
</tr>
<tr>
<td>Long lasting attention with continuous and intense concentration.</td>
<td>Frequently experiences difficulties in focusing his/her attention but can concentrate for long periods on issues of interest.</td>
</tr>
<tr>
<td>Creative among his/her generation; with his/her own ideas, developmental.</td>
<td>Adorned with extraordinary imagination; ideas not strange but mostly original, capable of divergent thinking and may seem daydreaming during such thoughts.</td>
</tr>
<tr>
<td>Risk taker.</td>
<td>Mostly refrains from risk-taking, ignores academic issues, may take risks without scrutiny outside of school environment.</td>
</tr>
<tr>
<td>Adorned with an extraordinary and very much advanced sense of humor.</td>
<td>May make use of humor to cover for failures at school or resort to humor among friends so as to parry a problem circumstance.</td>
</tr>
<tr>
<td>More mature than peers.</td>
<td>May display immature traits at times of anger, crying or retreat, etc.</td>
</tr>
<tr>
<td>Freewheeler.</td>
<td>Requires teacher support and feedback at times of difficulty however highly independent on other issues; displays stubbornness and stereotype behaviors.</td>
</tr>
<tr>
<td>Sensitive and fragile.</td>
<td>Very sensitive in areas of insufficiency, self-critical as well as highly-critical of others, including teachers.</td>
</tr>
<tr>
<td>May not be accepted by other children and may feel isolated.</td>
<td>May be perceived as liking solitude as s/he cannot blend in with gifted types or those with learning difficulties, and may experience problems in being accepted by others as a result of insufficiency of his/her social skills.</td>
</tr>
<tr>
<td>Displays leadership features.</td>
<td>Leaders, quite often, emerge from not-so-traditional students, displaying a strong ability to cope with difficulties yet learning challenges may hinder leadership skills.</td>
</tr>
<tr>
<td>Wide range and diversified interests.</td>
<td>Diversified interests but learning challenges hinder furthering acquaintance with these interests.</td>
</tr>
<tr>
<td>Their interest is highly-focused about which they are passionate and ousting towards other issues which are extrinsic to such passion.</td>
<td>Their interest is highly-focused about which they are passionate and ousting towards other issues which are extrinsic to such passion. The latter often comprise of matters outside of the scope of school.</td>
</tr>
</tbody>
</table>
Webster (2015) has studied decisions of teachers in normal education regarding twice-exceptional children as well as their reasons for acceptance/non-acceptance. The study revealed teachers' deficiencies in teaching experiences, shortcomings in education, lacking self-confidence, mundanity of professional life and misconceptions, as a result of which they do not accept these students.

Problems experienced by gifted/talented students do not but concern challenges in learning. Some of these students, as a result of certain psychological problems that they experience, might be labeled or their academic successes can be overshadowed. Within this scope, a definition of depression and impulse control disorder is important in terms of definition of the unit of analysis of this study designed as a situation study. Burçak Annagür and Tamam (2011, p. 23) indicate that depression is the most frequently encountered of psychological disorders, which is defined as not enjoying activities and circumstances that were previously pleasing, loss of interest in such activities and circumstances culminating in depression, pessimism and sorrow and pain upon loss of interest therein, ending up in a depressive mood, physical as well as psychological lack of energy, psychomotor and cognitive slow-down, limited content of thought and an overall dwindling of the individual's functionalities. Another important point stressed by Burçak Anangür and Tamam (2011, p. 23) is the high level of other disorders such as anxiety disorders, behavioral disorders, impulse control disorders which are co-diagnosed with depression in these patients. Impulsivity can be defined as an inclination to carry forward a certain act to reduce a certain stress, which has emerged from diminishing power of the self to resist such impulses, but without any consideration for negative impacts which might arise from such an act.

The condition of being gifted and having learning as well as psychological difficulties has been proven to be simultaneous but still many schools fail to provide suitable conditions for twice-exceptional children. First of all, there are, in the school environment, basically two types of challenges for the twice-exceptional child: (1) insufficient diagnosis procedures and (2) insufficiency of enterprises aiming to offer suitable learning experiences (The Twice-Exceptional Dilemma, 2006, p.3). Recently, in Turkey, many a work has been ongoing so as to provide gifted/talented children with the education which is fit for them. However, there is yet a sub-group of students under this group, which makes things even more complicated and who can be said to be immersed in a chaotic environment both at home and at school. These children who have been adorned with diversified talents fail to satisfy the needs of their surroundings, ending up in experiencing emotional and social problems. This group of students which is defined as twice-exceptional is composed of children who are both gifted/talented but also with certain learning difficulties and psychological disorders. Turkish society is yet to discover this situation and this is the reason why families and teachers label these children with incompetency and harm them as regards self-exploration. Then, what traits are there to tell us that these children are twice-exceptional? How should these children be supported so that they will be valued as much as they deserve to be in education as well as at home and then be able to benefit from and reflect the great potential within? This study is important as it exemplifies positive interventions and practices targeting students grappling with such circumstances. We believe that the study will benefit the overall literature on this matter as it is a presentation of the unique condition of twice-exceptional children through academic studies, with the target audience of educators and teachers.

This study aims to reveal the twice-exceptionality of a student who is at once gifted/talented but who also has psychological issues. In line with this overarching goal, answers to questions below will be sought:

Ψ What does a gifted/talented student who also has impulse control disorder in addition to the diagnosis of depression experience in the event of being twice-exceptional?
Do psychological issues experienced by a gifted/talented student who has been co-diagnosed with impulse control disorder in addition to the diagnosis of depression overshadow the gift/talent of him/her?

Methodology

This is a qualitative case study of a gifted twice-exceptional student with impulse control disorder (ICD) co-diagnosed with depression. The pattern utilized in the study is Integrated Single Case Pattern for the scope of the study concerns the unique case of SD, who is the subject of the study. The Integrated Single Case Pattern employs a single unit of analysis (an individual, a program, a school, etc.), which can be further used while working on excessive, dissident and distinctive conditions which are incongruous with general standards (Yıldırım and Şimşek, 2016, p. 300). Gay Mills and Airasian (2012, p. 444-445) define case study analyses as unique for their provision of substantial and illuminating information against other types of research and state that information provided as part of case studies are anchored in reader's mind after mingling with the latter's own information, experience and understanding and that the case at hand is re-interpreted by the reader as s/he reads the sample case provided as part of the case study at hand. They claim that the most important aspect of the Integrated Single Case Pattern is that it illuminates similarities and differences between the content of such single case and other circumstances.

The data set of this study is composed of documents from the study involving SD (activity papers, drawings), minutes of interviews with the student’s mother and teachers and observation notes kept throughout the process. The study is limited to these data acquired and cannot be generalized for SD describes the situation. Data have been analyzed using the content analysis methodology.

Unit of Analysis

SD has been selected through purposive sampling methodology as the sample of the study as an adverse event (Yıldırım and Şimşek, 2016, p. 119). SD, the unit of the analysis is a boy, born 2008 schooling at Nesibe Aydın School in Ankara during the school year 2016-2017. Student has been diagnosed by his teachers as a gifted boy, who has been enrolled in the Development and Science Program which is a special education and training program for gifted children during the weekend. When the aim of the study was explained, the school principal has provided information on a couple of twice exceptional students. SD was one of them. The principal has notified us regarding a briefing with the parents on this matter. S/he has then informed that the child in question had a fit and that called the mother to school, who most probably was on her way back. The principal then informed the mother that there were two researchers at the school and asked whether or not it was possible for her to come back to school. SD's mother, then, was interviewed at the office of the school counselor. During the interview, the researchers told the mother that they have seen the video in which SD had his tantrum and attacked the objects around, throwing them to the floor and also that they were told by the principal that SD was undergoing treatment, explaining to her the aim of the study explicitly. SD's mother also confirmed her son’s condition and the diagnoses, adding also that in addition to having been diagnosed as a gifted boy SD was undergoing treatment for depression and impulse control disorder. SD's use of such antidepressant drugs as Risperdal and Prozac were informed. It was explained that at this stage it was an ethical mandate to get SD's parents' approval, considering the circumstances SD was in. SD's mother metaphorically commented on this matter, saying that 'the Godsend would not show unless you have nowhere to go.' The parent informed us of her consent on this study as well as that she would inform SD that he would be meeting us and that we would do some activities together.
Collection and Analysis of Data

In this study, the semi-structured interview method according to Merriam's (2013, p. 87) was employed during meetings with SD's mother and teachers so as to collect data on SD's experience of being twice-exceptional. Accordingly, specific observations on SD were heard and participants were asked about their opinion regarding SD through flexible questions. That is why the data collected through such interviews are limited to those interviews done with the school principal, deputy principal responsible for the Improvement Science Program and SD's own mother.

Researchers in this study have employed the participant-observant technique as per Merriam (2013, p. 118) so as to observe how SD behaved within the group and during one-on-one studies and attended the Development and Science Program, where they have carried out individual activities with him. That is why the window of time to observe SD was limited to 10 classes.

Study documentation is limited to the observation reports by the researchers produced as per the document classification by Merriam (2013, p. 132-141), student's personal papers as shared by the counselor and the visuals drawn by SD himself. Documents obtained throughout the study have been analyzed through content analysis. Indicating his/her use of qualitative material with voluminous content analysis in his/her attempts to reduce and interpret data to determine basic consistencies and meanings, Patton (2014, p. 453) exemplifies the content analysis as utilized in case studies. In this study, inductive analysis methodology was employed. Documents obtained during the study have been studied by both researchers and the data obtained as such have been segregated as per conceptual units, which were coded. (For example, like the student being a perfectionist). These codes were found to emerge in relation with two main categories. These categories are SD's life at school as well as his family life. Linking codes and categories with themes, two main themes emerge: giftedness and being subject to psychological problems.

Validity and Credibility

In the qualitative study, Creswell (2014, p. 250) recommends the researchers to determine agreed strategies so as to prove the accuracy of the study regarding the limits of validity. These are coined as 'validity strategies' and the qualitative study is thought to house diversified validity strategies with diverse patterns.

Emphasizing that validity, in the qualitative study, has a different place, Yıldırım and Şimşek (2016, p. 272, p. 273) draw our attention to the fact that measures which need to be employed in relation with validity would enable other researchers to use such strategies.

Here, there are certain terms which enable a different perspective on validity and credibility concepts through a qualitative lens. Here is how Creswell (as cited in 2014) relays these terms:

"During the testing of the credibility of a study, Lincoln and Gube (1985) have employed such terms as credibility, authenticity, transferability, dependability and confirmability in lieu of those such as internal validation, external validation, reliability and objectivity, which constitute the values of natural scientists" (p. 246).

In this context, the Table below concerning the strategies employed in this study which is parallel to the Table 1 concerning the conceptualization of concepts accepted in qualitative and quantitative studies was prepared by Yıldırım and Şimşek (2016, p. 277).
Table 1. Strategies used to ensure validity and credibility in the study

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Quantitative terminology</th>
<th>Qualitative terminology</th>
<th>Strategies employed in the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate representation of truth through the outcomes of the research</td>
<td>Internal validity</td>
<td>Credibility</td>
<td>Data collection with an in-depth focus</td>
</tr>
<tr>
<td>Implementation of the outcomes</td>
<td>External validity (generalization)</td>
<td>Transferability</td>
<td>Expert review</td>
</tr>
<tr>
<td>Ensuring consistency</td>
<td>Internal credibility</td>
<td>Consistency</td>
<td>Peer review</td>
</tr>
<tr>
<td>Objective impartiality</td>
<td>External credibility (repeatability)</td>
<td>Confirmability</td>
<td>Triangulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Purposive sampling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Detailed description</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Member control (confirmation of participants)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Archiving of sources</td>
</tr>
</tbody>
</table>

The 'triangulation' strategy concerning consistent verification of the themes through use of different data sources (observation, interviews, document reviews) has been employed so as to ensure internal validity of this study. An in-depth definition of the findings obtained to ensure the internal validity of the study has been made and the report has been reviewed by one program development expert and two qualitative studies experts through the lens of 'peer review' and 'expert review' strategies, and feedback has been obtained. Sampling strategy has been employed so as to ensure external validity of the study. Adverse case sampling was studied to for an in-depth description of the twice-exceptionality dilemma. External validity mostly concerns the generalization of the results of a study. Many, and rightfully so, claim that the results of the case study cannot be generalized (Yıldırım and Şimşek, 2016, p. 299). In fact, the value of the qualitative study is in specific descriptions and themes developed within the context of a specific place of research. The distinctive feature of a good qualitative study, instead of generalization, is specialization (Creswell, 2014, p. 203-204). Here, results obtained concerning the unique condition of SD can be interpreted in the form of an analytical generalization that disadvantages of twice-exceptional students can be prevented to overshadow their advantage through family-school collaboration.

In addition, 'membership control/participant confirmation' strategy was employed in the study to ensure internal credibility where a provider of information during research was asked to read the report and provide feedback. Documents obtained to ensure external credibility of the study were later archived systematically in a way to facilitate use by other researchers.

Findings

This study aims to reveal the twice-exceptionality of a student who is at once gifted/talented but who also has psychological issues. Findings as per the questions asked within the framework of this study in line with the overarching goal are as follows:

What does a gifted/talented student who also has impulse control disorder in addition to the diagnosis of depression experience in the event of being twice-exceptional?

Category: School Life

When we went to participate in the Development and Science Program carried out on weekends at Nesibe Aydın Schools, we have encountered gifted/talented students. SD, on the very first day we have spent with him, struck as a student who displayed different qualities than the rest of the group. [Code: Development and Science Program]. As we walked in the classroom and the rest of the class was just looking at us but SD said: 'You come from Hacettepe University, don't you? My father
works there, too.' His mother, when we talked with her, had told us that she would tell SD about us. Then we moved on with the working paper consisting of mind-games. In general, other children who participated in the Development and Science Program were quite gamesome and interested but there were also those who have quitted upon seeing the questions they failed to solve. All the while, SD was, in a high voice, saying 'I cannot do it but I will!' When the application was over SD did not want to return his paper and started crying that he would not return his paper unless he solved all the questions. We allowed him to keep his paper under the condition that he did not show it to his friends, and broke off for lunch. During lunch he appeared with his paper in his hand. He told us that he would solve all the questions. Then he returned the paper, telling us that he answered all the question. He seemed relieved. And when we checked the questions we found that all were done correctly.

When we wanted to work with him individually, SD turned us down telling us that he wanted to join his friends to play the games within the program. [Code: He is having difficulties being convinced and during transition]. We managed to have him in the principal's office thanks to his teachers' efforts to convince him. He rejected working with us as soon as he walked in. Then, we sought the assistance of the IT Teacher who was in the corridor. And the IT Teacher was observed to be quite good at establishing communication with SD. SD was observed to comply especially with the instructions of the deputy principal responsible for the Development and Science Program as well as those given by his IT teacher, as he did what he was asked to do. Naturally, and like many gifted children, SD had limited room for acceptance [Code: Limited room for acceptance]. He initially faced us with enthusiasm after his mother gave her the news about us but then he turned reluctant to work with us. His IT teacher told him: "OK. I am waiting for you SD. Finish what you are doing with your teachers and come back to me so that we can work on the Scratch program." Upon hearing this, SD, standing outside the door, steered inside. This was the deputy principal's room and before the table stood two white leather chairs. In between the chairs was a white table. SD seated himself on one of the chairs. It was when we asked him to paint/draw a picture. But he was so excited and told us that he was not able to draw/paint. He said: "My drawing/picture may be not-so-good and maybe you do not like it." We then resumed our efforts to convince him. And he decided to draw/paint. He said: "But I am not going to sit on the chair, I am going to sit on the floor." He then bent over the coffee table and started drawing this picture where he was together with his family.

Then, we talked to his IT teacher about his/her observations about SD, where s/he touched upon the following issues:

"This week after lunch he was pushing girls around, towards the toilet. Acting with violence against them. He picked up the warning sign on the corridor (Caution! Wet Floor) and threw it on the ground. SD today, was interested in the work that we did. But, it is still problematic to get him to a chair and get him prepared to work."

The first session comprised of some work aiming to gather information about the child's relations with his family as he was talked through his drawing, which is performed with primary school students to get to know them. When we said "Wow! What a beautiful drawing," he said "Yes, I am talented in painting." In our meeting with SD's mother regarding her son, she had already given us a hint of his talent in painting and drawing [Code: talented in painting and drawing]. So, when SD turns down this activity saying he is no good at it despite he knew otherwise, can be interpreted as a reflection of his perfectionism, which is known to be the case with gifted/talented children. Because SD has not ended the activity without completing all of the questions on the mind-games paper and cried until he answered all of the questions. Then it was seen that he had answered all questions correctly although these were questions that were prepared under three groups with varying levels of difficulty [Code: Perfectionism].

Then we had another session whereby we wanted to learn more about his life at school by asking him to draw for us his school, teacher and schoolmates. Furthermore, we explained him that we would be penning down this creative piece for which we required him to select a child who would be
the hero of our prospective story. He was free to pick a name, age and gender for this hero. He chose, in parallel to himself, another 9-years-old child by the name 'Sarpaç Yaylıköy.' And when we asked him to describe this protagonist SD described him as a nice, determined boy. In the story that he told and we put on paper he always emphasized the importance of staying calm. Moreover, he told us that his hero's favorite class was drama and that the drama teacher in the story was also a calm person. As this work with SD was in progress, we were also accompanied by his teacher from the Development and Science Program and at the same time the respective deputy principal. Then, as we interviewed him he touched upon two issues as SD authored in his own story. He said SD was always warned at school, to be calm and still had problems with his drama teacher. "But the drama teacher is exactly like the opposite of how SD portrays him/her to be. Keeping calm is what he is always dictated to do."

[Code: He has problems at drama class.]

SD’s Story

Sarpaç draws and paints during the breaks and studies during class. He is a nice, determined child. He likes to share but cannot sit still and remain calm for it is boring and he just cannot do it. He gets nervous. Starts running around. He likes to walk around at school. He loves the drama class. One day, he wants to go to the convenience store which beyond the security point. He also invites his friends Eren and Aslı to join him. Then, they have to act unnoticed at school, and they go past many challenges. Then, they get to the security checkpoint where they encounter some cops. This when things start to get tricky. Then they hide behind a bush and unnoticed by the police they go to the store. This is how Sarpaç acknowledges the importance of keeping calm. And he lingers in calmness after. There are things Sarpaç gets angry at. That is in the high-school section of the school campus. And high-schoolers treat children badly. Those among them, who wanted to go to the canteen that they, have chased Sarpaç. Then Sarpaç got angry and started chasing them back. Yaren Atoku. That is his drama teacher. This teacher is happy and s/he is always calm. Sarpaç. He is a calm boy and his teachers always praise him for that.

The school counselor during the interview has told that s/he had to attend the drama class because of 'issues' and that s/he had to intervene and share his/her observations:

"He loves drama very much. He wishes to assign roles within the group. And the entire group is so tolerant towards him. He would have been cast out if it were another class. He had had certain problems in the drama class. I joined the class, too. Then, when it was SD's turn, he said 'It is too late for me.' Then hell broke loose! And when his friends gave up the activity he wanted, he said: 'No, do not go. No, you cannot leave.' Then he decided on his friends' roles. "Kardelen, now you play this character!' But Kardelen says she wants to be the student. SD agreed at first then he went crazy.

His teacher at the Development and Science Program and the deputy principal have said, on the same issue, that:

"He is creative but he and his drama teacher cannot just come to terms with one another. SD loves this class but he cannot just get on with his group and that is why they came to my room. When he makes an obsession out of it then he cannot just drop it. He gets so mad as to throw a mobile to his teacher. He failed to establish communication with his drama teacher. But SD is not a tough child to get on well with, unless you find a way to understand him. SD stops when I tell him to stop. He saw me
on the street, and he was like a normal kid walking around. SD is lucky that his friends tolerate him. Maybe it was his teachers behind it."

In the other session where we observed SD, he was again unwilling to work. He was holding this box of fruit juice. He said he was trying to make a phone of it. "You choose another one after me. I do not think that is fair," he said and indicated his unwillingness to participate. He often said he wanted other children to be included in this 1-on-1 work individually because it was not fair otherwise.

Diagram 1. SD's drawing of his teacher and friends

Looking at SD drawing/painting of his life at school, he places himself inside the school and together with his friends, which is interpreted as he his life at school is quite positive. He has drawn his class teacher amidst and hand in hand with children. This can also be interpreted as that the teacher has good relations with both SD and the rest. SD has drawn himself bigger than other children. [Code: He considers himself to be superior than his friends.] His emphasize in drawing himself in bolder colors than his mates can be interpreted s that he considers himself more in the front. Similarly, he can said to be considering himself to be superior than his friends. One thing that attracts one's attention is that SD always uses a single color and draws with a pencil. The deputy principal has informed that this was the case with all of his drawings and that SD did not like to painting with color. Looking at his activity papers during the guidance class the school counselor exemplifies his perception of the school as follows: "My school is the best place for me because I cannot find these things elsewhere." According to the school counselor this is a parent speaking, which reveals the fact that SD's parents have told him that they would send him to another school if he did not act accordingly and so much so that they even took him to a village school and told him that would be the new school. "I want the school to be calm and I want to change things. I am only angry at a couple of people." This expression also reveals the elevated level of SD's awareness according to his teacher who also interprets this expression as he really wants to overcome his anger management problem.

**Category: Family Relations**
SD was interviewed about his drawings and his family as he drew. The first thing that attracted our attention was his unique, personalized interpretation of things and characters. His style was so detailed and he erased and re-drawn over and over again, saying that the fences of the animal shelters were not good enough and he drew them over and over again, working on the details.

Diagram 2. SD's family picture

In the picture is a tree-house just next to the house they live. He says there is a passage from their home to this house. There are cats and dogs that share their home with them. He has drawn his mother outside the house and hand in hand with his little sister. His sister is seen trying to reach out to her mother. He said: "Let me draw a box underneath her feet so that she can stand well." Saying that he has two older brothers, he has drawn one of them on his way to the tree-house and placed himself on the shoulders of his other older brother. He said: "My brother always takes me upon his shoulders." Then it was decided that the work would be reviewed with the school counselor after the work was complete. Because, in the meeting with his mother she had previously told that SD only had one younger sibling. The true meaning of the home that SD has drawn by applying his imagination vastly, the tree-house and the identities of the two older brothers in his picture were revealed in the meeting with the school counselor. The school counselor has opened up a file comprising of documents related to SD and s/he quoted from SD: "I dream when I am bored. I want everyone to know me." SD's imagination is extremely vague regarding the dreamy home-life he depicts in his drawing but he was charged with this. Burdened. Someone has supported him in coming up with such a story. He alludes to older brothers, who he does not have. He told me about them, too. I talked to his mother. She told me he had cousins but also that the extraordinary characters SD put in his family-drawing were all products of his imagination. [Code: Daydreamer]

We talked to SD that he had to finish drawing but he continued etching out minute details and said: "I am not finished yet." As he continued drawing, he said he missed his old puppy so much. He also told about his older brother and how he likes (older brother) to play with Legos. We asked him what the most important rule at home was. "Never touch the rifle!" he said, indicating that his father
had a rifle. We asked him about his parents' personal traits that he liked the most and the least. He said, the best thing about his father was that he has funny and that his father's least favorite personal trait was his anger... He loved it when his mother caressed his hair. His mother's least favorite trait was the same as his father's. The best thing he liked about his little sister was that she was small and younger. She has no traits that SD dislikes. His two big brothers have no personal traits that push SD away. Also, the best things about them are that they are sharing. They share their Legos with him. Then there was a knock on the door and they told us that it was SD's parents who were asking for him. This is how we ended the individual working session.

In the meeting we had with the school counselor we asked about SD's family's attitude towards this issue.

"It is important to have the family's backing," we were told. "Whenever there was any negative behaviors we have notified the family. Sometimes every day. He had a girlfriend who was like him. We attempted to break them. We found that his angry reactions were acquired. He does not prefer his mother’s actions at home. He takes three drugs each day, routinely. The number of his fits are limited since the beginning of the year. He is not an unhappy, outcast child. It is now possible to establish eye contact with him, which was not the case the year before. His mother and father have been working very hard until lately. Establishing routines and making believe that he is a part of that cycle is important. Otherwise, when there is anything lacking clarity, this sways him. And this is what we call a behavioral disorder. When we asked him 'Who do you play with the most at home?' he said my sister, mom and dad. When computer games were out of the picture, the family brought in a lot of support. In the games he plays, there is an insatiable, unsatisfiable side to him. His choice of peers has enriched. What he wants to do the most is to play games. His opinion of himself from a peer's perspective is that he is quarrelsome. According to him, he is 'the one and only' for his mother and 'the angel' of his father. We know his relations with his family are good. He has an awareness of this situation. Family's approach is supportive towards SD. This is about the family being consistent. [Category: Family / Code: Supportive / Code: Consistent]

Do psychological issues experienced by a gifted/talented student who has been co-diagnosed with impulse control disorder in addition to the diagnosis of depression overshadow the gift/talent of him/her?

In one of the sessions with SD he was given some working papers as a part of the enrichment program. Then, the famous story of gravity, with Newton and the apple was read out loud to him. Then, SD was observed to look about and busy himself with things on the desk. Then he was asked to tell back what he heard. SD told it exactly the way he listened to it. Although, in terms of his attitudes as he listened, SD was observed to lack focus but actually he was registering the text in his mind. The meeting with the deputy principal also revealed that it was no different in classes under the Development and Science Program. All the while, SD was walking about the room, giving the impression that he would quit anytime [Code: Problematic focus]. The paper given to SD included mass and weight issues. SD was interested. He was observed to have a certain mastery of space-related basics. [His academic achievements are fine]. When we asked him how he knew all that, he said he took a certain class at the Development and Science Program [Code: Development and Science Program]. Then he began to draw the planets of the Solar System. He was also talking about the features of the planets and giving percentages about the gravitational forces of these celestial bodies.

"Neptune has more gravity than Earth," he was saying. "That is, when I drop this pencil it falls at the speed of light. Neptune, in fact, is not a ball of gas but a planet. Not some place like Jupiter where it is impossible to set foot on."
Deputy principal's impressions about SD are as follows:

"He used to come to the Development and Science Program. Everybody has heard about him around the primary school. For me, he has been coming to my classes for ten weeks now, and without a single problem. Most of the time he has a pencil and some paper before him. He draws. This week I told them about scorpions. He listened without drawing.

The school counselor has also touched upon his drawing behavior.

"I have an observation in class. He used to draw around the subject-matter of violence. His relations with the rest of the group were so limited. He barely participated in the class. He now resorts to drawing less."

Deputy principal's observations about SD continue as follows:

"His attitude is mostly monotonous. With some paper and a pencil, he always busies himself. Sometimes daydreams. When I tell him about ants he talks about this giant ant, as if it exists. Sometimes he is in his own imagination [Code: Imaginative]. He is interested and he abides by his own rules. You can never establish eye contact with him [Code: Not establishing eye contact]. He is so imaginative and builds things up in his mind and makes himself believe in his own construct. And he is done, completely, as soon as he is fixated with something. He has issues with focusing [Code: Problematic focus]. For example, we are watching some video in the classroom and he is whining about it and says: "Why watch all this if we can have the real one?" He gets fixated with anything. It all starts with whining and evolves into frustration and anger if that thing does not turn out as he wishes. He is calmer this year for he has taken up some medication. I believe that these features get the better of him, his gift.

School counselor's observations regarding SD's medications and anger fits are as follows:

"My first and foremost observation about him is that he is self-centered. That has always been the root cause of problems so far. You see that there are two different versions of SD. His focus on his areas of interest is good but on the flipside there are problems and issues and not wanting to do things. Let us assume that a crate of tangerines are brought to class. Everybody gets one and he asks for a second one. And
he starts insisting if he does not get that extra one. He starts having nervous breakdowns. Getting that piece of food is vital for him. And in any activity he always wants to talk first. There was this period when he used my office. Then he insisted so much to continue using my office. That insistence is so thick. Then, physical reactions. He starts vandalizing. The mood-swings and reactions can be abrupt. For example, when his ball rolls away to some place he did not intend he comes all the way here from the garden, breaking up and smashing things all along the way. He has his own convictions about himself. He wanted to help his friends but his one of his friends did not want any help. "But," he said, "I am cleverer, that is because." [Code: Considers himself to be superior to his friends]. I believe the problem with convincing and transition arises from his impulsiveness and other issues regarding focus. [Problematic focus]. In general, he does not establish eye contact [Code: Not establishing eye contact] and whines about almost anything. But, for example, very recently we went to Anıtkabir (Atatürk's Mausoleum). He followed all instructions. And no anger fits for the last month. He is taking medication [Code: Anger management and the effect of drugs].

SD participated in mind-games on that day. He completed a puzzle, which required remembering certain numbers, which were shown at intervals of certain seconds. He was happy upon his good achievements. He won prize chocolates for that. Then he said he wanted to watch his friends. While other individual games continued, SD was sitting with us among grouped desks, drawing. He painted the picture below, he named the 'Dragon Tower.'

![Diagram 4. The Dragon Tower](image)

He was observed as he drew, to be calm and focused. But after a short while he rose his head in a burst of anger. And started yelling: "My time! My time lost in vain!" We reminded him that he wanted to draw pictures but SD started shouting inside the classroom and threw those prize chocolates at us [Code: Conviction and transition issues]. At that moment we brought in a teacher from the Development and Science Program and told him/her what happened. SD was having a fit, crying and sitting on the floor. They took him to another room to calm him down. This fit emerged during our work.
SD's behavior during group classes verifies those of the school counselor. That day they played the mind-game 'Sleeping Beauty' with his class at the Development and Science Program. In the game, SD drew prince's cards to wake princesses up but he did not enjoy the game at all and he kept on complaining to me: "Why not the knight, why can I not draw the dragon card?" SD was winning in the game but he also wanted to draw the cards he wanted, otherwise he complained. Then, other children told him he was doing great and it seemed that he would win [Code: Peer-tolerated communication]. At different rounds of the game he wanted to deal the cards. His friends were so tolerant although he was so selfish. His behavior in general was calm but always inclined towards doing what he wanted. When he could not achieve what he wanted, he immediately complained and whined.

The school counselor exemplifies SD's twice-exceptionality:

"His academic achievement was excellent. [Code: Excellent academic success]. He is doing great in math. His visual motor-skills not so great. This paper for example, is not fit for third grade (Diagram 5). [Code: Weak visual motor-skills].

Diagram 5. SD's working paper

"I think until the last three weeks his impulsivity overshadowed his giftedness. He is back to normal in the last month. It was difficult to manipulate him. His behavior changed for the doses were reset [Code: Anger management and the effect of medication]. He is doing better academically, he is aware of himself. We called the family in and shared with them whatever we had at hand. He cannot pull off anger management which is solved thanks to medications. In those times he is going through a turmoil and we are seeking ways to solve the crisis. And when he is back to normal, we try our best to gain from such times. We can now make discoveries about him through our observations. Before, we used to focus solely on whether SD was angry or not. [Code: School policy to monitor the child is supportive of treatment].

He wrote, on the paper he was given during counseling and guidance activities, "My teacher, she is nice." According to his teacher he is saying that he is successful. He told his mother that he wanted to "change this SD." The way he is perceived in his peer group is changing. He can also have his own perception and labeling of himself. In the activity, which took place in November he said that he was a 'warrior.' In his working paper in December he wrote: "I am calm, peaceful and happy." This is reflection, here. This what this child aspires to be. "Sometimes my friends escape from me. I cannot hold my calmness." He is aware that his friends are drawn away from him because he hits
them. Other children tolerate him very much, when he reacts violently." [Code: Peer-tolerated communication].

Conclusion and Argument

As a result of the analysis of the twice-exceptionality dilemma of SD, who is the unit of analysis of this study, definition of SD's life at school and life at home mainly categorized under two headings. Many of SD's characteristic traits in connection with such themes as his giftedness and impulse control disorder are presented systematically in the Overlapping Domains, below:

Figure 1. Characteristics of SD’s twice exceptionality
Overlapping Domains (Miles and Huberman, 2015, p. 248)

Overlapping domains can be interpreted as follows: SD has been diagnosed with a gift, who has enrolled in a weekend education and training program (Development and Science Program) for such children and he is academically successful. He is talented in painting/drawing; socially, with limited room for acceptance and significant perfectionism. SD’s awareness regarding being clever is very elevated. During the interview with the school counselor he was reported to tell one of his friends that he was cleverer. SD is seen to aggrandize himself in his painting of the school. These findings can be interpreted as that there is this side of SD, which sees himself superior to others in relation to being gifted. Imagination and daydreaming are other outstanding characteristics of SD. Interviews conducted with his teachers and the thoughts he purports in his drawings about his family life as well as on other issues makes one think that this child has a fully-fledged imagination.

Kauder (2009), in his PhD dissertation, where s/he examines self-perception methodologies of twice-exceptional children has found significant differences in self-respect and perception of the self of gifted and twice-exceptional children. As data from the study suggest that such perception is neither age nor gender-bound, the feeling of insufficiency in twice-exceptional students were found to be more visible. SD’ perception of the self is highly elevated and he does not feel incapable in the class environment, which can be asserted as one different finding of this study.

SD experiences significant problems in his schooling as he is diagnosed with depression and co-diagnosed with impulse control disorder. These problematic behaviors have been found as a result of the interviews conducted with his teachers as well as through class observations during the Development and Science Program. SD does not establish eye contact and imposes his own will during interpersonal communication. For this reason, he experiences problems during any activity as regards convincing and transition. Teachers are patiently trying to iron out such traits, an approach which is pursued also by other children as they look up to the teachers. SD has encountered focusing problems in class and returned erroneous working papers due to his weak visual motor skills. One problem SD is well aware and tries to get rid of is the drama class and the disagreement that marks his relations with the drama teacher.

Gulett in his/her PhD dissertation concerning the teaching of social skills to twice-exceptional children (2008), draws our attention to children's neglect of their teachers' teaching of social skills. In his/her study, Gulett (2008) has worked simultaneously with five gifted students (boys) who had emotional and behavioral disorders. In the study, which is conducted within a qualitative study pattern, students have been taught drama activities (role-play behavior) and some social skills and observed in classroom activities conducted with and without school counselors. Outcomes of the study have demonstrated that twice-exceptional students can acquire social skills and utilize such skills through generalization. This study reveals lack of social skills as the root cause of SD's problems at the drama class. When the drama class, where group communication is most condensed, turns into a problem this can be so construed as to result from SD's own incapability regarding interpersonal skills.

As a result of the study, SD's such disadvantaged behaviors were seen to recede almost to none during the interview with his teacher, the school consultant. This is an affirmative outcome of the interaction of the two main categories (i.e. the school and the parents) with the unit of analysis. It is possible to eradicate SD's anger fits through the family's consistent and supportive attitude, treatment of the child as well as good adjustment of the doses. Then, although under the school category SD's teachers have warned that his disadvantaged features have overshadowed his giftedness, the student was still accepted to a program (Development and Science Program) for gifted children. Through student supervision policies, treatment-supporting intervention methodologies and teachers' professional attitudes accompanied by peer support, the school has provided for SD an environment where he is socially supported. Considering that a drug-only treatment would not succeed family and school support are seen to have stopped impulse control disorder symptoms which accompanied by SD's diagnosis of depression, inhibited his gift.
In his/her phenomenology study entitled 'Teachers' Experience with Twice Exceptional Children' Roberson (2016) informs that, teachers, through normal education have certain problems for lack of education tailored for special students as well as a result of unrealistic expectations and the traditional belief that gifted students would not have any problems. In the study, seven teachers were interviewed for their experiences with twice exceptional students. Study outcomes suggest that the participants have only very limited knowledge of the phenomenon of twice exceptionality, that they lack self-confidence on this matter and that students have to be given assistance and preliminary learning opportunities in the classroom. Again, the outcomes of the study also under strike the importance of good communication with the family, understanding the shortcomings of the child, of ensuring for the child a socio-emotional environment at once understanding and enabling as well as the importance of communication and organization. For this reason, Roberson's findings (2016) are supportive of the findings of the study.

Walker, in his/her study indicates the difficulty of identifying gifted children with emotional issues (2000), and accordingly it has been revealed in the interviews with such students that teachers' failure to identify these students constituted a significant problem. Twice exceptional children who claim to be labeled as a result of their problematic behaviors in class, signaled in the direction of their need to be accepted by their peers and their teachers. In his/her PhD dissertation where s/he carries out a content analysis of training programs proposed for twice exceptional children, Bole (2006) touches upon the need to improve teachers' pedagogical skills on relevant matters as well as the fact that teachers, as such, fail to recognize such students' advantages as they focus extensively on their disadvantages. Another important issue the study considers important is ensuring legal protection for twice exceptional children so as to provide them with much needed, suitable education environments. Trail (2008) explained that cognitive skills in children could vary in certain areas, between both end of the scale, as do their metacognition and styles of creativity and thinking. S/he signals the requirement that these students need to learn mechanisms to cope with academic challenges, which have to be tailored to satisfy their individual needs and the need for work involving flexible teachers and empowering family support so as to ensure integration with the society. The criticality of the introvert mindset of twice exceptional students and within this scope, the importance of personal acceptance zone, perception of the self, offering realistic expectations and ensuring their self-realization are emphasized. With such peculiarities, twice exceptional students have to be equipped with skills required and supported to succeed. In the manual s/he has prepared Lam (2014) provides teachers with a content which promotes special traits of twice exceptional students. In this manual where twice-exceptionality has been elaborated, strong sides of twice exceptional students, challenges that they face and the low level of self-respect in them are also explained. It is noteworthy, especially, when s/he handles such students' nervous fits. The manual explains multi-modal teaching strategies to be employed while working with these students as well as provides guidance on how to communicate with families.

As a conclusion, recommendation is to design a social skills program for SD on the basis of these findings, to examine individually-unique cases of other twice exceptional students through case studies, design comprehensive studies and research regarding twice exceptional students, develop enrichment and differentiation programs for twice exceptional students, improving these students' social skills, prepare materials and seminars to inform teachers regarding twice exceptionality as a concept and to carry out the work needed to set up teams to work with this type of students at schools.

References


Effects of Formative Assessment on Prospective Teachers’ Achievement, Attitudes and Self-Regulation Skills*

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Abstract

The aim of the study is to investigate the effects of formative assessment on prospective teachers’ academic achievement, attitudes towards educational measurement and self-regulation skills. In the study, quasi-experimental design including non-equivalent pre-test and post-test control group. There are 40 prospective teachers in each one of the experimental and control group which implemented in the scope of measurement and evaluation course in education faculty. Formative assessment was implemented within the 14-weeks in the experimental group, and summative assessment practices were done in the control group. According to the research results, it is determined that academic achievements of prospective teachers in the experimental group have differentiated significantly to academic achievements of prospective achievement in the control group. There is no statistically significant difference between prospective students’ attitudes towards measurement and self-regulation in the experimental and control group. However, it has been made out those prospective teachers’ attitudes towards measurement and self-regulation skills in the experimental group have been higher than the others in the control group.

Keywords: formative assessment, academic achievement, attitudes towards measurement, self-regulation skills, prospective teachers

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Introduction

Assessment has an important role in the education. Generally, it is determined the difference between summative and formative assessment aims. While summative assessment focuses firstly on learning outputs, formative assessment aims to constitute an approach in the learning process with supporting learning by feedback (Dixson & Worrell, 2016; Stobart, 2008). The most common assessment types used in the schools is summative assessment. In addition, the assessment has a role as a formative skill. Formative assessment has been often used in the classroom, which enables to identify learners’ learning needs, and to assess their learnings and developments interactively for organizing according to their learning needs (Centre for Educational Research and Innovation [CERI], 2008). Formative assessment is a process, which is to give feedback to the students and teachers for filling the gap between the current learning situation and intended aims; and it appears into the learning and teaching process (Heritage, 2008). O’Connor (2002) defines formative assessment as “Assessment designed to provide direction for improvement and/or adjustment to a program for individual students or for a whole class, that is, quizzes, initial drafts/attempts, homework, and questions during instruction” (p. 109).

Black, Harrison, Lee, Marshall, and Wiliam (2003) stated four main approaches as questioning, feedback through marking, peer- and self-assessments and formative use of summative tests. In Florez and Sammons’ (2013) study, in which they investigated 33 essays, they found out that at least one of these four elements, which are accepted as formative assessment features, was analysed in the studies. Hodgson and Pyle’s (2010) study that investigated formative assessment in science teaching have been stressed that talking, questioning, peer and self-assessment are important and main elements in the process of formative assessment, and formative usage of summative tests is used to support the learning and teaching.

According to McMillan (2014) the goal of the formative assessment is students’ motivation and development of students’ learning. To achieve this goal, teachers must adopt a cyclical and continuous process, which includes the assessment about students’ behaviours and papers, the feedback given to them and their instructional adaptations, or organizations, which are called as ‘recoverable’. When formative assessments are used, students are encouraged to be more active in their learning, and teachers have the opportunity to provide a more supportive yet challenging learning environment (Wood, 2010). More specifically, formative assessment allows instructors to check for understanding and help students achieve mastery and course success (Dirksen, 2011). According to Maier, Wolf, and Randler (2016) formative assessment is one of the main parts of effective learning and teaching processes, and also it is crucial to increase students’ achievements in all the levels (Clark, 2013; Eshun, Bordoh, Bassaw, & Mensah 2014; Hannah, James, & Williams, 2014; Klíne, 2013; Lee & Coniam, 2013; Moed, 2015; Organisation for Economic Co-operation and Development [OECD], 2005). Black and Wiliam (1998a) conducted a literature review of over 250 articles related to studies on formative assessments. Their review found that students had higher gains in academic achievement when they engaged in self-assessment, were tested more frequently, were given corrective feedback, and were focused on learning goals rather than performance goals. This led Black and Wiliam (1998a) to conclude that “attention to formative assessment can lead to significant learning gains” (p. 17). Different meta-analysis studies show that formative assessment have increased both the students’ achievements and its standards (Fuchs & Fuchs, 1986; Kingston & Nash, 2011).

It has been seen that there is a growing interest into the formative perspective of the assessment. One of few formative assessment or its practices have been supported or practiced in many countries like United States of America (USA), Austria. New Zealand, United Kingdom (UK), Barbados, Canada, Israel, Portugal, Belgium, Hong Kong, Chile, Iran, Netherlands and some African countries speaking French (Azúa & Bick 2009; Black et al., 2003; Hodgson & Pyle, 2010; Kellaghan, 2004; Tan, 2011; Tierney & Charland, 2007). Formative assessment is a popular practice in primary and secondary education. It has come a shared theme in scientific organizations such as symposium or congress about education; a suggested practice by publishers; an important element of government
education policy and a focus for teachers’ in-service education (Bennett, 2011). Formative assessment is used as formal policy in the schools in twenty-five states in USA (Altman et al., 2010). The governments in UK and other countries have struggled to increase for students’ diversity with the help of his policy, which enables students, who are from different social environment or have different background, to participate into higher education (Asghar, 2012). Brown (2007) also stated that feedback was crucial for everybody, but it was more important for these students to enter the university. Yorke (2001) have expressed that formative assessment has a role for supporting the students by helping retention. Globalisation and employment problems make students have their own self-efficacy about decision making of their own and others performances (Boud & Falchikov, 2007). Formative assessment could be a way for gaining these proficiencies (Asghar, 2012).

Students might think the higher education as a preparation for their career rather than a learning experience. Therefore, this might make them have interest into the grades rather than learning mentally (Taras, 2002). Moreover, this factor makes the formative assessment to be more difficult for practicing in higher education. Because formative assessment is not required to give a mark. Using formative assessment in higher education is not only real but also a must. However, both formative and summative assessment are used together in higher education (Andrews, 2011). There have been significant developments for understanding both research and practice of formative assessment (Bloxham & Carver, 2014). Higher education perspective has changed recently from teacher-centred training to student-centred training with the help of authentic learning and lifelong learning. Formative assessment, which helps the teachers improve in terms of instruction, helps to make student-centred atmosphere in higher education (Rushton, 2005).

When analysing different practices in all over the world, formative assessment is the most important factor for assessing the students and learning and teaching process in all education levels. The curriculum, which is developed on constructive approach and has been implemented in the schools since 2005, has made some changes about the approach in Turkey. So, teachers are expected to have student-centred learning rather teacher-centred learning. However, it can be said that there are many significant problems because the student-centred learning approach has not been practiced in real although it has been as a theory. Constructivist approach, which is based on students’ active participation into the learning-teaching process taken into consideration students’ individual differences, focuses on process assessment rather than outcome assessment. Formative assessment is expected to use more often according to summative assessment because of that, summative assessment focuses on grading in learning and teaching process while formative assessment aims to define learning deficiencies and direct to continuous process. In this respect, it might contribute to make research about formative assessment about which there is many research in the world in Turkey to develop learning-teaching process and its quality.

Although there have been some studies about formative assessment’s effect upon students’ academic achievement, it has been stated that it must be researched about formative assessment’s effect upon academic achievement because of that there has been some problems about method (Bennett, 2011; Kingston & Nash, 2011). Therefore, it can be said that this experimental research, which is about formative assessment effect upon students’ academic achievement, attitudes towards educational measurement and self-regulation skills, may contribute to related literature.

This study aims to investigate the effect of formative assessment upon prospective teachers’ academic achievement, attitudes towards educational measurement and self-regulation skills. These sub-problems are below according to this aim:

Is there any significant difference among the students’ in control and experimental group after the experimentation,

1. Academic achievement,
2. Attitudes towards educational measurement,
3. Self-regulation skills?

Methodology

Research design

Non-equivalent pre-test post-test quasi-experimental design with control group was used in the study. The participants were not sampled to the groups randomly in quasi-experimental design. The groups were not formed for the experimentation, and they were not controlled completely. The researchers use the existing groups (Ary, Jacobs, Sorensen, & Razavieh 2010; Teddlie & Tashakkori, 2009). If individual were not separated into the groups randomly, the best option is quasi-experimental design (Robson 2011).

Research group

The study group consisted of prospective teachers who studied at Turkish language teaching department in junior year, spring term, 2013-2014 education year at a public university. The study was implemented by the researcher in measurement and evaluation course, which the researchers instructed, and while identifying the groups, the researchers selected Turkish language teaching department’s students because it had two branches. In the research, attitudes towards measurement and evaluation variable were also examined. Therefore, the age group taking the measurement and assessment course is preferred. A branch was selected randomly as an experimental group, and B branch was selected as control group. Each of the groups consisted of 40 prospective teachers. There were no any prospective teachers to repeat the course. Besides, one of prospective students in each group was foreign national. Prospective students in experimental group were 23 females and 14 males; and the students in control group were 25 females and 15 males. Average ages of experimental group were 20,7 (SD=3,2); control group were 20,9 (SD=3,4). All of the students volunteered to participate in the research. The exercises about formative assessment were involved in the experimental group.

Procedure

Summative assessment based on visa and final exams was done in the control group while formative assessment approach was done in the experimental group in the study. The study was implemented for 3 hours (one course hour equals to 50 minutes) during 52 course hour in 14 weeks. The same researchers in both control group and experimental group did the experiments. In the experimental group, the instruction was done according to the stages within the scope of formative assessment. In the control group, the course was instructed according to summative assessment approach with visa and final exams rather than formative assessment exercises in the control group.

Pre-test was employed to define students’ academic achievement, their attitudes towards measurement and self-regulation skills in the first week of the course. The syllabus in which goals and sub-goals were explained in a detailed way was distributed to the students and students were informed about the goals and were explained the expectations. The collaborative learning groups including 4 or 6 people were created. A social networking site was used for the course and the documents and exercises about the course were published on this site. Each group published its own exercise’s sheets in the sub-groups belonging to their own groups. The groups created their own digital portfolio in their publication. The students and researcher gave feedback about the publication in this site weekly. Each group met with a teacher to do the exam they prepared in secondary school. The teacher was asked for director information to prepare for the context of the exam, type of it and the number of question. The questions prepared as a group were presented to the class to discuss and given verbal feedbacks. Prepared exams were published during all of the week in the site and the group preparing the exam made self-assessment and other groups made peer-assessment for them. Prepared exams were done in
a class at school after they were reorganized according to the feedbacks. The students marked exams, and so students made content analysis and gave to the teacher feedback. Marked exams’ statistical analysis was done in the classroom. Students were given feedback immediately during this analysis. The researcher marked visa exam, which is a type of summative assessment, and then the exams were distributed to the students and questions were discussed in the class and they were used as formative. Both the researcher and the students were given feedback via the quiz at the end of each unit. In this manner, 5 quizzes were done. The scores of the quizzes did not influence average point of the course. The researcher in an online environment called as Socrative via students’ mobile phones did the quizzes. The feedbacks were given immediately to both the researcher and the students and these feedbacks were taken into consideration during the instruction. Repetition was done according to identified learning deficiencies and different exercises about concepts were exemplified. Digital portfolio also consisted of alternative assessment instruments such as concept and knowledge map, structured grid, diagnostic branched tree and word association. Both the researcher and the students gave the written feedback about all the works in students’ digital portfolio. After the experimentation, post-test was employed to determine students’ academic achievement, their attitudes towards measurement and self-regulation skills at the last week.

Pre-test was employed to the students in the control group to determine their academic achievement, attitudes towards measurement and self-regulation skills in the first week. Summative assessment approach was used during the instruction. In this manner, 5 quizzes were done and these scores of the quizzes were added to half of the visa exam score. Moreover, visa and final exams were done. After the experimentation, post-test was employed to determine students’ academic achievement, their attitudes towards measurement and self-regulation skills at the last week.

Data Collection Tools

“Measurement and Evaluation Achievement Test (MEAT)”, “Attitude Toward Educational Measurement Inventory (ATEMI)” and the dimensions about the self-regulation of “Motivated Strategies for Learning Questionnaire (MSLQ)” were used as a data collection tools in the study. The researchers created MEAT after expert views and analysis of the items in the multiple choice test prepared in measurement and evaluation course in 2013-2014 fall term. The item discrimination indices range from .35 to .90. Multiple choice questions 40 in the achievement test. Bryant and Barnes (1997) developed ATEMI while Ozan and Köse (2013) adapted it into Turkish language. Results of exploratory factor analysis showed that the 31 items with 5 likert-type loaded on three factors. The total variance explained was 47.4% and factor loadings ranged between .31 to .83. Confirmatory factor analyses indicated that a three factors structure of the ATEMI provided a good fit to the observed data. The internal consistency reliability coefficient of the ATEMI was .92 and the test-retest reliability coefficient was .78. ATEMI’s lowest score was 0 and highest score was 5. The increase in scores on the ATEMI indicates that attitudes towards educational measurement increase. MSLQ was developed by Pintrich, Smith, Garcia, and McKeachie (1991) and was adapted into Turkish by Altun and Erdem (2006). The questionnaire consists of 15 dimensions and 81 items with 7 likert-type. Because the whole of the questionnaire has a modular structure, each one of the dimensions is used separately or together (Pintrich et al., 1991). Some dimensions of the questionnaire, which are “metacognitive self-regulation”, “time and work environment ”, “effort regulation and help seeking”, were used in this study and there are 35 items in the related dimensions. The Cronbach alpha reliability coefficient range of MSLQ was from .76 to .93. MSLQ’s lowest score was 0 and highest score was 7. The increase in scores on the MSLQ indicates that self-regulation skills increase.

In this research, MEAT KR-20 reliability coefficient .84 and .86 respectively for pre-test and post-test. ATEMI Cronbach alpha reliability coefficient for pre-test and post-test changed between .70 and .92 according to the general and sub-dimensions. MSLQ Cronbach alpha reliability coefficient for pre-test and post-test changed between .73 and .91 according to its general and sub-dimensions. According to these results, the data obtained from these data collection tools have been determined to be reliable.
Data Analysis

Independent samples t-test were done to determine whether there has been a significant difference between control and experimental group’s pre-test; paired samples t-test were done to determine whether there has been a significant difference between control and experimental group’s pre-test and post-test. Analysis of covariance (ANCOVA) for post-test were used to determine if there has been a significant difference between control and experimental group. The analysis has been tested at .05 significant level. Before the analysis, the needed assumptions were investigated for testing. In this manner, univariate and multivariate normality, homogeneity of regression slopes, homogeneity of variances, and variance-covariance homogeneity assumptions were analysed (Field, 2013; Pallant, 2013; Tabachnick & Fidell, 2014). Skewness - kurtosis coefficient was calculated for each group and variables in terms of normality for univariate. Accordingly, skewness and kurtosis coefficients of results of pre-test post-test of the dependent variables e.g. achievement, attitude and self-regulation was between -1 and +1 in both control group and experimental group. The criteria that skewness and kurtosis coefficients are between -1 and +1 is accepted as normal distribution (Field, 2013; Morgan, Leech, Glocenker, & Barrett, 2013). Mahalanobis distance values of dependent variables were calculated to determine extreme values in terms of multivariate normality. Accordingly, it has been determined that there is no any extreme values in the distribution. Regression slopes, homogeneity of variances and matrix of variance-covariance have been defined as homogenous for extreme dependent variable (p>.05).

Results

Independent samples t-test was done to determine whether there have been a significant difference between pre-test scores of academic achievement, attitudes towards educational measurement and self-regulation skills of students in both control group and experimental group. It is shown in Table 1.

Table 1. Pre-test results for dependent variables

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Group</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic achievement</td>
<td>Control</td>
<td>31.85</td>
<td>5.37</td>
<td>78</td>
<td>.99</td>
<td>.33</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>30.50</td>
<td>6.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes towards educational</td>
<td>Control</td>
<td>3.68</td>
<td>.37</td>
<td>78</td>
<td>.77</td>
<td>.44</td>
</tr>
<tr>
<td>measurement</td>
<td>Experimental</td>
<td>3.62</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-regulation skills</td>
<td>Control</td>
<td>4.71</td>
<td>.97</td>
<td>78</td>
<td>.05</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>4.70</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 1, it has not found out any significant difference between pre-test scores for academic achievement, attitudes towards educational measurement and self-regulation skills (t=.99, p>.05; t=.77, p>.05; t=.05, p>.05).

Table 2 shows descriptive statistics for post-test of academic achievement, attitudes towards educational measurement and self-regulation skills.
Table 2. Descriptive statistics for the post-test of dependent variables

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Group</th>
<th>Mean</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic achievement</td>
<td>Control</td>
<td>46.40</td>
<td>46.40</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>54.18</td>
<td>54.17</td>
</tr>
<tr>
<td>Attitude toward educational measurement</td>
<td>Control</td>
<td>3.74</td>
<td>3.75</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>3.95</td>
<td>3.95</td>
</tr>
<tr>
<td>Self-regulation skills</td>
<td>Control</td>
<td>5.04</td>
<td>5.02</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>5.26</td>
<td>5.29</td>
</tr>
</tbody>
</table>

According to table 2, while the adjusted mean of control group has not changed, the adjusted mean of the experimental group has dropped slightly. ANCOVA was employed to compare the groups’ academic achievement post-test scores. The results are shown at Table 3.

Table 3. ANCOVA results for the post-test of academic achievement

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>Partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test scores</td>
<td>.02</td>
<td>1</td>
<td>.02</td>
<td>0.00</td>
<td>.99</td>
<td>.00</td>
</tr>
<tr>
<td>Group</td>
<td>1193.06</td>
<td>1</td>
<td>1193.06</td>
<td>8.47</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Error</td>
<td>10837.36</td>
<td>77</td>
<td>140.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>214353.00</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 3, it has been found out that there is significant difference between post-test scores of the groups’ academic achievement ($F_{(1, 77)}=8.47; p<.05$). Therefore, it could be said that thanks to experimental process, academic achievement of students in the experimental group has increased statistically significant in comparison with academic achievement of students in the control group.

ANCOVA was employed to compare the groups’ attitudes towards educational measurement post-test scores. The results are shown at table 4.

Table 4. ANCOVA results for the post-test of attitudes towards educational measurement

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>Partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test scores</td>
<td>.41</td>
<td>1</td>
<td>.41</td>
<td>1.18</td>
<td>.28</td>
<td>.02</td>
</tr>
<tr>
<td>Group</td>
<td>.93</td>
<td>1</td>
<td>.93</td>
<td>2.68</td>
<td>.11</td>
<td>.03</td>
</tr>
<tr>
<td>Error</td>
<td>26.70</td>
<td>77</td>
<td>.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1211.01</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 4, it is found out that there is no significant difference between post-test scores of the groups’ attitudes towards educational measurement ($F_{(1, 77)}=2.68; p>.05$). This result shows that after the experimental process, attitudes towards measurement of students in the experimental group, which have been trained according to the formative assessment, have not differentiated statistically significant in comparison with the attitudes of students in the control group.

ANCOVA was employed to compare the groups’ self-regulation skills post-test scores. The results are shown at table 5.
Table 5. ANCOVA results for the post-test of self-regulation skills

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>Partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test scores</td>
<td>4.91</td>
<td>1</td>
<td>4.91</td>
<td>9.54</td>
<td>.00</td>
<td>.11</td>
</tr>
<tr>
<td>Group</td>
<td>.94</td>
<td>1</td>
<td>.94</td>
<td>1.83</td>
<td>.18</td>
<td>.02</td>
</tr>
<tr>
<td>Error</td>
<td>36.67</td>
<td>77</td>
<td>.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2169.26</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 5, it is found out that there is no significant difference between post-test scores of the groups’ self-regulation skills ($F_{4, 71}$=1.83; $p>.05$).

Discussion, Conclusion and Suggestion

It is found out that formative assessment practices done in the scope of measurement and evaluation course have increased statistically significant prospective teachers’ academic achievement but attitudes towards educational measurement and self-regulation skills of prospective teachers has not differentiated statistically significant. Prospective teachers’ academic achievement have increased statistically significant. This result is parallel with the other studies about formative assessment effects upon academic achievement in literature. Fuchs and Fuchs (1986) investigated 21 experimental studies about formative assessment effects upon academic achievement in their meta-analysis and concluded that formative assessment increased considerably academic achievement. Black and William (1998a) investigated formative assessment’s effect on learning from a wide perspective. They stated in their study in which they analysed 250 studies about formative assessment effect upon students’ learning that formative assessment would develop students’ learning and raise standards. In another meta-analysis study by Kingston and Nash (2011), selected 13 studies from 300 studies about formative assessment have been found out that formative assessment has enhanced students’ academic achievement to .20 impact factor. Moreover, impact factor computer supported formative assessment practices have been calculated .28.

Similar results have been made out in the other studies about formative assessment effect upon academic achievement at higher education level. Ökten (2009) investigated the effects of formative assessment upon students in technical education faculty and stated that students’ academic achievement would raise at % 50 more via formative assessment. Yalaki’s study (2010) investigating formative assessment effect upon university students’ academic achievement of science course has stated that formative assessment has affected positively students’ academic achievement of science course. Similarly, Aydeniz and Pabuccu (2011) have also found out that formative assessment could increase considerably students’ learning in their study investigating its effect on students’ conceptual learning in chemistry course. Andrews (2011) has determined that goal setting and monitoring himself/herself supported formative assessment practices has increased students’ academic achievement significantly in developmental psychology. There has been so many studies about that formative assessment has increased students’ academic achievement significantly at all education levels except for the studies at higher education level (Chauncey, 2009; Clark, 2013; Kline, 2013; Ruiz-Primo & Furtak, 2007; Tekin, 2010; Van Evera, 2003; Yin, 2005). Although Collins (2012) and King (2003) have found out in their studies that formative assessment has affected positively students’ academic achievement, it is not significant statistically. Yin et al. (2008) has stated that formative assessment has not affect significantly students’ achievement, motivation and conceptual changes but it could be derived from the difficulties of practicing it effectively rather than effectiveness of formative assessment. According to the studies in last 10 years, it is found out that there has been a positive correlation between students’ learning and formative assessment. Practising formative assessment effectively has increased students’ learning levels (Black & McCormick, 2010; Black & Wiliam, 2009; Chappuis, Stiggins, Chappuis, & Arter, 2011; Clark, 2012; Gardner, 2012; Heitink,
Van der Kleij, Veldkamp, Schildkamp, & Kippers, 2016; McMillan, 2014; Popham, 2013). According to results of the studies, it could be said that formative assessment practiced effectively has affected considerably students’ academic achievement at all level of the education.

Black and William (1998a) and Harlen (2003) have stated that formative assessment could enable equal learning opportunities to the students and therefore, it has enabled more achievement in the learning of the students especially who have low achievement. Formative assessment could help to head especially for the problems of students who have low achievement while enabling them to understand clearly what they do wrong or what they must do (Black & William, 1998b). Burns, Klingbeil, and Ysseldyke (2010) and Miesels et al. (2003) have stated that formative assessment have been more useful for the students who have low achievement. In parallel with this result, Solgun-Günel (2014) has stated in their study, which implemented in English language course at higher education level, that formative assessment practices have increased considerably students’ participation into the course. In his experimental study which was carried out in science course at secondary school, Van Evera’s (2003) has made out that feedback used in the scope of formative assessment has increased students’ academic achievement especially who have low and secondary achievement levels but it would drop the students’ academic achievement who have high achievement levels. According to analyses of Herman, Osmundson, and Silver (2010), James et al. (2007) and Shepard (2005), they have supported the result of the fact that formative assessment has more affected on students especially who have low academic achievement.

According to the study results, it has been made out that formative assessment has affected positively prospective teachers’ attitudes towards educational measurement although it doesn’t differentiate statistically significant. Chauncey (2009) has stated in his experimental study that formative assessment has not increase significantly students’ attitudes towards the course. Ökten (2009) has found out in his study, which was implemented at higher education that the attitudes of university students have changed positively after the practices of formative assessment. Solgun-Günel (2014) has also stated to have the similar result in their study, which was carried out in English language course at higher education. They have stated that it has affected their attitudes towards the course positively because students have begun to take responsibility of their own learning, to have more interest into the course and to take the opportunity for their self-expression without any fear of grading. In another study implemented at higher education level, Yalaki (2010) has determined that formative assessment has affected positively the attitudes of prospective teachers towards the course. Johnson (2016) has found out that formative feedback could affect positively attitudes and perceptions of students studying in secondary education. In Hwang and Chang (2011), Tekin (2010) and King (2003) studies carried out in secondary school level, they have found out that formative assessment would increase significantly students’ attitudes. Tekin (2010) points out that the practices of formative assessment at math course in 8th grade have increased significantly students’ attitudes towards maths. It has determined that the students in the experimental group have developed positive attitudes towards maths. King (2003) has stated that formative assessment has increased students’ attitudes towards science at 5th grade according to his experimental study. Another similar experimental study by Hwang and Chang (2011) points out mobile learning supported formative assessment has increased significantly the attitudes and perceptions of students’ learning at 5th grade.

McKenna (2011) investigated the attitudes of the students towards science course in the half of the study’s experimental process (11th week) in the study which he implemented in the science course at 7th grade, and also he points out 69%6 of the students’ attitudes have been affected positively by the formative assessment. In her qualitative study, which was carried out with the prospective teachers, studying at physical education teaching, Lorente-Catalan (2016) determines that the students intend to use formative assessment in their future professional practices, but they think to have some struggles while using it because alternative assessment practices has not been used widely.

According to the study results, it is found out that formative assessment has affected positively self-regulation skills of prospective teachers although it has not differentiated significantly. In parallel
with this result, King (2003) investigated the formative assessment’s effect upon self-regulation skills of students at 5th grade, and he points out that there is no any significant difference between self-regulation skills of students in control group and experimental group. According to the findings obtained from qualitative data of the study, it is made out that students have benefited from cognitive strategies and self-regulated learning behaviour during the learning process. Students have stated that they take responsibility of their own learning via formative assessment practices and participate directly into the learning. Teachers also express that formative assessment has increased students’ self-regulation skills so that it has a continuous and purposeful interaction with learning effort and performance between teacher and students. DeLuca, Klinger, Pyper, and Woods (2015) state that formative assessment supports students’ self-regulation and meta-cognitive skills development and increases their academic achievements in summative tests and supports their developments about educational standards.

Self-regulated learning, which is an important element to focus students in learning-teaching environment for raising students’ achievements, is about thinking, motivation and organizing behaviours of students’ own learning processes (Pintrich & Zusho, 2002). According to Zimmerman (2000), self-regulation has been at different levels and has different qualities in people’s life; and it is defined as that which is to be exhibited for reaching the defined aims and controlled feelings, opinions and behaviours of people. Pintrich (2000) also defines self-regulated learning as is a learning issued into the class or school organized by learners. Self-regulated learners generally give internal feedback for reacting external feedback and use the resources to reach the learning aims; make their own learning aims by their struggles and develop their strategies (Nicol & Macfarlane-Dick, 2006). There are many studies about the direct relationship between formative assessment and self-regulation (Black & Wiliam, 2009; Bose & Rengel, 2009; Nicol & Macfarlane-Dick, 2006). Formative assessment is designed according to metacognitive skills required for self-regulation, and support in process of learning and teaching by focusing on learning contexts (Heritage, 2007). Formative assessments aim to give both internal and external specified feedback about students’ performances to develop and reinforce self-regulated learning (Sadler, 1998).

Consequently, formative assessment is determined as an approach, which increases crucially prospective teachers’ academic achievement, and affects the attitudes towards educational measurement and self-regulation skills in a positive way. Although formative assessment has affected positively the attitudes towards educational measurement and self-regulation skills, it does not make any significant difference according to the control group. Moreover, it is derived from the fact that prospective teachers’ attitudes and self-regulation skills have been at high level before the experimental process and these features have not changed in a long period. According to the study results, it is suggested to use formative assessment practices more in teacher education. Furthermore, it is thought that different experimental studies, which investigate the effects of formative assessment upon different variables, and qualitative or mixed researches, which is to investigate, deeply may contribute to the literature. The use of quasi-experimental design in the study was a methodological limitation.

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Examining High School Teachers’ Attitudes towards ICT Use in Education

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Abstract
The present study aimed at examining high school teachers’ attitudes towards ICT use in education. With this regard, we examined whether the teachers’ attitudes significantly differ according to their gender, age, teaching experience, ICT experience, ICT skills and ICT training. The participants consisted of 353 teachers working in different high schools in Ankara in the academic year 2016-2017. Research results illustrated that teachers have a high level of positive attitude towards ICT use in their classes, yet there is no significant difference between teachers’ ICT willingness by their gender, age, teaching experience, ICT experience, ICT skills and ICT training. However, they have significantly different negative attitude (ICT anxiety) towards ICT use in education by their ICT experience, ICT skills and ICT training.

Keywords: ICT attitude, ICT willingness, ICT anxiety, ICT integration, teachers’ attitudes

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**Introduction**

Recent developments in Information and Communication Technologies (ICT) have brought significant changes in the field of education, just as in many other many other aspects of our daily lives. These developments have palpably had an impact on teachers, students, and schools particularly school curricula, including teaching and learning process. In line with these developments, more recently many developed and developing countries regarded the use of ICT in education as a prominent levera ge to achieve educational transformation (Aydin, Gurol, & Vanderlinde, 2016; Cetinkaya, 2017), improve the quality of instruction (Almadhour, 2010; Buabeng-Andoh, 2012; Hew & Brush, 2007), overcome a number of critical problems that many educational systems face in the 21st century, such as educational equity and students’ procurement of 21st century skills (Celik & Kahyaoglu, 2007; Prensky, 2006; Nutt, 2010). However, effective use of ICT in teaching and learning is a complex and multifaceted process that includes various teacher level and school level conditions (Aydin, Gurol, & Vanderlinde, 2016; Vanderlinde & van Braak, 2011).

Previous studies acknowledged that a number of teacher level factors influence teachers’ ICT use in their classes. These include teachers’ demographics (Bebell, Russell, & O’Dweyer, 2004; Inan & Lowther, 2010; Robinson, 2003; Seraji, Ziaabari, & Rokni, 2017; van Braak, Tondeur, & Valcke, 2004), their ICT knowledge and skills (Eteokleous, 2008; Goktas, Gedik, & Baydas, 2013; Hew & Brush, 2007; Hohlfeld, Ritzhaupt, Barron, & Kemker, 2008), their motivation, workload and lack of time (Demiraslan, & Usluel, 2005; Ercelik, 2004; Galanouli, Murphy, & Gardner, 2004; Guoyuan, Valcke, van Braak, Tondeur, & Zhu 2011; Keengwe, Onchwari, & Wachira, 2008; Van Braak et al., 2004). In addition, some researchers focused on school level conditions, such as technology access, technical and institutional support, and ICT infrastructure (Bullock, 2004, Hohlfeld, et al., 2008; Inan & Lowther, 2010; Mumtaz, 2000).

Amongst all these conditions, teachers’ ICT attitudes, ICT skills, and their ICT training have gained currency in regard to effective integration of ICT in today’s educational settings. In this context, improving teachers’ ICT skills and competences has become critical since teachers have a pivotal role in effective use of ICT in teaching and learning. In this vein, many countries are providing teachers with ICT training in order to improve their ICT skills and knowledge. These training activities not only foster teachers’ ICT knowledge and skills, but also they can improve their beliefs and attitudes towards ICT use in education.

Previous research also indicated that another major factor influencing teachers’ ICT use in their classes is their attitude towards ICT. Attitudes can be defined as an element that guides the behaviour of the individual, the integrity and consistency in the feelings, thoughts and behaviours of an object (Tavscnl, 2005). In this regard, teachers’ attitudes towards ICT use are regarded as the driving force behind their ICT use behaviour in many studies (Aydin, & Semerci, 2017). Although teachers’ attitudes play a major role in incorporation of ICT in their classes, there are few studies examining high school teachers’ attitudes towards use of ICT in education. Thus, there is a need for further studies to examine teachers’ attitudes towards ICT use in education. In view of this gap, the main objective of this research is to examine high school teachers’ attitudes towards ICT use in education in terms of different variables. Framed by this aim, answers to the following questions were sought.

1. What are the attitudes of teachers towards ICT use in education?

2. Is there a significant difference between teachers’ attitudes towards ICT use in education by their gender their gender, age, teaching experience, ICT experience, ICT skills and ICT training?
Method

Research Design

The current study employed a non-experimental descriptive survey design in order to examine teachers’ attitude towards ICT use. In addition, we investigated whether their attitudes significantly differ through a number of conditions including gender, age, teaching experience, ICT experience, ICT skills and ICT training. Survey designs in educational research are very popular, practical, flexible, and low-cost, in addition to allowing to describe a situation by collecting large amount of data from natural context, not setting up an artificial cite like experimental designs (Muijs, 2004). In this regard, we utilized a survey design in our study.

Research Context

The first efforts pertinent to incorporation of computers into education in Turkey commenced in the 1960s (Keser, 2011). As of late 1970s, integration of new technologies in education system in Turkey has been accelerated in line with different political and strategic activities (Alkan, 1977). From the 1980s onward, a number of initiatives have been invested to improve ICT infrastructure of schools, provide educational and administrative personnel with ICT training, overhaul the curriculum and develop e-learning contents. From the beginning of new millennium up to date, bridging the digital divide across the regions and schools of Turkey, incorporation of ICT into teacher training programs, mapping and evaluating ICT integration have been paid more attention (Bardakci & Keser, 2017).

The most recent and ambitious of these efforts is the Movement of Enhancing Opportunities and Improving Technology (FATIH) project, announced by the Ministry of National Education (MoNE) in 2010. The FATIH Project was claimed to enable equality of opportunity in education regarding students’ access to technology. In this vein, the FATIH project aimed to provide the necessary hardware and software infrastructure for all classrooms across Turkey to supply broadband internet connection, provide and manage e-content, in-service trainings for teachers to use ICT technologies effectively and efficiently, and establish the required web platforms. During the course of the project, each and every classroom in Turkish schools are projected to be equipped with technological devices such as PCs, projection, multi-function printer, camera, and interactive board, fast and secure internet connection.

Educational Information Network (EBA), where e-contents are created and shared amongst teachers and students was another important component of the FATIH project. Correspondingly, EBA has become an effective social education platform where interactive e-content, z-books, individual and classroom learning materials, simulations, animations, videos and visuals are produced and shared (MEB, 2015; 2017a).

Along with many other interrelated factors, successful ICT integration requires a sound technology infrastructure, convenient curriculum, professionally competent teachers, supportive administrative and technical staff and skilled students. Besides the mentioned factors, teachers’ attitudes play a critical role for the success of ICT use in education (Keser, & Cetinkaya, 2013). Thus, high school teachers’ ICT attitude have become under scrutiny in our study in a context of FATIH project.

Participants

The study group composed of 353 teachers working in different high schools in Ankara province of Turkey in the academic year 2016-2017. Given the impossibility of reaching all teachers in the population, a total of 19,684 high school teachers all around Ankara (MEB, 2017b), in the capital and second largest city of Turkey, the researchers had to sample the population. With this
regard, based on some criteria such as delivery of questionnaires to the participants who took part in the study on a voluntary basis, transportation costs and time use limitations have been taken into consideration. Consequently, we employed a convenience sampling technique (Creswell, 2012) and delivered 400 pen-and-paper questionnaires to high school teachers from four districts of Ankara (Cankaya: 3,180 teachers, Etimesgut: 1,524 teachers, Sincan: 1,686 teachers and Yenimahalle: 2,838 teachers). The return rate of valid questionnaires was 88.25% for a sample of 353 high school teachers working in public high schools in four districts of Ankara.

The demographics of the participants illustrated that 57.5% were females, 60% aged under 40, 65% with a teaching experience of more than 10 years, 51.5% with a good level perceived ICT skills, 62% with an ICT experience of more than 10 years, 63.5% attended at least 1-3 ICT training.

**Data Collection Instruments**

The research data were collected through TICTAS (Teachers' ICT Attitudes Scale) developed by Aydin and Semerci (2017). TICTAS consisted of two parts. The first part included six descriptive questions such as gender, age, teaching experience, perceived ICT skills, ICT experience, and ICT training. The second part consisted of five-point Likert type 16 items, scored as (1) "I completely do not agree", (2) "I do not agree", (3) "I am neutral", (4) "I agree" and (5) "I completely agree". Those 16 items factorized as two dimensions, namely ICT Willingness (11 items) and ICT Anxiety (5 items). In order to test the psychometric quality of the scale the Cronbach-Alfa coefficient was calculated as 0.74 for scale total, which showed an acceptable level of reliability.

**Data Analysis**

Data were analysed utilizing descriptive statistics, such as means, standard deviation, and reliability analysis including internal consistency coefficient (Cronbach Alpha) analysis, as well as univariate statistics, such as independent samples t-Test, one-way ANOVA and Scheffe as a post-hoc. Statistical Packet for Social Sciences 21.0 (SPSS) package program was used for all types of analyses in the study. With regard to the comparison of means in Likert-type scales, the scores were standardized based on the formula (highest score – lowest score: number of options: 5-1:5= 0.80). Based on the interval of 0.80, the mean scores between 1.00 to 1.80 were graded as “very low”, 1.81 to 2.60 as “low”, 2.61 to 3.40 as “modest”, 3.41 to 4.20 as “high”, and 4.21 to 5.00 as “very high”.

**Results**

**Descriptive findings on teachers’ attitude towards ICT use in education**

The results of descriptive analysis on teachers’ attitude toward ICT use in education, loaded in two factors, namely; ICT willingness and ICT anxiety, were presented in Table 1.

**Table 1. Teachers’ Attitude towards ICT use in Education**

<table>
<thead>
<tr>
<th>Item</th>
<th>I believe ICT Use in Education...</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>increases the quality of teaching and learning process</td>
<td>4.16</td>
<td>1.03</td>
</tr>
<tr>
<td>4</td>
<td>is a fruitful means in attaining the educational targets</td>
<td>4.09</td>
<td>1.03</td>
</tr>
<tr>
<td>5</td>
<td>offers various teaching and learning opportunities</td>
<td>4.23</td>
<td>1.03</td>
</tr>
<tr>
<td>6</td>
<td>makes it easy for me to plan my teaching</td>
<td>4.20</td>
<td>.96</td>
</tr>
<tr>
<td>7</td>
<td>increases students’ success in my class</td>
<td>4.00</td>
<td>.97</td>
</tr>
<tr>
<td>9</td>
<td>makes teaching easier for teachers</td>
<td>3.97</td>
<td>1.02</td>
</tr>
</tbody>
</table>

96
11 increases my students’ involvement in my class 4.07 .98
12 offers alternative learning opportunities such as e-learning and mobile learning 4.07 .96
13 will be beneficial at each stage of teaching process 3.80 .99
15 plays a critical role in contemporary education 3.03 1.19
16 makes students’ learning permanent 3.77 .99

ICT Willingness Overall 3.94 .75

<table>
<thead>
<tr>
<th>Item</th>
<th>I am afraid that ICT use in education...</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>leads to an underestimation of teachers’ role</td>
<td>1.95</td>
<td>1.05</td>
</tr>
<tr>
<td>3</td>
<td>trivializes teachers</td>
<td>1.85</td>
<td>1.02</td>
</tr>
<tr>
<td>8</td>
<td>turns teaching into a monotonous and mechanical process</td>
<td>1.93</td>
<td>1.06</td>
</tr>
<tr>
<td>10</td>
<td>will take the place of teachers in the future</td>
<td>1.80</td>
<td>1.06</td>
</tr>
<tr>
<td>14</td>
<td>harms teachers’ innovativeness</td>
<td>2.23</td>
<td>1.10</td>
</tr>
</tbody>
</table>

ICT Anxiety Overall 1.95 .78

As presented in Table 1, the teachers have a high level positive overall attitude (ICT willingness, $M= 3.94, SD= .75$) towards ICT use in education. However, the results also illustrated that they still have some anxiety towards ICT, yet at a low level (ICT anxiety, $M= 1.95, SD= .78$). In addition, the results also displayed that teachers believe that ICT use in education offers various teaching and learning opportunities ($M = 4.23$) and it also makes it easy for them to plan their teaching ($M = 4.20$). On the negative side, teachers are afraid that the use of ICT in education does harm on their innovativeness ($M= 2.23$).

**Comparative findings on teachers’ attitude towards ICT use by gender**

The results of comparative analysis on teachers’ attitude toward ICT use in education by their gender were presented in Table 2 below.

**Table 2. Teachers’ Attitude towards ICT Use by Gender**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Willingness</td>
<td>Male</td>
<td>150</td>
<td>3.93</td>
<td>.71</td>
<td>.05</td>
<td>351</td>
<td>-.305</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>203</td>
<td>3.96</td>
<td>.70</td>
<td>.06</td>
<td>351</td>
<td>-1.482</td>
<td>.15</td>
</tr>
<tr>
<td>ICT Anxiety</td>
<td>Male</td>
<td>150</td>
<td>1.90</td>
<td>.70</td>
<td>.05</td>
<td>351</td>
<td>-1.438</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>203</td>
<td>2.02</td>
<td>.86</td>
<td>.07</td>
<td>351</td>
<td>-1.482</td>
<td>.15</td>
</tr>
</tbody>
</table>

With a closer look at Table 2 that presents the mean scores and independent samples $t$-Test results regarding teachers’ ICT attitude towards ICT use by gender, there is no significant difference between male and female teachers’ ICT willingness [$t (351) = -.305; p > .05$], and their ICT anxiety [$t (351) = -1.438; p > .05$].

**Comparative findings on teachers’ attitude towards ICT use by age**

In order to examine whether there is a statistically significant difference between the teachers’ attitude towards ICT use by their age, we employed a One-way ANOVA and Scheffe as a post-hoc. Prior to ANOVA the homogeneity of the variance within the cases was tested with Levene’s test. The Levene’s test results (ICT willingness, $p = .301$; ICT anxiety, $p = .647$) illustrated that the distribution is parametric, thus the assumption of normality is not violated.
Table 3. Teachers’ attitude towards ICT use by age

<table>
<thead>
<tr>
<th>Factor</th>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Willingness</td>
<td>21-30</td>
<td>66</td>
<td>4.02</td>
<td>.82</td>
<td>.10</td>
<td>3-349</td>
<td>.770</td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>145</td>
<td>3.97</td>
<td>.69</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>124</td>
<td>3.87</td>
<td>.76</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51-60</td>
<td>18</td>
<td>3.95</td>
<td>.80</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT Anxiety</td>
<td>21-30</td>
<td>66</td>
<td>1.20</td>
<td>.80</td>
<td>.10</td>
<td>3-349</td>
<td>1.538</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>145</td>
<td>1.86</td>
<td>.78</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>124</td>
<td>2.00</td>
<td>.73</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51-60</td>
<td>18</td>
<td>1.95</td>
<td>.89</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Given in Table 3, the One-Way ANOVA results displayed that there is no significant difference between teachers’ ICT use regarding their ages [ICT willingness, $F (3-349) = .770; p > .05$; ICT anxiety, $F (3-349) = 1.538; p > .05$].

Comparative findings on teachers’ attitude towards ICT use by their teaching experience

The comparative results regarding the difference between the teachers’ attitude towards ICT use by their teaching experience were presented in Table 4 below. Prior to ANOVA the homogeneity of the variance within the cases was tested with Levene’s test. The Levene’s test results (ICT willingness, $p = .074$; ICT anxiety, $p = .648$) illustrated that the distribution is parametric, thus the assumption of normality is not violated.

Table 4. Teachers’ Attitude towards ICT Use by Teaching Experience

<table>
<thead>
<tr>
<th>Factor</th>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Willingness</td>
<td>1-5 years</td>
<td>57</td>
<td>4.00</td>
<td>.79</td>
<td>.11</td>
<td>3-349</td>
<td>1.098</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td>6-10 years</td>
<td>65</td>
<td>3.84</td>
<td>.81</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11-15 years</td>
<td>78</td>
<td>4.04</td>
<td>.60</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16 and above</td>
<td>153</td>
<td>3.91</td>
<td>.77</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT Anxiety</td>
<td>1-5 years</td>
<td>57</td>
<td>2.07</td>
<td>.81</td>
<td>.11</td>
<td>3-349</td>
<td>.974</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>6-10 years</td>
<td>65</td>
<td>1.92</td>
<td>.84</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11-15 years</td>
<td>78</td>
<td>1.84</td>
<td>.73</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16 and above</td>
<td>153</td>
<td>1.97</td>
<td>.76</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The One-Way ANOVA results displayed in Table 4, illustrated that there is no significant difference between teachers’ ICT use regarding their teaching experience [ ICT willingness, $F (3-349) = 1.098; p > .05$; ICT anxiety, $F (3-349) = .974; p > .05$].

Comparative findings on teachers’ attitude towards ICT use by their ICT experience

The comparative results regarding the difference between the teachers’ attitude towards ICT use by their ICT experience were presented in Table 5 below. Prior to ANOVA the homogeneity of the variance within the cases was tested with Levene’s test. The Levene’s test results (ICT willingness, $p = .600$; ICT anxiety, $p = .038$) illustrated that the distribution is parametric, thus the assumption of normality is not violated.
Table 5. Teachers’ Attitude towards ICT Use by ICT Experience

<table>
<thead>
<tr>
<th>Factor</th>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Scheffe</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Willingness</td>
<td>1-5 years</td>
<td>11</td>
<td>3.56</td>
<td>.68</td>
<td>.20</td>
<td>3-349</td>
<td>1.132</td>
<td>.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-10 years</td>
<td>87</td>
<td>3.91</td>
<td>.70</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11-15 years</td>
<td>128</td>
<td>3.97</td>
<td>.71</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16 and more</td>
<td>127</td>
<td>3.94</td>
<td>.82</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT Anxiety</td>
<td>1-5 years</td>
<td>11</td>
<td>2.69</td>
<td>1.10</td>
<td>.33</td>
<td>3-349</td>
<td>3.962</td>
<td>.00</td>
<td>1 &gt; 2, 3, 4</td>
</tr>
<tr>
<td></td>
<td>6-10 years</td>
<td>87</td>
<td>1.98</td>
<td>.66</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td>2 &lt; 1</td>
</tr>
<tr>
<td></td>
<td>11-15 years</td>
<td>128</td>
<td>1.86</td>
<td>.71</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td>3 &lt; 1</td>
</tr>
<tr>
<td></td>
<td>16 and more</td>
<td>127</td>
<td>1.95</td>
<td>.86</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
<td>4 &lt; 1</td>
</tr>
</tbody>
</table>

According to the comparative results given in Table 5, there is no significant difference between teachers’ ICT willingness \( F (3-349) = 1.132; p > .05; \) by their ICT experience. Yet, the results also indicated that there is a significant difference between teachers’ ICT anxiety \( F (3-349) = 3.962; p < .05 \) by their ICT experience. For a deeper exploration of the significant mean scores across the categories of ICT experience, Scheffe was conducted as a post-hoc test. Scheffe results illustrated that the teachers with 1 through 5 year ICT experience feel significantly more anxious about use of ICT in teaching and learning \( (M= 2.69, SD= 1.10) \) compared with the teachers of other ICT experience categories [6-10 years, \( (M= 1.98, SD= .66) \); 11-15 years, \( (M= 1.86, SD= .71) \); 16 years and more, \( (M= 1.95, SD= .86) \)].

Comparative findings on teachers’ attitude towards ICT use by their ICT skills

The ANOVA results regarding the difference amongst the teachers’ attitude towards ICT use by their perceived ICT skills were given in Table 6 below. Prior to the analysis, the homogeneity of the variance within the cases was tested with Levene’s test. The Levene’s test results (ICT willingness, \( p = .051 \); ICT anxiety, \( p = .427 \)) illustrated that the distribution is parametric, thus the assumption of normality is not violated.

Table 6. Teachers’ Attitude towards ICT Use by Perceived ICT Skills

<table>
<thead>
<tr>
<th>Factor</th>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Scheffe</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Willingness</td>
<td>Low</td>
<td>27</td>
<td>3.75</td>
<td>.56</td>
<td>.11</td>
<td>3-349</td>
<td>1.975</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>144</td>
<td>3.87</td>
<td>.66</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>131</td>
<td>4.01</td>
<td>.77</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>51</td>
<td>4.07</td>
<td>.95</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT Anxiety</td>
<td>Low</td>
<td>27</td>
<td>2.33</td>
<td>.74</td>
<td>.14</td>
<td>3-349</td>
<td>3.028</td>
<td>.03</td>
<td>1 &gt; 3</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>144</td>
<td>1.99</td>
<td>.72</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td>3 &lt; 1</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>131</td>
<td>1.88</td>
<td>.80</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>51</td>
<td>1.82</td>
<td>.84</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Given in Table 6, the comparative results indicated that there is no significant difference between teachers’ ICT willingness \( F (3-349) = 1.975; p > .05; \) by their perceived ICT skills. However, regarding their ICT anxiety, there is a significant difference between teachers’ ICT anxiety \( F (3-349) = 3.028; p < .05 \) by their ICT skills as they perceived. For a further analysis of the significant mean scores across the levels of their perceived ICT skills, Scheffe and Dunnet C were conducted as a post-hoc test. Dunnet C results illustrated that the teachers with low level ICT skills feel significantly more anxious about educational use of ICT compared with the ones with high level ICT skills [low level ICT skill, \( (M= 2.33, SD= .74) \); high level ICT skills, \( (M= 1.88, SD= .80) \)].
Comparative findings on teachers’ attitude towards ICT use by their ICT training

The results regarding the teachers’ attitude towards ICT use by their ICT training experience were given in Table 7 below. Prior to the analysis, the homogeneity of the variance within the cases was tested with Levene’s test. The Levene’s test results (ICT willingness, $p = .028$; ICT anxiety, $p = .190$) illustrated that the distribution is parametric, thus the assumption of normality is not violated.

Table 7. Teachers’ Attitude towards ICT Use by ICT Training

<table>
<thead>
<tr>
<th>Factor</th>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Scheffe</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Willingness</td>
<td>None</td>
<td>50</td>
<td>3.88</td>
<td>.73</td>
<td>.10</td>
<td>3-349</td>
<td>1.355</td>
<td>.26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-3</td>
<td>224</td>
<td>3.92</td>
<td>.71</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-6</td>
<td>54</td>
<td>4.12</td>
<td>.65</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 and more</td>
<td>25</td>
<td>3.86</td>
<td>1.20</td>
<td>.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT Anxiety</td>
<td>None</td>
<td>50</td>
<td>2.18</td>
<td>.88</td>
<td>.12</td>
<td>3-349</td>
<td>4.447</td>
<td>.00</td>
<td>1 &gt; 3</td>
</tr>
<tr>
<td></td>
<td>1-3</td>
<td>224</td>
<td>1.98</td>
<td>.76</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-6</td>
<td>54</td>
<td>1.67</td>
<td>.64</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td>3 &lt; 1</td>
</tr>
<tr>
<td></td>
<td>7 and more</td>
<td>25</td>
<td>1.79</td>
<td>.83</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The comparative results presented in Table 7 illustrated that there is no significant difference between teachers’ ICT willingness [$F (3-349) = 1.355; p > .05$] by the number of ICT training they involved. However, regarding their ICT anxiety, there is a significant difference between teachers’ ICT anxiety [$F (3-349) = 4.447; p < .05$] by their ICT training experience. In order to analyse what mean scores significantly differ across the number of teachers’ ICT training, Scheffe was administered as a post-hoc test. Scheffe results indicated that the teachers with no previous ICT training feel significantly more anxious about ICT use in teaching and learning compared with the teachers who previously attended 4 to 6 ICT training [(no-ICT training, ($M$= 2.18, $SD$= .88); 4-6 ICT training, ($M$= 1.67, $SD$= .64)].

Discussion

The present study investigated the attitudes of teachers towards ICT use in education and whether their attitudes differ subject to the variables, such as gender, age, teaching experience, ICT experience, ICT competencies and ICT training. Effective incorporation of ICT in teaching and learning in an educational setting may be influenced by many interrelated factors, including teacher, school and national level conditions. Yet amongst all these conditions, teachers have a central role in integration of ICT in their classes. Thus, improving teachers’ ICT skills, and their attitudes are critical to an effective integration of ICT in school settings.

The current study revealed invaluable results; however, it is important to note that some limitations still inherent. First, teachers’ ICT attitudes are not the only, but one of the factors that have an influence on teachers’ ICT use during teaching and learning process. Second, since the sample size is limited to the teachers, working at high schools in Ankara, the results of the study cannot be generalised to other schools from different levels of education. Third, the effects of different variables may vary subject to some other factors such as schools’ ICT infrastructure, school managers’ approach to use of ICT etc. The quantitative nature of the study is another factor that might affect the results; thus, further research is needed to employ both qualitative and quantitative methods to explore factors that affect teachers’ ICT attitudes. Despite the abovementioned limitations, since our results are robust and promising, the present study will contribute to the literature and might be useful during teacher-training programme development process.

Research results revealed that the teachers have a high level positive overall attitude towards ICT use in education. This result overlapped with the findings that teachers displayed positive attitudes
towards ICT use in education (Eyyam, Menevis, & Dogruer, 2010; Lau & Sim, 2008; Özdamli, Hülsen, & Özçınar, 2009). Yet, the results illustrated that teachers still have a low level anxiety towards ICT use in education. The findings also illustrated that there is no significant difference between teachers’ attitudes towards ICT use regarding their gender. This result concurred with many previous research findings (Cavas, Cavas, Karaoglan, & Kisla, 2009, Cavas & Kesercioğlu, 2003; Norris, Sullivan, Poirot, & Soloway, 2003).

Findings also indicated that there is no significant difference between teachers’ ICT use regarding their age. However, some previous studies argued that there is a significant difference between age and teachers’ attitudes towards ICT use (Cavas et al., 2009; Deniz, 2005; Seraji et al., 2017). These studies showed that young teachers have more favourable computer attitudes and lower computer anxiety than older teachers. Unlike the findings of the present study, Lau and Sim (2008) claimed that the higher age group teachers use computer technology more frequently than the younger teachers and are eager to adopt ICT in education. This is explained by the fact that the high age group of teachers can easily integrate ICT into the educational process because of their experience in teaching, classroom management and computer use.

Another finding indicated that there is no significant difference between teaching experience and teachers’ attitudes towards ICT use in education, which concurred with the findings of a previous study (Bebell et al., 2004). On the other hand, Deniz (2005), and Inan and Lowther (2010) found that teachers with less teaching experience have more positive computer attitudes. These results can be interpreted as new graduate teachers have more and up-to-date knowledge about new technologies and technology integration besides being eager to use ICT. Similarly, the results of the research carried out by Karaca, Can and Yıldırım (2013) indicated that teaching experience has a direct and negative influence on the technological competencies and the beliefs and the use of technology. This result is important for teachers who have more teaching experience to determine the training needs for technology use and to provide necessary education. Contrary to this research finding, the research conducted by Baek et al. (2008), and Russell et al. (2007) showed that teachers with less teaching experience are less likely to use ICT in their classes.

The research results also revealed that there is no significant difference between teachers’ ICT willingness by their ICT experience. This result differed from a previous study conducted by Cavas et al. (2009), in which computer literacy experience is one of the most important factors affecting teachers' attitudes towards use of ICT. Aforementioned study showed that teachers with 5 years or more computer experience have a more positive attitude towards ICT use in education when compared to teachers with computer experience at other levels. Similarly, there are a number of studies illustrating that ICT experience positively affects teachers' attitudes toward ICT use in education (Karaca, Can, & Yıldırım, 2013; Inan, & Lowther, 2010; Sadık, 2005; Ocak, & Akdemir, 2008; Seraji et al., 2017).

Even though, there is no significant difference between teachers’ ICT willingness by their ICT experience, the current research disclosed that there is a significant difference between teachers’ ICT anxiety and their ICT experience. Accordingly, teachers with 1 through 5 year ICT experience feel significantly more anxious about use of ICT in teaching and learning compared with the teachers of other ICT experience categories. This result is in line with the result of the study, conducted by Sadik in 2005 with 443 teachers, that teachers with higher levels of computer experience had a lower level of anxiety, higher confidence, positive emotions and a more positive attitude towards using computers in education. Research revealed that there is no significant difference between teachers’ ICT willingness by their perceived ICT skills, yet there is a significant difference between teachers’ ICT anxiety and their ICT skills. Results exemplified that teachers with low level ICT skills feel significantly more anxious about educational use of ICT compared with the ones with high level ICT skills. These results can be interpreted as the fact that the computer experience significantly reduces the teachers' resistance to ICT use in education (Gardner, Dukes & Discenza, 1993; Lau & Sim, 2008), which in return can
positively affect teachers’ perceptions of self-efficacy and their attitudes towards use of ICT in education.

This study also displayed that there is no significant difference between teachers’ ICT willingness by the number of ICT training they had experienced, yet there is a significant difference between teachers’ ICT anxiety by their ICT training experience. Current research results illustrated that the teachers with no previous ICT training feel significantly more anxious about ICT use in teaching and learning compared with the teachers who previously attended 4 to 6 ICT training. Similarly, some previous studies also supported that there is a positive link between teachers’ ICT attitude and their ICT training (Hew & Brush, 2007; Keengwe et al., 2008).

As a conclusion, since our results are robust and mostly supported by previous studies in the literature, they may shed light into ICT policy planners, ICT practitioners and ICT scholars in developing ICT training programs for teachers, prospective teachers and teacher training institutions.

References


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Perceptions of Prospective Teachers about School Principals: Prejudice or Real?

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Abstract

The aim of this study is to reveal prospective teachers’ thoughts and observations about school principals. In the study, the qualitative and quantitative research methods were used together. In quantitative research method, a questionnaire was developed and survey research was conducted with the help of this questionnaire. In the qualitative method, the study of the phenomenology was preferred in order to reveal the experiences and meanings related to the phenomena. The sample of the study consists of 60 senior students at Bayburt University Faculty of Education departments of Primary Education and Science Education. The “Questionnaire of Perceptions of Prospective Teachers About School Principals” developed by researcher was used in this study. In addition, other data collection tool was the observation reports that prospective teachers observe and then write a day of school principals. SPSS package program was used in analysis of the quantitave data. Content analysis was used in analysis of the qualitative data. Perceptions of prospective teachers about school principals were found to be positive and the study showed that gender and department didn’t affect the thoughts of prospective teachers.

Keywords: School principal, prospective teacher, prejudice, school management

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Introduction

Schools, where the future of the country is designed and shaped by producing and presenting educational services according to the aims and principles set by the politics of the country, are the most functional part of the education system. School management is very important in order to achieve success in these institutions. Bursalıoğlu (2002) defines the task of school management as using all the human and financial resources in school in the most efficient way and keeping them alive for school purposes. In order to be able to successfully accomplish this task, it is necessary for the school principal to view the school as a system of roles and to adjust its behavior by always taking into account the roles and expectations of teachers and other personnel which they are related. The school administration who keep the school in accordance with the goals of the school should take some important points into account and do something (as cited in: Taymaz, 2011):

- The school principal should be aware that goals of school is to raise good citizens and must be abide by the law.
- The school principal should be planned, they should direct their employees in accordance with their duties and responsibilities.
- The school principal should have strong communication skill, and unite internal and external components in common ground.
- The school principal should audit and evaluate continuously, fairly and without prejudice.
- The school principal should make it easier for the school to adapt to development and change.
- The school principal should efficiently use, record and control schools’ resources.

Article 39 of the Ministry of National Education Regulation on Pre-school Education and Primary Education Institutions explains the duty, authority and responsibility of the school principals as follows: “The principal ensures that all the tasks given here are fulfilled: Students, all kinds of education and training, management, staff, chattel, correspondence, social activities, scholarship, security, nutrition, maintenance, protection, order, watch, public relations, and the duties assigned to the ministry and provincial / district directorates of national education and other duties specified in the duty definition.” As it is stated here, the school principal, who should deal with all kinds of jobs related to school management, should have leadership skill in order to ensure the effectiveness of the school (Balec, 2002; Şişman, 2002; Özdemir et al.,2012). Educational leadership is about virtues such as honesty, being respectful and showing respect, and such leaders are more valuable to employees (Karaköse and Kocabaş, 2009). The communication established by school principals with teachers is very important and should be active, as the effectiveness of educational organizations is possible (Madenoğlu, Uysal, Sarier and Banoğlu, 2014) because teachers are satisfied with the work they are doing and are willing to act accordingly. Because the leadership qualities of the school principal influence the commitment to organizational values and goals.

If we need to group the works done in the field, firstly there are studies about school principals and their perception of their professions. A research conducted by Şahin (2007) which aimed to identify the daily activities of the school principal has showed that 72% of the daily hours of school principals came from activities outside of education. The school principals stated that 38.6% of their time were spent in face-to-face interviews. 20% of the activities of school principals during their working hours consist of activities such as supervision and environmental control. 11.7% of reported activities consist of Student Affairs activities. In his study, Çelikten (2004) observed a school principal at primary school about a semester and tried to determine what extent the activities of the school
principals with their duties and responsibilities comply. Three management functions that school principals devote the most of their time are general management, planning, checking school; top management, self-training and school-environment relations are the activities which school principals devote least of their time. In his study, Sezer (2016) aimed to determine school principals’ priorities and their views regarding factors affecting their decision-making processes. According to the statements of school principals, first of the priority list is to actualize school goals. Other priority tasks are exam success, quality education and job satisfaction of teachers. Turan, Yıldırım and Aydoğdu (2012) examined the views of school principals regarding their duties and found that school principals felt responsible most for human and financial issues, and had some problems with stakeholders and financial issues.

The second group is the studies that focuses on how their students perceive school principals. Yağcı and Erginer (2014) revealed the perceptions of primary school students about school principals by using the drawings of the students. Most of the drawings the students made about the concept of "school principals" show that they belong to the categories of “being negative element”, “being problem solver”, “being prim and proper” and “being valuable”. Tüzel and Şahin (2014) wanted to reveal the perceptions of primary school students about school administrators through the pictures they have drawn and the metaphors they have used. The school principal and deputy principal were pictured most in their rooms and in terms of their closeness to the students, they were pictured in front of the students and in a positive situation. On the other hand, Yıldırım and Uğur (2011) aimed to reveal the image of the ideal school principal in the perceptions of students and to visualize the determined images by caricaturizing them. As a result of the research, it is seen that the students usually have negative image about the school principals. Students have the image of an ideal school principal who is student-centered and not angry.

The third group is the studies that focuses on how teachers perceive school principals. Akan, Yağcı and Yıldırım (2014) identified the mental perceptions of teachers about concept of school principal through metaphors. Teachers produced mostly metaphors for the concept of school principals in the context of management. Teachers described school principals with commander, soldier, computer, pen, manager metaphors respectively. Cerit (2008) wanted to analyze the perceptions of students, teachers and managers about concept of school principal through metaphors. School principals were perceived by teachers and managers as researchers, supervisors, consultants, educational experts, directors, coaches, orchestra directors and leaders.

There are few studies trying to reveal the thoughts of prospective teachers about school principals. The common characteristic of these studies is that they are metaphor studies. In her study, Örücü (2014) aimed to determine the perceptions of prospective teachers about the school, the school administrator and the Turkish education system through metaphors. The study revealed that prospective teachers had negative perceptions towards the school administrator. Çobanoğlu and Gökalp (2015) aimed to reveal metaphorical perceptions of prospective teachers about school principals. Most of the prospective teachers expressed school principals with the metaphor of "Father, Lion Mother, Dictator, Shepherd". It has been seen that prospective teacher thoughts about school principals were positive. Zembat, Tunçeli and Aksin (2015) also revealed perceptions of preschool prospective teachers regarding the school administrator concept through metaphors. It has been identified with Father, Leader, Mother, Parental metaphors.

In the literature, there is no research revealing prospective teachers’ thoughts about school principals with quantitative data collection tool, comparing prospective teachers’ observations about school principals. It is a conundrum whether prospective teachers have prejudices about school principals whom they might work together when graduated. For these reasons, the problem of this research is the perceptions of prospective teachers about school principals, and school principals’ observations about what they see most in school life, and whether prospective teachers’ thoughts and observations about school principals differ from each other.
Aim: The aim of this research is to reveal the thoughts and observations of the prospective teachers about the school principals. In this scope, following questions will be addressed.

1. What are the thoughts of prospective teachers about school principals?

2. Do the thoughts of the prospective teachers about school principals vary according to the gender of the prospective teachers?

3. Do the thoughts of the prospective teachers about school principals vary according to the department which prospective teachers study?

4. What did the prospective teachers observe most from the school principals' everyday school life?

5. Is there any difference between thoughts and observations of the prospective teachers about the school principals?

Methods

Research Model: Quantitative and qualitative methods were used together in this research to reveal the opinions and observations of the prospective teachers about the principals. The quantitative research method attempts to define the event, the individual or the object as if it exists within its own conditions. The quantitative research method focuses on behavior and transforms data into numbers (Çınkır and Demirkasimoğlu, 2015; Karasar, 2010; McMillan and Schumacher, 2006). The qualitative research method provides a realistic and holistic view of perceptions and events in the natural environment and looks deeply into them (Büyüköztürk et al., 2016; Yıldırım and Şimşek, 2005; Kümbetoğlu, 2005; Punch, 2005). Therefore, firstly a questionnaire was developed in this research and then the survey was conducted with the help of this questionnaire. The survey has been chosen to reveal opinions of prospective teachers about school principals. A phenomenology study was chosen to reveal the experiences and meanings of the phenomena (Büyüköztürk et al., 2016). Prospective teachers were expected to observe a day of school principals and write this experience to an observation report.

Participants: Sample of the study was consisted of 62 senior students at the departments of Primary School Education, Science Education in the Bayburt Education Faculty. These students both answered the questionnaire and observed school principals. The pilot scheme of the questionnaire was attended by 60 senior students at the departments of Elementary Mathematics Education, Turkish Education in the Bayburt Education Faculty. Purpose sampling was used in the research. School principals’ and teachers' thoughts about each other have a strong influence on the school atmosphere and their relations. For this reason, senior students were preferred in this study because perceptions, prejudices, and thoughts of the students who were about to graduate from education faculty are very important. The information of the prospective teachers is shown in Table 1.

Table 1. The information of the prospective teachers

<table>
<thead>
<tr>
<th>Category</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
</tr>
<tr>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>Primary School Education</td>
<td>47</td>
</tr>
<tr>
<td>Science Education</td>
<td>13</td>
</tr>
<tr>
<td>Elementary Mathematics Education</td>
<td>30</td>
</tr>
<tr>
<td>Turkish Education</td>
<td>30</td>
</tr>
</tbody>
</table>
**Data Collection Tools:** In the research, “Questionnaire of Perceptions of Prospective Teachers About School Principals” which was developed by the researcher, was used. The questionnaire was designed to reveal the opinions of prospective teachers about school principals. It consists of 30 items and is a 5-point Likert-type scale. All the prospective teachers who answered the questionnaire took the course called “Turkish Education System and School Management” during the period of this research. They have basic knowledge about school management so they can respond the questionnaire.

The other data collection tool is observation reports that prospective teachers observed a day of school principals and then wrote down. Observation reports are not structured. Prospective teachers were asked to make observations expressing "what school principals do in school hours and within school boundaries."

**Questionnaire Development Process:**

**Identifying the Problem:** The problem of this questionnaire is the perceptions of prospective teachers about school principals. Within the scope of the problem, following questions will be addressed.

- According to the prospective teachers, do school principals manage the school?
- According to the prospective teachers, do school principals perform their duties?
- According to the prospective teachers, do school principals have good communication with teachers, students and other staff?
- According to the prospective teachers, can school principals share responsibilities with employees?
- According to the prospective teachers, can the school principals prepare the school for the future?
- According to the prospective teachers, can school principals meet the needs of the school?
- According to the prospective teachers, are the school principals take care of the employees?

**Creating a Draft Form:** Reviewing of the literature, closed-ended, structured questions were prepared after preliminary interviews with selected students from the target group, and examination of laws and regulations on the duties of school principals. These questions are classified questions which single option can only be marked. It is 5-point Likert-type scale. 1 means the weakest condition (strongly disagree), 5 means the strongest condition (strongly agree). The form consists of two parts. The first part contains personal information and the second part contains the expressions for the purpose. There are 32 items in the draft form.

**Expert’s Opinions:** The draft version of the questionnaire is presented to the expert. Departments of experts are as follows: An assistant professor in the Department of Educational Administration, an assistant professor in the Department of Elementary Education, an assistant professor in the Department of Curriculum and Instruction, two assistant professors in the Department of Educational Measurement and Evaluation and Education Inspector (PhD). Some corrections were made in the direction of the suggestions and two items were removed from the form.
Pilot Practice: If questionnaire intend to identify to an individual’s attitude, perspective and qualification about a specific area, it is recommended that number of items should be double at least. (Büyüköztürk, 2005; Kline, 1994).

As there were 30 items in the questionnaire, it was applied to 60 students. Students answered to the questionnaire in approximately 20-30 minutes and it was seen that they did not have any understanding problem or confusion. In order to scale the reliability of the questionnaire, Cronbach's Alpha was computed and found as 0,903. This alpha value shows that the questionnaire is very reliable. The Bartlett Test and the Kaiser-Meyer-Olkin (KMO) test were performed to test the suitability of the factor analysis. The Bartlett test is a sphericity test, showing whether the data are related to each other. Bartlett test result was found as $X^2=1175,674; SD=435(p=0.00, p<0.05)$. The KMO test examines the suitability of sample size for factor analysis. KMO value was determined as 0.728; 0.72> 0.6 This value’s being at least over 0.50 proved that the data set was appropriate for the factor analysis. The item that affects the total item correlation the most is 2’nd item and the least effective item is 11’th item (55%). None of the items remained below 0.30. These 30 items had seven-factor (sub-dimensional) structure. All the factors explain % 69,954 of the total variance. Table 2 presents the findings obtained in the analysis.

Table 2. Questionnaire’ Factor Structure

<table>
<thead>
<tr>
<th>Factor</th>
<th>% Variance Explained</th>
<th>Item No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>34,35</td>
<td>23, 22, 30, 21, 28, 12, 11</td>
</tr>
<tr>
<td>2</td>
<td>10,17</td>
<td>2, 3, 1, 4</td>
</tr>
<tr>
<td>3</td>
<td>6,47</td>
<td>5,14, 16, 6,10,8</td>
</tr>
<tr>
<td>4</td>
<td>6,00</td>
<td>25, 27, 26, 24</td>
</tr>
<tr>
<td>5</td>
<td>5,07</td>
<td>20, 13, 7</td>
</tr>
<tr>
<td>6</td>
<td>4,38</td>
<td>18, 19, 17, 9</td>
</tr>
<tr>
<td>7</td>
<td>3,49</td>
<td>15, 29</td>
</tr>
</tbody>
</table>

Data Analysis: Frequency and arithmetic mean values of the data about opinions and observations of the prospective teachers about the school principals were calculated first. SPSS 23.00 package program was used in the analysis of quantitative data. Since the data was not normally distributed and the number of participants is less than 30, non-parametric tests were used. Mann Whitney U test was applied to determine whether it differs according to variables of gender and department education. Content analysis technique was used in analysis of the qualitative data obtained from the observation reports of prospective teacher. According to the observation reports, the codes were first created, then the categories. Codes and their frequencies are given. Very repetitive codes have been reported by the statements of prospective teacher.

Results

The “Questionnaire of Perceptions of Prospective Teachers About School Principals” was developed to reveal perceptions of prospective teachers about school principals. The average of each item was calculated according to the responses given to the questionnaire. The overall average is also calculated. Table 3 presents the findings obtained in the questionnaire.
Table 3. Thoughts of prospective teachers about school principals

<table>
<thead>
<tr>
<th>Items</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that the school principal manages the school in accordance with the law</td>
<td>4.22</td>
</tr>
<tr>
<td>I think the school principal has made an effort to take the school where it plans to be in the future.</td>
<td>3.98</td>
</tr>
<tr>
<td>I think the school principal is working to make the education at the school more qualified.</td>
<td>4.00</td>
</tr>
<tr>
<td>I think that the school principal manages the school in a disciplined way.</td>
<td>4.10</td>
</tr>
<tr>
<td>I think the school principal has established a positive organizational climate among the teachers at the school.</td>
<td>3.97</td>
</tr>
<tr>
<td>I think school principal is supportive of teachers.</td>
<td>3.97</td>
</tr>
<tr>
<td>I think the school principal works in cooperation with all the employees.</td>
<td>3.97</td>
</tr>
<tr>
<td>I think the school principal shares responsibility with teachers.</td>
<td>3.93</td>
</tr>
<tr>
<td>I think that the school principal takes into consideration the individual characteristics while assigning the employee.</td>
<td>3.53</td>
</tr>
<tr>
<td>I think that the school principal pays attention to job descriptions while assigning employee.</td>
<td>3.87</td>
</tr>
<tr>
<td>I think that school principal guides teachers.</td>
<td>3.68</td>
</tr>
<tr>
<td>I think that school principal is encouraging teachers to grow and develop in their professions.</td>
<td>3.60</td>
</tr>
<tr>
<td>I think that school principal cares about team work.</td>
<td>3.80</td>
</tr>
<tr>
<td>I think that school principal transfers authority to their subordinates when necessary.</td>
<td>3.90</td>
</tr>
<tr>
<td>I think that school principal checks if employees do their works.</td>
<td>4.03</td>
</tr>
<tr>
<td>I think that the school principal makes employees feel them like a part of the school.</td>
<td>3.92</td>
</tr>
<tr>
<td>I think that school principal helps employees having private problems</td>
<td>3.60</td>
</tr>
<tr>
<td>I think that school principal is rewarding the employees who do the job well</td>
<td>3.18</td>
</tr>
<tr>
<td>I think that school principal is taking legal action for the employees who do not fulfill their duties</td>
<td>3.33</td>
</tr>
<tr>
<td>I think that the school principal is checking the maintenance, repair and needs of the school and doing the necessary operations.</td>
<td>4.40</td>
</tr>
<tr>
<td>I think the school principal has been able to establish a positive relationship with the school social surroundings</td>
<td>3.92</td>
</tr>
<tr>
<td>I think the school principal is adopted by teachers.</td>
<td>4.03</td>
</tr>
<tr>
<td>I think the school principal is loved by students.</td>
<td>3.85</td>
</tr>
<tr>
<td>I think school principal get deputy principal to do every job</td>
<td>2.72</td>
</tr>
<tr>
<td>I think school principal has a traditional (classical) management understanding</td>
<td>2.67</td>
</tr>
<tr>
<td>I think that the school principal always stays in the his/her own room, does not go out</td>
<td>2.13</td>
</tr>
<tr>
<td>I think school principal creates fear in school.</td>
<td>1.95</td>
</tr>
<tr>
<td>I think that the school principal manages the school very well.</td>
<td>3.83</td>
</tr>
<tr>
<td>I think the school principal takes decisions with the teachers about the school.</td>
<td>3.60</td>
</tr>
<tr>
<td>I think the school principal has a good communication with the students.</td>
<td>3.78</td>
</tr>
<tr>
<td>Overall average</td>
<td>3.65</td>
</tr>
</tbody>
</table>

Table 3 shows that prospective teachers think that school principals are sensitive to school maintenance and repair, to manage school in discipline, and to control staff. Prospective teacher gave high scores to these items. Prospective teachers gave the lowest scores to these items: school principal creates fear in school (1.95), school principal always stays in the his/her own room, does not go out, (2,13), school principal has a traditional (classical) management understanding (2,67). These low scored statements are in favor of school principals.

The average of the questionnaires was found as 3.65 in the direction of the answers given by the prospective teachers. The arithmetic mean is interpreted as follows: 1.00-1.79 "fairly low", 1.80-2.59 "low", 2.60-3.39 "medium", 3.40-4.19 "high", 4.20-5.00 "quite high". Because of the overall average is 3.65 (3.40<3.65<4.19); it can be said that prospective teachers do not think negatively about the school management of school principals.

Tests of normality was conducted to see whether the thoughts of the prospective teachers about the school principals changed according to the gender of the prospective teachers. According to the Shapiro-Wilk test, the data do not show normal distribution (female p = .000, male p = .010; p<.05). In addition, the number of participants in one of the groups is below 30. For this reason, Mann Whitney U-Test was performed. The results of the Mann Whitney U-test are given in Table 4.
According to the results of Mann-Whitney U test, there is found no significant difference between prospective teachers’ gender and perceptions of prospective teachers about school principals (U = 249,50; p=0,133; z=-1,503). That is, the average ranking of female prospective teachers is higher than male prospective teachers, but the difference is not statistically significant (p=,133).

Tests of normality was conducted to see whether the thoughts of the prospective teachers about school principals changed according to the department of the prospective teachers. According to the Shapiro-Wilk test, the data do not show normal distribution (Primary School Education p = .000, p<,05; Science Education p =, 801). In addition, the number of participants in one of the groups is below 30. For this reason, Mann Whitney U-Test was performed. The results of the Mann Whitney U-test are given in Table 5.

<table>
<thead>
<tr>
<th>Department</th>
<th>N</th>
<th>Sequences Average</th>
<th>Sequences Total</th>
<th>U</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary School Education</td>
<td>47</td>
<td>32,26</td>
<td>1516,0</td>
<td>223,0</td>
<td>-1,481</td>
<td>0,139</td>
</tr>
<tr>
<td>Science Education</td>
<td>13</td>
<td>24,15</td>
<td>314,0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the results of Mann-Whitney U test, there is found no significant difference between departments of prospective teachers and perceptions of prospective teachers about school principals (U = 223,0; p=0,139; z=-1,481).

Prospective teachers were asked to observe a day of school principals at school. Prospective teachers wrote their observations reports. 60 reports were collected. The codes were first created according to the most repeated statements in the observation reports. Then the categories were created from these codes. The categories created are listed below.

- Opening the school and first activities
- The activities done during the day
- School components relations between each other
- Closing the school

The codes and frequencies of the category ”Opening the school and first activities” according to the observation reports of the prospective teachers are presented in Table 6.
Table 6. The codes and frequencies of the category "Opening the school and first activities"

<table>
<thead>
<tr>
<th>Codes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>School principal is the first person who comes to school.</td>
<td>30</td>
</tr>
<tr>
<td>Check up the school</td>
<td>35</td>
</tr>
<tr>
<td>Attending the opening ceremony of the school</td>
<td>16</td>
</tr>
</tbody>
</table>

From the observation reports of the prospective teachers, we find out that school principals usually come to school before class hour and that almost half of the observed principals are in school before everybody comes. The majority of the school principals also check up the school as the first job in the morning. The expression taken from the observation report of one of the prospective teachers is as follows:

"The principal comes to the school early in the morning and opens the school. He checked up the school garden first: Was there anything to hurt the student? .... Then the principal goes to the classes and checks them one by one to see if they are clean. After that, the principal checkup the cleanliness of the toilets." Science 12

Table 7. The codes and frequencies of the category "The activities done during the day"

<table>
<thead>
<tr>
<th>Codes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spending time in principal’s office during class hours</td>
<td>33</td>
</tr>
<tr>
<td>Checking the school during class hours</td>
<td>3</td>
</tr>
<tr>
<td>Spending lots of time in principal’s room</td>
<td>9</td>
</tr>
<tr>
<td>Walking around at the school</td>
<td>11</td>
</tr>
<tr>
<td>Welcoming the guests</td>
<td>13</td>
</tr>
<tr>
<td>Welcoming the parents</td>
<td>20</td>
</tr>
<tr>
<td>Dealing with official correspondences (especially electronic)</td>
<td>60</td>
</tr>
<tr>
<td>Following up and announcing the announcements</td>
<td>23</td>
</tr>
<tr>
<td>Checking the accounts</td>
<td>4</td>
</tr>
<tr>
<td>Meeting with deputy principals</td>
<td>26</td>
</tr>
<tr>
<td>Deciding / handling a job together with the deputy principal</td>
<td>8</td>
</tr>
<tr>
<td>Lecturing instead of absent teacher</td>
<td>4</td>
</tr>
<tr>
<td>Having deputy principal to lecture instead of absent teacher</td>
<td>8</td>
</tr>
<tr>
<td>Having intern student to lecture instead of absent teacher</td>
<td>9</td>
</tr>
<tr>
<td>Detecting an unexpected problem and finding quick solution to it.</td>
<td>9</td>
</tr>
<tr>
<td>Helping maintenance of the school</td>
<td>8</td>
</tr>
<tr>
<td>Checking the school via window and camera</td>
<td>14</td>
</tr>
<tr>
<td>Checking the activities (like important days and weeks etc.)</td>
<td>18</td>
</tr>
<tr>
<td>Checking trials exams</td>
<td>3</td>
</tr>
<tr>
<td>Teaching a student one to one (teaching read and write for inclusive student)</td>
<td>1</td>
</tr>
<tr>
<td>Drinking tea</td>
<td>28</td>
</tr>
<tr>
<td>Ringing the bells</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 7 shows that the majority of school principals deal with official business, parents, education, and repair work during class hours and communicate with students, teachers and hall monitor her during breaks. The most repeated statements in the observation reports are that school principals turn computer on as soon as arriving their room and check whether there are any official correspondence or announcement (60). Because of the usage of electronic document management system being active, it is seen that the school principals check the system three to four times a day. It is also seen in the reports that school principals are very rigorous about informing the announcements
to the teachers. (23). It has been observed by the prospective teacher that school principals summon deputy principals for asking if the job is done, bringing documents or asking them how to do a job. (26). The number of principals who have decided how to do a job together with deputy principals has been 8. Deputy principals (8) or intern (9) give lectures instead of teacher who is absent. School principal rarely give lectures (4). It is reported that school principals carry out repair work together either the staff, or a parent or an expert, due to economic inadequacy of school. One of the prospective teachers explains his observations as follows:

“During the class hours, the school principal was dealing with the tasks on the system (in the electronic environment), and the principal was in communication with teachers and students during break times.” Primary 68

In order to be a successful school principal, school principal should have good communication with teachers, students and other staff. It is inevitable to encounter the school principals' communication with the staff in the observation reports of the prospective teachers. The codes and frequencies of the category “School components relations between each other” are presented in Table 8.

Table 8. The codes and frequencies of the category “School components relations between each other”

<table>
<thead>
<tr>
<th>Codes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greeting to teacher in the teachers' room</td>
<td>23</td>
</tr>
<tr>
<td>Interview with teachers about school</td>
<td>24</td>
</tr>
<tr>
<td>Relationship with teachers and students in break time</td>
<td>31</td>
</tr>
<tr>
<td>Committing social communication with teachers about non-school matter</td>
<td>7</td>
</tr>
<tr>
<td>Lack of communication with teachers/ rough behaviors to teachers</td>
<td>2</td>
</tr>
<tr>
<td>Checking teachers (in terms of coming and leaving to school)</td>
<td>29</td>
</tr>
<tr>
<td>Morning checks with hall monitor</td>
<td>4</td>
</tr>
<tr>
<td>Checking hall monitor</td>
<td>23</td>
</tr>
<tr>
<td>Visiting classes, interviewing with students and informing them</td>
<td>10</td>
</tr>
<tr>
<td>Checking the appearance of the students</td>
<td>9</td>
</tr>
<tr>
<td>Hard warnings to the students</td>
<td>4</td>
</tr>
<tr>
<td>Checking the staff</td>
<td>7</td>
</tr>
<tr>
<td>Notification of deficiencies to the staff</td>
<td>11</td>
</tr>
</tbody>
</table>

According to the observation reports of the prospective teachers, half of the school principals communicate with the teachers during school hours. School principals greet teachers in teachers' room in the mornings (23), talk about school issues in the breaks (24). The number of principals who commit social communication with teachers about non-school matter is low (7). Almost half of the principals check whether the teacher come to the school or go to classes on time (29). Very few of the principals are tough against teachers (2) and students (4). It is also seen that the principals check the staff (7) less than they do teachers (29).

According to the observation reports of prospective teachers, the final category is related to the preparation of end of day and closing the school. The codes and frequencies of the category “Closing the school” are presented in Table 9.
Table 9. The codes and frequencies of the category “Closing the school”

<table>
<thead>
<tr>
<th>Codes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking the school at the end of day</td>
<td>20</td>
</tr>
<tr>
<td>Planning the next day</td>
<td>3</td>
</tr>
<tr>
<td>Waiting for everyone to leave school</td>
<td>25</td>
</tr>
<tr>
<td>Leaving school with closing bell</td>
<td>3</td>
</tr>
<tr>
<td>Leaving school early (without waiting for closing bell)</td>
<td>5</td>
</tr>
<tr>
<td>Visiting to Directorates of National Education during class hours</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 9 shows that school principals do not leave the school before last lesson unless there is a compulsory situation. Before they leave school, they check windows, faucets, lights (20) and wait for everyone to leave school (25). The followings are the statements that prospective teachers share their prejudices and observations regarding the school principals.

“There was a point attached my attention here. Neither the teachers, nor the students, nor the staff working at the school were not afraid of the principal. The principal gave them that comfort. People are usually afraid of the school principals. Even if the person passes in front of their door, he/she tries to be quick but students can easily come and say their wishes in here.” Primary 72

“I used to think that the principals were just sitting down in their room and they roughed up the students in general. I had always seen this way in elementary school. But I have seen that is not true for all the principals. Besides, the principal has been involved in all kinds of school affairs.” Primary 48

One of the prospective teacher expressed his general impressions about the school principals as follows:

“At the end of a day of observation, the school principal acts as a bridge between DNE and the school. At the same time, he deals with all the problems even if it is small and big.” Primary 15

Discussion and Conclusion

In this research, firstly, an answer was searched for the question "What are the thoughts of the prospective teachers about the school principals?”. Thoughts of prospective teachers about school principals are positive. Prospective teachers think that school principals perform the most repair and maintenance work of the school. They think that school principals direct the school in discipline, and control the staff. In addition to the answers given to the questionnaire, it has also been revealed that school principals are very interested in the school maintenance work in the observations of the teacher candidates. School principals have been reported to be involved in the repair work either with the staff or with a parent or a skilled worker due to economic inadequacy. In the observation reports, it is seen that the school principals especially control the arrival and departure of the teachers to school and class. In the questionnaire, lowest scored statements which prospective teachers gave are that school principals create fear in the schools, and they spent a lot of time in their room. These low scored statements are in favor of school principals. In observation reports, it is reported that they go to classes and teachers’ room during breaks and very few of the school principals are rough to teachers and students. It has been stated that students and teachers can speak comfortably with the school principal. According to the opinions and observations of the prospective teachers, it can be said that school principals do not create fear in the schools and actively work in the school. However, it is obtained from observation reports that the number of school principals who communicate with teachers outside of school hours and outside of class hours is low. In their study, Zembat, Tunçeli and Akşin (2015) found that prospective teachers perceived "school administrator" as people who guards, takes care of, solves problems, and guides their students and teachers. Çobanoğlu and Gökalp (2015), in their
metaphor study, also revealed that prospective teachers’ opinions about school principals is positive. The negative metaphors were 9.4%. However, in her study, Örücü (2014) revealed that prospective teachers had negative perceptions about school administrators. Prospective teachers have defined school managers as people who are rigid, authoritarian, do not support participation in decisions, and sometimes carry out exaggerated repressive, normative, disciplinary authority and control mechanisms.

One of the lowest scored statements which prospective teacher gave is that school principal has a traditional (classical) education understanding. Because of low score of this statement, it can be inferred that traditional education understanding is losing its effect in schools. A similar finding exists in the study of Cerit (2008). In Cerit’s (2008) study, school principals were not defined as mother/father or keeper. This finding shows that traditional education understanding tends to lose its validity. These findings also support this research.

Prospective teachers reported that school principals were involved in a lot of work during the day. During class hours, school principals deal with official jobs, parents, needs of school and planning. In the study conducted by Akçay and Başar (2004), it is seen that the school principals separate most of their time for school management (like equipment supply, participating in the ceremonies, school-environment relation, building maintenance, creating and spending of the school resources). In the study of Çelikten (2004), it is seen that they allocate 21% (maximum rate) of time to general management. The most frequent statement in the observation reports is that school principals immediately turn on their computers and check official correspondence or announcements when they arrive school. With the electronic document management system being active, it is seen that the school principals control the system three to four times a day. Because of the responsibility of official jobs, correspondence and electronic announcement, school principals often check electronic document management system. It is also possible to see in the reports that school principals are very rigorous about informing the announcements to the teachers. In his study, Sezer (2016) stated that school principals gave priority to routine work, including the general operation of the school. Again, in his study of Şahin (2008), he stated that 15% of school principals' activities until lunch time are official correspondence. In his study of Çelikten (2004), he observed school principals and found out that they separated 12% of their time for official correspondence. It can be said that when the data of this research is compared with the researches in the literature, school principals are starting to devote more time to official correspondence and to check the system. The reason for this is that the correspondence is carried out via electronic document management system.

There is no significant difference between the opinions of the prospective teachers about the school principals and the gender of the prospective teachers. Prospective teachers' thoughts towards school principals do not differ according to the department of prospective teachers. In his research, Ekinci (2010) examined the levels of school principals' guidance to prospective teachers. This research revealed that there is no difference in terms of gender. Cerit (2008) showed that there is no difference in terms of gender when presenting the thoughts about school principals through metaphor.

In the observation reports of prospective teachers, we find out that school principals usually come to school before class hour and that almost half of the observed principals are in school before everybody comes. The majority of the school principals also check up the school as the first job in the morning. According to Şahin (2007) study, 20% of the jobs that school principals do during working hours are divided into inspections and environmental controls. Çelikten (2004) showed that 12% of the work they did when principals came to school constituted inspections activities. In this context, researches support each other. Article 6 of the Regulation on High School and Junior High Schools states that "the principal is authorized to do, to arrange and to inspect all the affairs of school within the limits of the order". Furthermore, the principal is also obliged to ensure the preservation, good use, cleanliness and order of the school building and its belongings and to closely monitor the owners of the relevant duties "(MEB, 1964). This regulation is a clear indication of why school principals give importance to inspections when they come to school and leave the school.
The principals talk with the deputy principals in the form of inviting them, asking if the job is done, asking to sign, or asking for a job. However, the number of school principals who decide how to handle a job together with the deputy principal is very small. In the questionnaire, "I think school principal get deputy principal to do every job" expression has a medium level average, and "I think that the principals transfer authority to thier subordinates when necessary" expression has a high-level average, and "I think that the principals care about team work" expression has a high-level average. In this respect, the answers of the prospective teacher to the questionnaire do not overlap with their observations. According to Çeliktııen (2004), meetings held with deputy principals constitute 6% of the time of the school principals. However, the deputy principal acts as a principal in the absence of a school principals and is primarily responsible for the management of the school (MoE Pre-primary and Primary Education Institutions Regulation). According to the participatory management approach, school principals must manage school together with all the workers and affected people. In the study of Aydoğan (2002), he has revealed that 34% of the managers found the participatory management approach to be less applicable, and 32% of the managers found it to moderate, and 23% of the managers found it to never apply. This study supported by these data.

School principals do not leave the school before last lesson unless there is a compulsory situation. They check out windows, faucets, lights before leaving school. They try to be the last one leaving the school. School principals pay attention to legal duties and responsibilities. The statement "I think that they manage the school in accordance with the law " in the questionnaire is very similar to the observation reports with a very high average. In Sezer's (2016) study, laws and regulations are the top of the activities effecting school principals’ decision-making processes. School principals also state that laws and regulations are a priority in school management.

Looking at the literature related to the research and the findings of the research in general, the perspectives of the prospective teachers about the school principals are becoming positive. This research was designed by noticing a prejudice in preliminary interviews with prospective teachers. However, one-day observations of prospective teachers about school principals have begun to change their thoughts about school principals. Prospective teachers’ perceptions of school principals can affect the school, students, their relationship with the school principal, their professional lives, and even their lives. New start without prejudices are required for successful school management, a successful career and personal life. In this context, it is important that the perceptions of prospective teachers about school principals are positive. In addition, this research revealed how school principals spent a day at school. According to this research, school principals are active at school, they communicate to teachers and students, and follow electronic document management intensively. However, school principals do not spend much time in educational activities, planning and teacher training activities. These observations can provide suggestions for effective and efficient use of time by school principals. It can help them see their own deficiencies.

Based on these results, the following suggestions can be made:

• School principal observations can be added into the school practice courses.
• Undergraduate courses may include activities that prospective teachers can contact with school principals.
• Communications between school principals and students can be improved by arranging conferences.
• Such researches can be repeated with different working groups and research methods to help identify needs.
• School principals can be provided with in-service training on effective and efficient time management.
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Prospective Teachers’ Perceptions on Education Policy: A Metaphor Analysis*

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Abstract

This study aiming to determine the metaphorical perceptions of prospective teachers regarding Turkey’s education policies was modelled in the ‘phenomenological pattern’ which one of the qualitative research methods. The study group was 150 prospective teachers. Data was collected using a metaphor form and via focus group interviews. Descriptive analysis and content analysis techniques were used for data analysis. Prospective teachers produced 135 valid metaphors. The most frequently repeated metaphors were chameleon, jigsaw puzzle, play dough, exchange rate, seasons, Black Sea’s weather, domino stones, human life, Indian silk, swamp, traditional agriculture, tuning of the oriental instrument, vegetable soup, and weather forecast. The main categories were uncertainty, changeability, inevitableness, subjectivity, anxiety, desperation, instability, inconsistency, and awareness. The metaphors and focus group interview results show that the prospective teachers perceive negatively the frequent changing policies and educational practices.

Keywords: education policy, prospective teacher, metaphor, focus group

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Introduction

During the last decades, especially in OECD (Organization for Economic Cooperation and Development) countries, a significant increase in the number of comparative studies focusing on educational achievement has been observed. Findings of studies such as the Programme for International Student Assessment (PISA), the Progress in International Reading Literacy Study (PIRLS), and the Trends in International Mathematics and Science Study (TIMSS) reveal the differences in performance of students in OECD countries. Thus, decision makers for educational policies need to respond to criticisms about the effectiveness of their educational systems. In recent years, OECD countries have adopted the national policies in their educational systems to improve the quality of education through promoting teacher selection, provision of teacher initial and in-service training, quality of the curriculum, educational accountability, and use of resources to improve schooling.

In modern times, education is defined as an assurance of young generation’s preparation for the challenges that will be faced in future (Warnock, 1977). This preparation process includes at least three elements: (i) the preparation for business life, (ii) the preparation for fulfilling of dreams, and (iii) the preparation for a dignified life (Aspin & Chapman, 2005). Today, education is perceived as a process ensuring individual improvement in line with innate abilities and the process for self-fulfilment (Aggleton & Rowe, 2002). In this sense, education is seen as a process through which students’ intelligence development should not be reduced to professional or utilitarian aims (Peters, 2010).

Education refers to organized activities aiming to improve human life and humanity in every way with goals such as economic and social development, productivity, social welfare, tolerance, justice and happiness. Notwithstanding that it is not possible to predict the value and importance of educational investments, instantly. This is because improvements in individual and society can completely be seen only in future (OECD, 2010). Actually, to be well educated and participate in work force are two key factors to be beneficial for development of any state (Carter, 2008). Otherwise, the individuals are called a ‘brain waste’ because they have college degrees and they are unable to find responding jobs proper to their skills. These results are dampening income growth for college graduates in industrial countries and forcing them into occupations not requiring a high level education. Here, there is a criticism on education policies that the graduates have no sufficient encouragement to be functional for development of their state (Spring, 2009). On the one hand, there are not enough jobs in economy for graduates and on the other hand, it is not possible to calculate the demand for labour force in the developing sectors (Brown & Lauder, 2006). Consequently, we need a permanent, consistent, scientific and sustainable education policy (Aydın, 2015).

It is understandable that education is one of the most controversial topic because it is closely related to a very large segment of the society (Phillips, 2001). Therefore, education policy has a high priority on the agenda of governments across the world because the outcomes of education policy are important for economic prosperity and social citizenship (Bell & Stevenson, 2006). The schools provide for students a common set of values and knowledge, thus create a basis for citizenship and functioning democratic society. Schooling also contributes to the scientific and cultural progress of the society and plays an important role in economic and social growth by ensuring the conditions for employment (Olssen, Codd, & O’Neill, 2004).

Baldwin (1976) defined ‘policy concept’ as the formulation of rules, norms and the prescriptions intended to govern the subsequent decisions and actions of government. This concept also includes forecasting, strategic planning and implementation dimensions (Aydın, 2015). The ‘policy’ is usually summed up as the process including the main components such as (i) agenda setting, (ii) policy formulation, (iii) decision-making, (iv) implementation, and (v) monitoring and evaluation (Court, Mendizabal, Osborne, & Young, 2006). The concept of ‘educational policy’, which is expressed as a reflection of the ‘policy concept’ can be defined as the assessing of the educational
outputs, trying to understand how the curriculum is being implemented, or to what extent it meets the aims of the education (Hacsi, 2003).

Education policy varies according to governing structures. In the countries where the centralisation is efficient, the source of educational policy is often the central authority. It is indeed a case that policy of educational institutions, both for the public and private sectors, mainly derives from state legislation and directives (Dye, 1992). In democratic countries, the education policies directly and profoundly affects the economy, the security of borders, and the quality of the national life so it is determined by considering the strength of the schools, colleges, and the universities (Brademas, 2002). Another value of democratic education policy is that without it we would not be able to live as the citizens of a free and self-governing nation (Short, 2005). Democratic education policy is vital to educate the citizens and to prepare potential public leaders. Certainly, democracy cannot survive unless those who make choices are wise, and we should rely on the schools to foster democratic attitudes (Darom, 2005).

The rapid change in all areas of life also accelerated the change in education policies (Cummings, 2010). Consequently, this rapid change cause many radical changes in educational institutions, such as teaching programs and teacher assessment (Furlong & Phillips, 2001). Today, in evaluation of the education policies, it is preferred to establish quality assurance for consumers by creating standardized evaluation systems and a competition-based environment on the basis of accountability (Nitta, 2008). Although Turkey’s education policies have a long past, sweeping changes were made following the foundation of republic in education policies, as well as in all other policies. After the law enacted on March 3, 1924, all schools were linked to the Ministry of Education, the problem of different education systems abolished to build integrated single education system (Ari, 2002).

The Law No. 222 on Primary Education and Education, issued in 1961, enforced the compulsory education period to be 8 years between the ages of 7-14 (Resmi Gazete, 1961). Eight year uninterrupted compulsory education was adopted in parliament on 18 August 1997 and implemented throughout the country since 1997-1998 academic year (Resmi Gazete, 1997).

Within the last two decades rapid changes have occurred in education system. The Turkish Education Ministry has made numerous changes and regulations in school managers’ appointment and relocation policy. Secondary school curriculum changed in 2004. Duration of high school education increased to 4 years from 3 years in 2005. Instead of OKS (Secondary Education Institutions Selection and Placement Examination), Level Placement Examination (SBS) implemented in 2007, for 6th, 7th and 8th grade students. Student selection examination system (OSS) (applied for 10 years) changed in 2010. Higher education transfer exam (YGS) and undergraduate placement examination (LYS) systems were put into practice. In 2010, instead of the two-stage SBS, single test model was applied. All general high schools were turned into Anatolian high schools with a circular issued in 2010. In 2012, 8-year uninterrupted education system in primary education was abandoned, and 4 + 4 + 4 system was put into practice. The TEOG (Transition from Primary Education to Secondary Education) exam was applied to 8th grade students to entry high school. In 2017, changes were made in primary, secondary and high school curricula. In 2017, the Ministry of Education announced that TEOG exam was removed and the ‘Parent Preferential Free Registration System’ was introduced. In 2017, university entrance examinations were changed, Basic Qualification Test (TYT) and Higher Education Institutions Examination (YKS) were put into practice.

**Assembling a methodological and theoretical framework**

The Effects of policy implementations in education are the key factors because education has a great impact on the economic, social, political and cultural development of the society. It was clear that the prospective teachers were among the most affected groups from the education policies implemented in Turkey. Because, every year 60,000 prospective teachers in different branches
graduate from the education faculties and a total of one million teacher candidates are waiting for appointment as a teacher.

In previous studies (Nalcaci & Bektas, 2012; Ozdemir, 2012; Ozdemir & Akkaya, 2013; Yuner & Ozdemir, 2017; Saban, 2008) it is generally focused on the metaphorical perceptions of participants related to the ‘school’ as an institution. Besides, Bozpolat (2015), Dogan and Kavtelek (2015) focused on the metaphoric perceptions of the participants related to the ‘education and learning’. Orucu (2014), and Sezgin-Nartgun and Gokcer (2014), aimed to reveal the metaphoric perceptions of participants on school management and educational policies related to teacher education.

The studies evaluating the educational policies in Turkey are limited (Adem, 1997; Buyukboyaci, 2015; Meşeci-Giorgetti & Batır, 2008; Saglam, Ozudogru, & Ciray, 2011; Tural & Karakutuk, 1991). In these studies, in general, it was focused on the factors influencing educational policies in certain periods of Turkey. It was predicted it would be more convenient for prospective teachers to express their opinions through the metaphors because considering some of them may have reservations to express directly the effects of education policy on their improvements. Actually, metaphor is a conceptual expression of the meaning of a situation for an individual. Therefore, metaphor is evaluated as the process of seeing and understanding. From this point, the metaphor is seen by individuals more important and effective mental production than the expression of an analogy concept (Musolff, 2012; Steen, 2011). The premise behind this methodology is ‘human beings use the analogies directly and consciously to describe their experiences and beliefs.’ So, the researchers examining the metaphors can begin to uncover the meanings beneath these analogies (Zheng & Song, 2010). Under completely different research conditions, a study in experimental psychology shows that metaphors induce both attention-directing and cognitive processes (Moser, 2001). Metaphors enable to ‘learn and know’ based on the individual’s understanding of his/her life environment and events and the meaning in their life experiences (Yıldırım & Simsek, 2013, p. 238). The metaphor is formed by expressing explicitly or implicitly that X is a Y phenomenon. This also allows that the metaphor to be perceived as a powerful mental model (Saban, 2008). Moser (2000), specifies the metaphor analysis as a useful method accessing tacit knowledge and exploring social and cultural processes of understanding. Because the metaphor is deeply related to the experience and perception of the individual in relation to a particular situation (Eraslan, 2011).

Method

This study was modelled in phenomenological pattern which is one of the qualitative research methods. In phenomenological researches, it is aimed to put out individuals’ cognitive constructs stored in their minds by looking closely to the interpretations concerning their experiences (Creswell, 2003; Lodico, Spaulding, & Voigtle, 2006). In addition, a qualitative research design demonstrates the wide range of excitement existing in the relationship between subjectivity, self-reflection, and adherence to the methodical procedures (Schmitt, 2005).

Study Group: The study group was 150 prospective teachers attending Ordu University Education Faculty in the academic year 2016-2017. This group was determined by using maximum variation sampling method. A maximum variation sample is constructed by identifying key dimensions of variations and then finding cases that vary from each other as much as possible. Employing maximum variation sampling, researcher can identify essential features and variable features of a phenomenon as experienced by diverse stakeholders from varied contexts (Gentles, Charles, Ploeg, & McKibbon, 2015; Suri, 2011).

The focus group was determined according to the metaphor analysis results as the focus group. After identification of the categories, the focus group interview process put into practice to obtain in-depth information related to these categories. For this purpose, the interviews were conducted in nine groups and there were seven participants in each group.
Data Collection: Data was collected by using metaphor form and focus group interviews. In the metaphor form, it was asked from participants to complete the following sentence. “The education policy in Turkey is like a/an..................Because ...........................................” Firstly, it was asked the prospective teachers they should think about the education policies implemented in Turkey during their education periods. Secondly, it was asked that they should simulate something about these applications affecting themselves. Thirdly, it was asked that they should think about the reason of this analogy and to write a meaningful explanation as a ‘justification’ consisting one or two sentences in empty places on the form.

Focus Group Interviews: The focus group interview is defined as a carefully planned series of discussions aiming to obtain participants’ perceptions about a predetermined subject in a moderate and non-threatening environment (Cokluk, Yılmaz, & Oguz, 2011). Focus group methodology is one of several tools that educators can use to generate valid information important to the advancement of programs, communities, and organisations (Grudens-Schuck, Allen, & Larson, 2004). Firstly, in this process, it was determined the most frequent metaphors. Secondly, 63 interviewers were determined among the participants based on volunteerism. Thirdly, nine groups were consisted of seven seaters. Fourthly, the focus group discussions were continued with focus group discussions on the each group using metaphors in the nine different categories. These interviews continued for six weeks. A student recorded the participants’ views during the interviews.

Data Analysis: Data analysing process was continued by using descriptive analysis and content analysis techniques. The metaphors were analysed in four stages, namely (i) coding and elimination, (ii) category development, (iii) validity and reliability, and (iv) data presentation and interpretation.

Coding and elimination: At this stage, the metaphors were listed in alphabetical order on the excel table. For this purpose, a sequential number was assigned for each participant. In this process, it was aimed whether the participants write out a certain metaphor in a clear way. For this, each metaphor was encoded (e.g. “play dough”, “swamp”, etc.). Then, it was eliminated the eight forms leaving blank or containing any metaphor images. Although some participants expressed a certain metaphor image but, they did not offer a rational reason for this metaphor. In addition, some participants instead of offering a metaphor image in general, they have shared personal thoughts on educational policies. Depending on all these reasons, the eight forms was eliminated and excluded from the analysis.

Category development: At this stage, the metaphors were examined in terms of the relationship between ‘the source’ and ‘the reason’. In this process, it was removed seven datasets from the analysis process having no logical association between the source and the reason. Thus, 135 valid metaphors were determined. As a result of this review, each metaphor was associated with a particular theme, taking into account the reasons. For convenience in creating categories, the metaphors and the reasons considered in the same category were showed with the same colour on the excel table, and it was used a different colour to separated different category. This process was continued until remaining any metaphor is not shown in a certain category. In the end, nine different conceptual categories were identified.

Validity and reliability: To increase the accuracy of this study, data were collected on the basis of the volunteerism among the prospective teachers who were directly affected from the topic. In order to contribute to the originality of the research, direct quotations were used, so that the identities of the participants were kept secret. In addition, data collection and analysis process was described with all the details (Yildirim & Simsek, 2013, p. 256). To ensure the reliability of this study, the expert opinion was consulted to confirm whether the metaphors shown in the nine conceptual categories were correctly represented within the specified conceptual category. For this purpose, an excel table used for analysis was given to a faculty member who is in the department of educational sciences in the same faculty. It was asked the faculty member to match metaphor images with a conceptual category.
(so that no metaphor image is excluded) using this list. Then, the matches were compared. It was applied the formula “Reliability= Consensus / (Consensus + Dissidence) × 100” to determine the reliability of the coding (Miles & Huberman, 1994, p.64). The agreement between the two coders was calculated as 130 / (130 +5) × 100 = .96.

Data presentation and interpretation: data were presented as the frequency (f) and percentage (%) values. In addition, the opinions which the best represent each category were presented. For this purpose, the striking views of the participants were presented as [P1], [P2], and [P3]. In the conclusion section, the evaluations related to the all categories were given.

Results

In this section, the descriptive analysis results are given. Prospective teachers produced 135 valid metaphors. Most frequently repeated metaphors were chameleon (f=10), jigsaw puzzle (f=9), play dough (f=5), exchange rate (f=3), seasons (f=2), Black Sea’s weather (f=2), domino stones (f=2), human life (f=2), Indian silk (f=2), swamp (f=2), traditional agriculture (f=2), tuning of the oriental music instrument (f=2), vegetable soup (f=2), and weather forecast (f=2).

The metaphors and main categories are presented in Table 1.

Table 1. The metaphors and categories (ƞ=135)

<table>
<thead>
<tr>
<th>Category</th>
<th>Metaphors (ƞ=16)</th>
<th>Category</th>
<th>Metaphors (ƞ=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty</td>
<td>Adolescent behaviour, bike without brake, cues in a drama, domino stones, exchange rate, folk song’s lyrics, integral, jigsaw puzzle (f=7), kitchen knife, Math, Mehter, truck without brake, umbrella, vegetable soup (f=2), weather forecast, worm</td>
<td>Changeability</td>
<td>Chain swivel, chameleon (f=10), exchange rate (f=2), fourth on the game, human life (f=2), jigsaw puzzle, play dough, river, seasons (f=2), Syria</td>
</tr>
<tr>
<td>Changeability</td>
<td>Cake mould, caste system, dartboard, domino stones, earthquake, handcuffs, horse race, Japanese fish, jigsaw puzzle, knitting yarn, labyrinth, lifespan of a butterfly, PC games, Rubik’s cube, swamp (f=2), the traffic in Istanbul, the traffic in Ordu, tornado, tortoise,</td>
<td>Subjectivity</td>
<td>Arab soup, car with filmed windows, greenhouse, ideologue, microphone, pen, play dough (f=4), scenario of series, soccer ball, swing, traffic lights</td>
</tr>
<tr>
<td>Inevitableness</td>
<td>Broken scales, crock, doctor’s prescription, Indian silk (f=2), intelligence cube game, jalopy, low fitness player, Russian roulette, suicide bomb, torn pants, toy block, vehicle in reverse direction, winged apple</td>
<td>Desperation</td>
<td>Autumn, drum sound, fiddlers on Titanic, infinite density ‘0’ point, non-stitched dresses, passengers waiting for a train, plain paper, sand watch, seasonal series, sugary gum, swing ride, uniform, wrong player</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Black Sea’s weather (f=2), climate, crazy consumer, glass set, paving stones, pop music, seesaw, stabilized road, traditional agriculture (f=2), weather forecast</td>
<td>Inconsistency</td>
<td>Ashura, assembled computer, loss factory, patchwork, reform movements, ship without route, trial board, tuning of the oriental music instrument (f=2), waves of the Black Sea, wind</td>
</tr>
</tbody>
</table>
In Table 1, it is appear that the inevitableness main category includes greatest number of metaphors (n=19). The uncertainty main category includes 16 metaphors. In addition, the most frequent metaphor is jigsaw puzzle (f=7) in this category. The changeability category includes ten metaphors. In this category, the most frequent metaphor is chameleon (f=10). Some metaphors such as exchange rate, domino stones, jigsaw puzzle, and play dough are seen in two different categories. This is because during the category creating process the reasons explaining the metaphor were considered.

In Diagram 1, the frequency of the main categories are presented.

**Diagram 1.** The main categories.

In Diagram 1, the uncertainty (f=23), changeability (f=22), and inevitableness (f=20) rank as the first three categories. The other categories are namely, subjectivity (f=14), anxiety (f=14), desperation (f=13), instability (f=12), inconsistency (f=11) and awareness (f=6).

In this section, the focus group interviewers’ opinions are exemplified. During focus group interviews following question was asked to participants including a metaphor. ‘What does the metaphor of ‘jigsaw puzzle’ evoke to you?’ The participants’ names are imaginary. The views containing the striking justifications are shown as following:

**Category 1. Uncertainty**

In this category, the metaphors ‘jigsaw puzzle’, ‘exchange rate’, ‘vegetable soup’, and ‘adolescent behaviour’ are interviewed, respectively.

*Mr. Can:* I believe that the education policy in Turkey is like jigsaw puzzle. Because, something are constantly done, and then changed again. We do not have a sustainable educational policy and as if there are missing pieces it cannot be completed.
Ms. Sezgin: The education policy in Turkey is like exchange rate. It is very difficult to predict what will happen tomorrow. Because, it’s not clear.

Mr. Karaman: Because, it’s all hodgepodge. Every new change putting into practice confuses teachers and students’ minds.

Ms. Altun: I think that the education policy in Turkey displays an ambivalent feature. It is just like adolescent behaviour. Because, the adolescents often behave ambivalently.

Category 2. Changeability

In this category, the metaphors ‘chameleon’, ‘human life’, and ‘seasons’ are interviewed, respectively.

Ms. Yilmaz: The chameleon changes its colour according to the environmental conditions. The education policy in Turkey is similar to chameleon. Because, its colour and shape change according to government policies, such that the education policies are re-determined according to the every new Minister of National Education. It does not show consistency, it changes constantly.

Ms. Guner: The human life is in constant changes. The education policy in Turkey is similar with human life. Because, it can change at any moment like human life.

Mr. Yalcin: The education policy in Turkey is like seasons. Just like the seasons, it shows a variable structure. Because, the new changes are observed constantly depending on the changing conditions.

Category 3. Inevitableness

In this category, the metaphors ‘lifespan of a butterfly’, ‘the traffic in Istanbul’, ‘dartboard’, ‘swamp’, ‘labyrinth’, ‘earthquake’ are interviewed, respectively.

Ms. Altan: The education policy in Turkey is like the lifespan of a butterfly. Because of these implementations we are trying to fit a lot of things in a short time.

Mr. Tatli: I believe that it’s similar to the traffic in Istanbul. Because, every individual in the system carries anxiety to reach a place in time as like the traffic in Istanbul.

Ms. Guzel: The education policy in Turkey is like a dartboard. Due to the policies implemented in education system I feel as I turn into target board.

Ms. Odabasi: If the appropriate policies do not set, the system will continue sinking.

Mr. Taskin: If someone gets in, cannot go out again, helplessly wallows in it.

Mr. Taskin: The education policy in Turkey is like a labyrinth. Because, someone once gets inside he/she cannot go out again.

Ms. Toprak: I think, so that the education policy in Turkey is similar with an earthquake. The constantly changing policies affect our lives negatively like an earthquake.

Category 4. Subjectivity

In this category, the metaphors ‘play dough’, ‘microphone’, and ‘scenario of series’ are interviewed, respectively.
Ms. Ceylan: I believe that the education policy in Turkey is like a play dough. Because, it is shaped according to the political understanding. Handling it, is trying to shape it as he/she wants.

Mr. Guleryuz: I think so that, the education policy in Turkey is like a microphone. The person getting the microphone talks what he/she wants.

Ms. Yuksel: I insist that the education policy in Turkey is like a scenario of series. Namely, the writer writes it according to his/her own point of view.

Category 5. Anxiety

In this category, the metaphors ‘Indian silk’, a metaphor refers to something precious and hard or impossible to find, ‘intelligence cube game’, ‘broken scales’, and ‘doctor’s prescription’ were interviewed, respectively.

Ms. Celik: I think so that the education policy in Turkey is like Indian silk. Because, it is very difficult to find another example in the world.

Ms. Alper: I believe that the education policy in Turkey is like the intelligence cube game. The new things are constantly being tried, but there are no results.

Mr. Aydogdu: In my opinion, the education policy in Turkey is like the broken scales. Sometimes it seems like it measures correct, but it actually measures wrong.

Ms. Aygun: It is really that Turkey’s education policies evoke the doctor’s prescription. Because, if the wrong policies implement they do not provide an improvement in education like the wrong drug interaction.

Category 6. Desperation

In this category, the metaphors ‘autumn’, ‘passengers waiting for a train’, ‘sandglass’, ‘non-stitched dresses’ were interviewed, respectively.

Mr. Sahin: The education policy in Turkey is evoking the autumn. Because, the policies putting into practice do not brighten our hopes.

Ms. Bulut: The education policy in Turkey is reminding me the passengers waiting for a train. Because, due to these policies the people want to get on the train but just watch the train.

Mr. Topuz: The education policy in Turkey is reminding me the sandglass. Because, it is inverted periodically but nothing changes except time goes by.

Ms. Kartal: The education policy in Turkey evokes the non-stitched dresses. Because, it is just repairing of the old but nothing changes.

Category 7. Instability

In this category, the metaphors ‘Black Seas’ weather’, ‘paving stones’, ‘climate’, ‘traditional agriculture’, ‘crazy consumer’ were interviewed, respectively.

Ms. Alkin: Because, it’s hard to know what will happen. An application is first started, 1-2 years later it is abandoned and another application put into practice. The education policy in Turkey is just like the Black Sea’s weather.
Mr. Uzun: In my opinion, the education policy in Turkey is like the paving stones. Instead of the long-term applications it can be mentioned that the education policies are implementing trial-and-error-based. Just like paving stones, it is constantly disassembled and rearranged.

Mr. Topuz: In recent years, the climate has been heavily influenced by environmental factors. The education policy in Turkey is just like the climate. Because, it is affected by differences in understanding.

Ms. Engin: In traditional agriculture, it is very difficult to predict how much the harvest will be. It is not easy to predict the outcomes of the educational policies in Turkey. When viewed from this angle, the education policy in Turkey is just like the traditional agriculture.

Ms. Kara: Since every year a different model is being tested, I believe that the structure of political practices in education is just like the crazy consumer’s behaviour.

Category 8. Inconsistency

In this category, the metaphors ‘tuning of the oriental music instrument’, ‘reform movements’, ‘waves of the Black Sea’, ‘the ship without route’, ‘wind’ were interviewed, respectively.

Mr. Duzgun: If the accord is not good the listeners do not enjoy the music. In my opinion, the education policy in Turkey is similar to tuning of the oriental music instrument. Because, unless the policies are consistent, the desired result is not obtained.

Ms. Sarı: The education policy in Turkey is similar to reform movements during Ottoman Empire. Because, every minister makes the new regulations, but a certain standard cannot be met.

Ms. Guldali: It is really that the education policy in Turkey evokes the waves of the Black Sea. Because sometimes it goes up, sometimes goes down, sometimes pulls in it, and sometimes lifts out.

Mr. Gungor: In my opinion a chance based strategy is followed in the educational implementations. That’s why it evokes a ship without route.

Ms. Ergen: In my opinion Turkey’s education policy constantly changes its direction. That’s why the education policy in Turkey evokes the wind that changes its direction, constantly.

Category 9. Awareness

In this category, the metaphors ‘kiwi fruit’, ‘rainbow’, ‘bank officer’, ‘raindrops’, ‘oil paintings’ were interviewed, respectively.

Ms. Caglayan: The education policy in Turkey evokes the kiwi fruit. Because, the education policies appeal to everyone and have a different impact on everybody.

Ms. Altındal: In my opinion, education policy in Turkey addresses to every student, each one is considered as a colour of the rainbow.

Ms. Caglayan: The education policy in Turkey evokes me the bank officer. Because, the bank officer offers different alternatives. I just need to look at it in a positive way.

Ms. Avci: In my opinion, the education policy in Turkey creates a different feeling on every individual. That’s why it is similar to the raindrops.
Ms. Tuna: In my opinion, the education policy in Turkey is similar to the candy floss. Because, every innovation breaks monotony and excites students like the candy floss.

Mr. Cepni: I think so that the education policy in Turkey is like the oil paintings. So that the education policies are interpreted differently from person to person.

Discussion and Conclusions

This study aims to determine the metaphorical perceptions of prospective teachers regarding Turkey’s education policies. Prospective teachers produced 135 valid metaphors. As a result of the content analysis nine main categories were determined. The categories are namely, uncertainty, changeability, inevitableness, subjectivity, anxiety, desperation, instability, inconsistency, and awareness. These results show that prospective teachers almost have a critical perspective related to the educational policies implemented in Turkey. The metaphors and focus group interview results show that the prospective teachers perceive negatively the frequent changing policies and educational practices. Actually, the education policies create the sense of ‘uncertainty’ in prospective teachers. Similarly, in a study conducted by Sezgin-Nartgun and Gokcer (2014), the participants use game, puzzle, labyrinth, chameleon, colonist policy, wind rose, politics, decaying building, ragtag metaphors related to the Turkish Education Policy. March and Simon (1959), and Morris (1997) state that the educational systems suffer from uncertainty, therefore it is difficult to identify appropriate innovations. In addition, Olssen, Codd and O’Neill (2004) assert that the policies in democratic communities must be determined considering the needs of nationwide community.

The findings from metaphors and the focus group interviews show that the education policies in Turkey create a perception of the inevitableness in prospective teachers. Stromquist (2005), states that the schools are the most basic institutions of the education system that have conventional ways of operating, so it is difficult and often unnecessary to engage in drastic changes in education policies. The findings from metaphors and focus group interviews show that the prospective teachers have the perception that educational policies are subjective because they are determined by a small group. In fact, the education policies should be determined with wide participation. Thornburg (2002), offers that the suggestions of the parents, educators, and business leaders about educational problems should be considered to make improvement.

Findings indicated that the prospective teachers are anxious because of the educational policies putting into practice. Similarly, in previous studies conducted by Sezgin-Nartgun and Gokcer (2014), and Orucu (2014) the participants have increasing anxiety for their future life because of the education policies implemented in Turkey. The results also show that the prospective teachers have the perception of desperation. It can be said that this is a disturbing situation. Without happy and hopeful teachers, we cannot give hope to our students. In fact, Noddings (2003), states the happiness should be an aim in education, and a good education system should contribute significantly to individual and collective happiness. Prospective teachers perceive the education policies as instable and inconsistent. Actually, education policies should be determined, consistent, and sustainable. Whitty (2005), asserted that we need to recognise that educational policy that ignores wider social issues ‘will be not only blind but also harmful’. In contrast, prospective teachers produced some metaphors that these education policies create ‘awareness’. This results show that the prospective teachers have also produced the positive meaning units. Moreover, education should ensure awareness for people in any case.

Based on these results it can be suggested that the policy makers should determine the steady and reliable policies consistent with Turkey’s own dynamics. And the education policies should give confidence and determination in a participatory way in Turkey. In education policy determining process, the individual and common requirements should be considered. The education policies should be long-term and visionary. In addition, a national education policy should embrace the participation of all sections of society, these policies should not change depending on each government and
changing minister. Further researches can be conducted on the effect of applied education policies on the success of students and impact on the students’ decision making processes. In addition, different studies can be conducted using different sample groups, such as teachers, parents, school administrators etc.

References


School Principals' Opinions about Public Relations Practices on Schools*

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Abstract

Schools are at the forefront of the institutions that need to be in close relations with the social environment. In this regard, practices of the public relations are prominent. This obligation is also responsibility of the school principals, as there are no public relations units in public schools. The purpose of this research is to reveal the opinions of school principals about public relations practices at school. Research is a case study in which qualitative data is used. Semi-structured interview form created by the researcher were used as data collection tool by reviewing the literature and taking expert opinions. This data collection tool was implemented by the researcher to 13 school principals working at different levels of education. As a result of the interviews it is revealed that school principals had enough awareness about public relations, statements of public relations were correctly understood by the school principals, but routine activities had carried out rather than planned activities. School principals are warmly committed to having a unit of planned and specialized people on public relations in their schools. In this direction, it is suggested that the schools should be supported by public relations units or public relations specialists so that they can carry out activities related to the people in a more qualified and planned way.

Keywords: Educational Institutions, Public Relations, School Principals

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**Introduction**

Success and effectiveness of the organizations depends on the co-operation with the environment. School is a social organization which its input and output is human. They pick up the input and return the output to the environment after a specific training period. This is why it has a close relationship with the environment. For this reason, public relations is an effective tool for schools to fulfill this function (Tutkun & Köksal, 2000). Public relations find place in schools for providing support in relation to the environment. The crucial point of public relations is to tell and explain the school to social environment and convince them. Promotion of the educational institution, adoption of the social environment and provision of the support of the community will be ensured by the establishment of the relations with the public. Since there is no planned public relations unit in the educational institutions, these activities are tried to be carried out jointly by the school administration and the school family association.

The school is considered to be one of the most important institutions that indirectly shape the family and affect the future of society. School, family and community relationships are seen as one of the school's service areas (Gül, 2013). A leading school administrator needs to know the properties and expectations of the school environment and respond to the needs of the environment (Aslan & Karip, 2014). Making the school a cultural center is more of a concern to the school principal. The teacher's work is mostly limited to classroom activities and parents of students. In this respect, making of school a cultural center is expected from the school administration (Gül & Aslan, 2016). From this point of view, the opinions of the school principals and the point of view of the situation gain importance in the practice of public relations in the school.

In modern societies, the social relationships of schools have become increasingly complex. Due to the specific statutes and functions in the society, schools create complicated social networks that are interdependent and complementary to other social organizations. As an open system, schools are in a mutual relationship with a large number of social organizations and are constantly sharing material, energy and information with their social environment within the framework of common interests. For this reason, public relations have become a general trend to strengthen the relationship, coordination and communication between schools and other social organizations. The image of the school is also being established and developed in this process, (Tianping, 2003).

Although relations with public is based on very old ideas, a new concept, public relations can be defined as the whole of the efforts that an institution spends towards the integration with the society (Sabuncuoğlu, 2001). Public relations is a process that helps to maintain and maintain mutual communication, understanding, acceptance and cooperation between an institution and its target group (Balta Peltekoğlu, 2012). With the modern management understanding public relations have taken place as a purposeful activity to organize the relations between the institutions and the society (Karpat Aktuğlu, 2004).

The main reason why public relations is a management function in organizations is its role in mediating organizational effectiveness. Environmental support can be provided through public relations and it becomes easier to effectively achieve school’s goals. In order to organizational effectiveness the recognition of the community, the anticipation of them, their indirect involvement in the administration and convincing them that the work done at school is correct is required. In order for the school to provide this needed environmental support it is inevitable that it is in an effective communication process with people living in the social environment. This communication is provided to schools by public relations activities to be carried out by school administrations or the public relations unit (Kılıç, 2006).

Public relations reflect a broad base of knowledge and practice. However, in general, it is understood as an intentional two-way communication between the school and the society that supports the academic achievements of the students and the social responsibility of the educators and parents.
(Kowalski, 1996). The basic idea is that successful learning environments will focus on public relations by using planned, systematic two-way communication processes that encourage public participation in schools and thus gain public understanding and support (Kosiczky & Mullen, 2013).

The National School Public Relations Association (NSPRA) has defined public relations in schools as “a planned, systematic management function designed to help an educational institution improve its programs and services”. School public relations depends on a comprehensive two-way communication process involving both internal and external public opinion to promote a better understanding of the organization's role, objectives, achievements and needs (NSPRA, 2002). The emphasis on quality public relations is vital for any school. Therefore, good communication is needed between public schools and the public sector (Ediger, 2001).

Public relations in the school is a process of revealing the best aspects of the school and receiving positive messages for obtaining the support of the community. Nowadays people can get a lot of information about schools from different sources. In this context public relations in schools needs to establish and encourage various partnerships within the society rather than just transferring information. An effective school public relations program should not only provide information about the processes in the school but also add value to people by giving them the information they can use. In this process, while transferring the information, school should also be able to access the necessary information at the same time. Schools should use all media tools in this process that target various groups in society (Carlsmith & Railsback, 2001).

Schools need to be coordinated and harmonized so that they can communicate their messages and access other sources of information that may be true or false given to public. It is also necessary for schools to provide the services and information to the society that they need. In this respect, public relations are a function that schools cannot ignore (Carlsmith & Railsback, 2001). School principals must be in constant interaction with both the external target group and the internal target group (O’Reilly & Matt, 2013). The most effective way to do this is bidirectional communication. This kind of communication allows stakeholders to meet in a common understanding and to resolve conflicts in a more collaborative way. Nowadays, considering the public support, schools should find ways to connect and empower this connection with the community they are related to. The way to do this is through proactive communication (Meek, 1999). Accepting the changing dynamics of the field of public relations, schools benefit from the basics of public relations departments such as communication skills, technological developments and public administration practices including changes in the social media environment (Hutton, 1999).

The research emphasize the need to a public relations structure and a public relations expert in schools that is connected to school principals in order to clearly explain school-related policies to the public and social environment (Bagin et al., 2008). The fact that the public relations specialist is connected to the school principal will provide an in-group perspective on the attitudes and expectations of the public due to their relations and connections with the external environment. In this regard, the position of the public relations specialist has become increasingly more prominent and important in the schools' organizational chart (Lopez, 2017).

The school should demonstrate through its activities that it is a cultural center to strengthen environmental relations. Administrators and teachers have great responsibilities in doing this. It should be known that personal efforts cannot be enough to fulfill these responsibilities, team work is required. In this research, it is aimed to reveal the views of the school principals about the public relations practices which has recently become increasingly important. It is thought that the results of this study will provide a point of view about the public relations practices in education organizations and make important contributions to the study to be done on this field. The following questions were tried to be answered in the study:

What is the first expression that comes to your mind about the public relations processes in school?
What kinds of activities are being carried out in the school about public relations process?

Who should be responsible for the public relations in the school and why?

What are your proposals for the public relations processes in schools?

**Method**

Under this heading, the research model, study group, data collection tool and data analysis process are included.

**Study Model**

The study is a case study using qualitative data. Qualitative research is a process in which qualitative data gathering methods such as observation, interview and document analysis are used and a process is followed to reveal perceptions and events in a natural, realistic and holistic manner (Yıldırım & Şimşek, 2008; Sönmez & Alacapınar, 2011). The most prominent feature of the qualitative case study is the depth investigation of one or more cases (Cohen et al., 2005, Silverman, 2006, Yıldırım & Şimşek, 2008). In qualitative research, there is often no attempt to generalize beyond a certain situation; but this is left to the reader to measure its applicability, generalization is rather limited (Büyüköztürk et al., 2013; Sönmez & Alacapınar, 2011). According to Yin (2014), case study is a method used to answer how and why questions in actual situations, where researcher does not control variables. Case studies are used, especially when the boundaries between case and context are not fully understood (Yin, 2014). In a case study, researcher are to be interested in process rather than the output, context rather than the elements that affect the phenomenon and exploration rather than confirmation (Merriam, 1998).

**Study Group**

The study group consists of 13 school principals working in Çanakkale province and voluntarily participating in the research.

The representation of the school level is taken into consideration while designing the study group. School principals participating in the research are composed of people who work at different levels. Three of the participants were primary school principals, five were middle school principals, and five were high school principals. Two of high school principals were vocational high school principals and three of high school principals were general high school principals. Four of the school principals were female, and nine were males. Eight of the school principals stated that they have received courses or training related to the public relations while 5 stated opposite. While the number of school principals indicating that public relations requires expertise is 11, the number of school principals indicating that this task is partially requires expertise is 2. Descriptive information regarding to study group is given in the table below.
Table 1. Features of Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>School Level</th>
<th>Any Public Relations Course Taken?</th>
<th>Public Relations Require Specialization?</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.1</td>
<td>Female</td>
<td>Primary School</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.2</td>
<td>Female</td>
<td>Primary School</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.3</td>
<td>Female</td>
<td>Primary School</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.4</td>
<td>Male</td>
<td>Secondary School</td>
<td>Yes</td>
<td>Partially</td>
</tr>
<tr>
<td>P.5</td>
<td>Male</td>
<td>Secondary School</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.6</td>
<td>Male</td>
<td>Secondary School</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.7</td>
<td>Male</td>
<td>Secondary School</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>P.8</td>
<td>Male</td>
<td>Secondary School</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.9</td>
<td>Male</td>
<td>High School (General)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>P.10</td>
<td>Male</td>
<td>High School (General)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>P.11</td>
<td>Male</td>
<td>High School (General)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>P.12</td>
<td>Female</td>
<td>High School (Vocational)</td>
<td>No</td>
<td>Partially</td>
</tr>
<tr>
<td>P.13</td>
<td>Male</td>
<td>High School (Vocational)</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

P: School Principal

Data Collection Tools and Data Collection Process

A semi-structured interview form was prepared by reviewing relevant literature and documents for the purpose of the research in the study. After the interview form was prepared, it was presented to the expert opinion and necessary arrangements were made within the framework of the feedbacks. After the necessary regulations were made, the interview form consisting of 4 questions was applied by the researcher to the school principals voluntarily participating in the study. Some of the interviews with the directors were recorded. Some school principals have preferred to fill out the interview form in writing.

Data Analysis

In the analysis of research data, a qualitative analysis method "content analysis" was used. The main goal in content analysis is to reach the concepts and associations that can explain the collected data. In the context of content analysis; encoding data into categories, finding of themes, arrangement and definition of data according to codes and themes, and the interpretations of the findings are following each other (Yıldırım and Şimşek 2008). When the research data were analyzed, the data obtained as voice recordings were written first. Later written reports were categorized by creating themes within the frame of prepared research questions. Finally, interpretations of the expressions emerging in the framework of these themes have been made.

Findings

The findings obtained in the research process are presented below in the light of research questions and research themes.

Opinions about the first expression that comes to mind about the process of the public relations in the school

The opinions of the participants on the first expression that comes to mind about the process of the public relations in the school are presented in Table 2 below. When Table 2 is examined, it appears that the participants have concentrated on communication and cooperation in the first instance concerning the public relations. While 4 participants express public relations in this way, 4 participants
expressed as meeting the expectations of the school and its stakeholders. 2 of the participants expressed public relations as institution’s self-introduction and self-narration while 2 of the participants expressed public relations as empathy. 2 of the participants expressed public relations as to atone.

Table 2. The First Expression that Comes to Mind in Relation to the Public Relations Process in the School

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Sub Themes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>First expression that comes to mind about public relations</td>
<td>Communication and cooperation</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Meeting the expectations of the school and its stakeholders</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Institution’s self-introduction and self-narration</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>To atone</td>
<td>1</td>
</tr>
</tbody>
</table>

Example from the views of school principals on the first expression that comes to mind about the process of public relations in school is given below:

"To manage the process of cooperation of school and guardian well" (P1).

“The stakeholders of the school come to mind. As the first stakeholder, the greatest stakeholder, the parents of our students, our parents, our relationships with our parents. Many people we can meet outside, at the point of contributing to the school, at the point of supporting the school, I think I can express these as a stakeholder in this process ” (P7).

“.....All our goods, fruits as human. So, human communication is extremely important, and it is extremely important that you use a language in communication and how you use a language. .... we can say that communication is our heart” (P8).

"Communication with the environment and school members, what I mean by this school environment and the members of the school, who are they; student, parent, teacher, I do not know communication with school members” (P10).

"Introduction of the school, welcoming the guests to the school, fulfilling their request, seeing them off, in the meaning of saying good bye. In this context, we can call it a profession that requires professionalism” (P13).

Opinions about the activities being carried out in the school about public relations process

The opinions of the participants on the activities being carried out in the school about public relations process are presented in Table 3 below. School principals have made a priority to use parental meetings, school web pages and social media in the context of public relations activities. In addition to this, parental visits, ceremonies, festivals and so on. Activities, information seminars, professional presentations, etc. activities were assessed within the framework of activities carried out by school principals.
Table 3. Activities Being Carried Out in the School about Public Relations Process

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Sub Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities Being Carried</td>
<td>Use of school web pages and social media (web environment)</td>
</tr>
<tr>
<td>(Sub Themes)</td>
<td>Parent meetings</td>
</tr>
<tr>
<td>School about Public</td>
<td>Unity of school-family / parent visits</td>
</tr>
<tr>
<td>Relations Process</td>
<td>Kermes, opening, festivity, ceremony, celebration, etc. activities</td>
</tr>
<tr>
<td></td>
<td>Conducting seminars by the guidance teachers</td>
</tr>
<tr>
<td></td>
<td>Meetings with employees and students</td>
</tr>
<tr>
<td></td>
<td>Students, parents, teachers and staff surveys</td>
</tr>
<tr>
<td></td>
<td>Relations with the local press</td>
</tr>
<tr>
<td></td>
<td>Professional presentations</td>
</tr>
<tr>
<td></td>
<td>Activities of the local family council</td>
</tr>
</tbody>
</table>

Some statements from school principals' views of public relations activities in the context of public relations are given below:

“Kermes, opening, festivals etc. activities are being carried out. At the same time, resources such as social media, school websites are used” (P2).

“Seminars are given by guide teachers in the topics of effective communication, student psychology, learning environments every year. Parent education is given to the parents” (P4).

“While we are product-oriented and result-oriented, we need to first explain our school, ourselves, in order to raise the current capacity of our school. ..... We use social media very actively. We are doing activities that explains what we do and what we want to do through social media, through our internet sites, through school boards, through school brochure booklets. We are also doing such activities that show where we are and point out where we want to be. We have digital panels; I can say it too” (P8).

“In this context, the guidance services usually focus on the parents, while in the occupational sense we usually work together with the guidance service and the vocational teachers. Mostly promotional activities are being held. ...... For example; we organize 26 events in the direction of our plan within one year, in the scope of social activities. .....Vocational presentations are also among the activities being held; both presentations done when we go to other schools and when prospective students come to our school. Students who come to explore and understand the vocational high school are accompanied by both our guidance service and the field chefs. The workshops are being explored and introduces to the visiting prospective students, and both the school and the vocations are promoted in this way” (P13).

Opinions about the responsibilities and the reason of the public relations in schools

Table 4 shows school principals’ opinion about who should be responsible for the public relations at school and their justification. A large majority of school principals (6 school principal) stated that this responsibility should be a specialist. 5 school principals stated that this responsibility should be in themselves, while 2 school principals stated that this responsibility should be in guiding service.

Table 4. Opinions About the Responsibilities of the Public Relations in the School

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Sub Themes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsibility of public relations</td>
<td>Must be an expert person.</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>School principal</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Guidance service</td>
<td>2</td>
</tr>
</tbody>
</table>
Below are some expressions from the emerging views of school principals towards the responsibility of public relations at school:

“The person in charge of the public relations in the school should be an educated expert. Expertise is important in promoting the institution well and increasing its prestige” (P1).

“He/She must be the school principal. Because he/she is the one who welcomes the parents and visitors and who represent the school” (P2).

“There must be someone who has been trained in the field public relations” (P3).

“Guidance teachers should conduct these activities. This process should be planned together with school administrators. Because guidance teachers already have personal contact with parents for behavior development and academic development purposes” (P4).

“A guidance teacher should conduct public relations in the present conditions. Because they provide balance between parent-student-administration-teacher-staff” (P5).

“If the legal infrastructure can be prepared he/she should be someone other than teachers, administrators, and unity of school and parents, this area should be assigned to a public relations specialist who has a strong sense of education, robust infrastructure and strong resources in hand. Or it can be said that we have prepared the infrastructure and you can employ it according to your budget. This public relations specialist will be solely responsible of the public relations; that is, to take care of the outside parents, to direct, to listen. But when you have a public relations specialist he/she can plan, implement, follow-up and coordinate school activities. When needed he/she can go out and do sponsorship work, cooperate with various associations, foundations and non-governmental organizations. So I see that public relations field has a very large perspective. And I think public relations service should absolutely be in schools” (P7).

“He must be the school principal. Because he/she is the one who has the first and direct contact with parents” (P9).

“There is no unit in the school about public relations. Regarding to this, it is absolutely the school principals’ responsibility who owns the unspecified tasks. Because he/she held the school’s seal. So, these kind of tasks develop at the initiative of the school principal. ……..There is no such unit in the school. But a teacher can be assigned, an administrator can be assigned, but this will always be the case. …….. Each school has to create a unit in this purpose. I do not know how this is going to happen, but a teacher can be assigned but tasks and responsibilities should be defined first. If it is to be the administrators, tasks and responsibilities should also be defined” (P10).

Opinions on the proposal of the public relations processes in schools

The opinions of the school principals on the proposals for the public relations process in the school are presented in table 5. Forming of a public relations unit emerges when school principals’ proposal are examined. In addition, the proposal of assignment of a specialist in the school and the proposal of allocating a position for public relations are another highlights. In addition to these views, other suggestions include that public relations activities should be increased, budgets should be established and in-service trainings should be provided.
Table 5. Opinions on the Proposal of the Public Relations Processes in the school

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Sub Themes</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals for Public Relations Process</td>
<td>Forming of a public relations unit</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Assignment of a specialist and allocating a position for public relations</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Establishing budget for public relations work</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Activities related to the public should be increased</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>In-service training should be given</td>
<td>1</td>
</tr>
</tbody>
</table>

Below are some statements from school principals’ proposals for public relations in school:

“There are so many missing in the staff, especially in public schools, where public relations are discussed during priorities but the appointment of a specialist in this regard will be very much in the promotion of the school’s mission and vision, in increasing its prestige and in the formation of institutional culture” (P1).

“Public relations is an important issue for all sectors. Schools should be supported public relations specialist. A budget should be set up in such studies. School-family associations are non-governmental organizations. Adequate school budgets will make the school-family associations more functional. ...This process can best be carried out because there will be the presence of the public relations specialist and the task description "(P4).

"As improving expectations and the number of questions to be answered vary, it will be good to be led by an expert in this field" (P5).

"... I think that a department like the public relations specialist should be appointed and the position should be allocated. ...... our perception operations are to be done by public relations specialist and I should not spend energy on them. There should absolutely be a unit in legal regulations regarding to public relations and foreseeing that the material in hand is human I can say that it would be appropriate to give norm related to the subject” (A8).

"Public relations unit should be established and in-service training should be provided" (P9).

"........... I think that it is necessary to increase the activities in the context of public relations in the school and to establish a unit concerned with this subject” (P11).

Discussion, Conclusion and Implications

It is only possible for the schools to win the support of the society by the collaboration process with the social environment. The school is located in the most appropriate and most critical area of society in terms of public relations. In public relations it is of great importance to tell and explain the school and convince people about work done. Today, the public expects certain tasks from the school and wants to learn the reasons for these tasks. For this reason, in recent years, public relations in the school have an important role to play in providing support for the interaction of schools with the environment. The image acquired as a result of effective public relations practices will provide opportunities for the success and popularity of the school.

According to the results of this research, it was revealed that what school principals have the most to say about public relations is term of communication. In addition, school principals are emphasizing expressions such as school-parent interaction, school self-expression. From this point of view, it can be said that the connotation of the concept of public relations in the school principals is in accordance with the literature to a great extent. The definitions of public relations also emphasize mutual communication, understanding, acceptance and cooperation. When it is considered that the crucial point of public relations is to explain the school and to explain and convince people about the
work done, it can be said that the school principals’ awareness of the public relations process is in the positive direction. In the master thesis named "Public Relations in Private Education Institutions" by Çamlığüney (1998) it was emphasized that public relations activities are showcases of the institution and promotional activities for parents and cooperation with other institutions came to the forefront as the most important public relations activities. For this reason, the presence of the public relations unit in the schools will contribute to the promotion of school to target groups.

According to an another result of the research, the school principals stated that various applications were made in the schools for the public relations processes in the school and that the better ones could be done. The use of the school web pages and the making of parent meetings are the most popular activities stated by school principals. In addition, visits to parents, kermes, opening, exhibition etc. activities were also expressed by school principals. Considering these activities, it is noteworthy that the conducted practices are mostly routine and practices and the ones which are obligatory according to regulation. In this context, it can be said that school principals do not carry out planned and programmed public relation activities. A result reached by research conducted by Kılıç (2012) on non-governmental organizations operating in the field of education, is that non-governmental organizations except for the old, well-established ones and that achieved sustainability are not practicing planed and programmed public relations activities. In the study conducted by Yılgın (2016) on public relations practices carried out in Doğa Schools and Private Seymen Educational Institutions, it was emphasized that various activities were carried out by the existing public relations units in the institution.

According to the results of the research, the school principals emphasized that the responsibility of the public relations in the school are in the school principals and the guidance teachers with the current management structure. However, they pointed out that the public relations is an area requiring expertise and a unit should be established within the school regarding the public relations. Responsibility of public relations needs to be shared by all. In the research conducted by Calvin (2001), it was emphasized that teachers should also receive education in the field of public relations. However, this should not mean that public relations do not require expertise. In the research conducted by Kılıç (2006) regarding to public relations practices, the need for establishing two-way relationship, studying patiently, planned process for public relations practices and application by field experts was also emphasized.

Lastly, the school principals were asked about the proposal for the public relations process. In this context, school principals proposed that public relations practices are important for all sectors, schools should establish public relations unit with specialists in the framework of increased expectations and schools should be supported by public relations specialists. School principals also stated that presence of public relations specialist in the school will increase the effectiveness of functions of school-family association. In addition, school principals stated that appointment of specialists for increasing the prestige of the school and for the presentation of the vision and mission of the school will be a positive reflection of the institutional culture.

When the results of the research findings are assessed, it is seen that the level of awareness of the school principals related to the public relations is adequate and in the positive direction, however activities carried out are routine activities rather than planned and programmed activities. School principals are warmly welcoming to have a unit of planned and specialized people on public relations in their schools. Within the framework of these conclusions, the following suggestions can be made:

First, considering that schools are at the forefront of areas where public relations are most intense and the responsibility of public relations is in all stakeholders, trainings and seminars can be given to both school administrators and teachers.

In order to help schools conducting public relations activities, relevant units can be established in provincial or/and district national education directorates.
Schools can be divided into various education regions and a separate public relations specialist can be assigned to each educational zone and job descriptions can be provided to support schools.

One of the school principal's assistants may also be assigned as responsible for public relations activities by making a job description.

In the long run, employment of public relations specialists can be done in schools.

References


The Effect of Mini and Midi Anchor Tests on Test Equating

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Abstract

The main purpose of this study is to compare the test forms to the midi anchor test and the mini anchor test performance based on item response theory. The research was conducted with using simulated data which were generated based on Rasch model. In order to equate two test forms the anchor item nonequivalent groups (internal anchor test) was used in this research. The data were generated and analyzed using the R software. 100 replications were done for each different condition. The results obtained from this simulation study were evaluated according to the equating error (RMSE) and bias (BIAS) criterions. In the study, midi anchor generally produced better equating results than the mini anchor test with a few exceptions for most conditions.

Keywrods: test equating, anchor test design, equating error, bias

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Introduction

In most testing applications, it is needed to develop different forms of the same test for test safety or testing of individuals on distinct days. Different forms are used to prevent examinees from obtaining preliminary information about questions. Test forms should be equated to compare scores from different test forms and to eliminate possible advantages or disadvantages of individuals who take different forms. Angoff (1971) defines equating as conversion of a test form’s unit system into another test form’s unit system; while Kolen and Brennan (2004) refer to it as a statistical process which helps using scores obtained from the tests interchangeably by arranging differences between the forms having identical test characteristics.

Test equating consists of three steps. The first stage is about selection of equating design. Equating designs are classified as single-group design, balanced groups design, and anchor-item equivalent and nonequivalent groups designs (internal and external anchor) (Livingston, 2004). In single-group design, the simplest equating design, different forms of the test are applied to the same group. In balanced groups design, the group is divided into two groups to take both forms to be equated. The first group is given form I and II, respectively; while the other group is given form II and I, respectively. In equivalent groups design, examinees with equivalent distribution of capability receive different test form (Cook and Eignor, 1991). In this design, the first student receives Form X, the second student takes Form Y, and the third student takes Form X again and so on. The individuals who receive form X and Y create an equivalent group. Lastly, in nonequivalent groups design, individuals are given different test which comprises of anchor items representing the test forms in terms of content and statistical properties (Livingston, 2004; Kolen and Brennan, 2004).

Once the equating design is determined, decision is made regarding which equating method(s) to use. Equating methods are divided into two main groups: methods based on traditional equating methods and item response theory (IRT). Traditional type includes average, linear, and equipercentile equating; while the other type includes IRT true-score and IRT observed-score equatings. In the latter type of equating based on IRT, once observed score distribution of each form is estimated with IRT models, scores are equated by using equipercentile equating methods. In the former type of IRT-based methods, it is assumed that the true scores associated with a specific θ ability of a form are equal to the true scores associated with the same θ value in the other form (Tong and Kolen, 2005). Since the tests are applied to two different groups, the parameters obtained should be placed on the same scale. For this purpose, the anchor items in the test forms are used for converting scales. In IRT-based equating; scale conversion contains the concurrent calibration (Lord, 1980) and separate calibration methods (Stocking and Lord, 1983; Haebbara, mean-mean and mean-sigma). In the concurrent calibration, the item parameters obtained from the two forms are estimated together and it is assumed that the anchor items in both forms have the same parameters (Nozawa, 2008). In the case of separate calibrations, different item parameters are estimated for both test forms. Due to the uncertainty of scale in IRT, the estimated parameters may not be equal and thus they cannot be compared. For this; the equating coefficients A (slope) and B (intercept) are calculated based on a(item discrimination) and b(item difficulty) parameters of the anchor items. With these coefficients, θ value in one form is converted to θ value in the other form. Conversion of the ability parameter from test X into test Y is performed with the equation below with constants A and B.

\[ θ_{X} = Aθ_{Y} + B \]  

(1)

Conversion of item parameters from test X to Y is carried out with the following equation.

\[ a_{Yj} = axj/A \]  

(2)

\[ b_{Xj} = Ab_{Yj} + B \]  

(3)

\[ c_{Xj} = c_{Yj} \]  

(4)
As seen in the equation, the parameter c is independent of scale conversion (Kolen & Brennan, 2004).

In this study, mean-sigma was used among separate calibration methods. Mean-sigma method uses the mean and standard deviation of the parameter b (Hambleton, Swaminathan and Rogers, 1991). The equating coefficients, A and B, are calculated with the following equations.

\[
A = \frac{b_s}{b_y} \\
B = \overline{b_y} - \alpha \overline{b_x}
\]  (5)

\(b_s\) and \(b_y\): standard deviation of parameter b obtained from anchor items in forms X and Y

\(\overline{b_x}\) and \(\overline{b_y}\): mean of parameter b belonging to anchor items in form X and Y

In IRT; Rasch, 1, 2 and 3 PLM (Rasch, 1966; Birnbaum, 1957, 1958, 1968) are available for dichotomous scoring data, whereas nominal response model (Bock, 1922; Samejima, 1972), gradual response model (Samejima, 1969), and generalized partial credit model (Muraki, 1992; 1993) are available for multiple category scoring data (Embretson and Reise, 2000; Hambleton and Swaminathan, 1985; Kolen and Brennan, 2004). Since Rasch model was used in this study, information is given about this model. It is the most commonly used model among IRT models (Hambleton et al, 1991). In this model, while item discrimination index (parameter a) is the same for all items, item difficulty parameter (parameter b) is varied. Parameters b determines the position of the item characteristics curve on the ability scale. If the item is difficult, it is located to the right of the ability scale, but to the left to the same scale if it is easy. It is assumed that parameter b often takes a value between -3 and +3. Difficulty index of an item is defined as \(\theta\) value of the point where the probability of correctly answering the item is 0.5. In this model, the only parameter affecting the performance of the individual is b parameter (Hambleton et al, 1991).

After the appropriate equating method is selected and test forms are equated, the resulting equated scores need evaluation. In their study evaluating different equating criteria, Harris and Course (1993) proposed that any single equating criterion would not be suitable for all equating methods, so multiple criteria should be used. In this study, Bias and RMSE were used as evaluation criteria.

Bias: This criterion, which is used for evaluating the systematic error in equating, is obtained by dividing the total difference between the estimated item parameter value and true item parameter value by number of replication. This value was obtained from the equation below.

\[
BIAS(\tau_j) = \frac{1}{R} \sum_{r=1}^{R} (\hat{\tau}_{jr} - \tau_j)
\]  (6)

**Error (RMSE - Root Mean Square Error):** It gives the total error by taking into consideration both systematic and random errors. RMSE is obtained by taking the square root of the ratio of total squares of the differences between the true parameter value and estimated parameter value to the number of replications. The equation for RMSE is given below.

\[
RMSE(\tau_j) = \sqrt{\frac{1}{R} \sum_{r=1}^{R} (\hat{\tau}_{jr} - \tau_j)^2}
\]  (7)

R= Number of replication

\(\hat{\tau}_{jr}\) = estimated value of parameter j, \(\tau_j\) = true value of parameter j
Aim and Significance of the Study

In the literature the most commonly used equating design is anchor-item test design (Kolen and Brennan, 2004). Anchor items are grouped as internal and external. In internal anchor-item test, scores taken from anchor items are added to the examinee's total score. Conversely, the scores are not added to the total score in external type. Furthermore, while external anchor test is administered to the examinee as a separate form, internal anchor test is an integral part of the main test (Kolen, 1988; Zhu, 1998). Angoff (1971) argued that anchor items should be a parallel miniature of the whole test. Kolen and Brennan (2004) also stated that such items should represent the whole test regarding both difficulty level and content. Many other researchers suggest that the anchor item set must be a smaller version of the total test (Budescu, 1985; Kolen, 2007; Kolen, 1988; Petersen, Kolen, and Hoover, 1989). However, Sinharay and Holland (2007) referred to the lack of evidence regarding the necessity for identical distribution of difficulty level among items in the anchor test and emphasized that such a criterion is quite restrictive. They added that the anchor test with identical scope and average difficulty with equated test but anchor items showing smaller item difficulty distribution than the total test difficulty could yield better equating results. According to Sinharay and Holland (2006), three different anchor tests can be generated from the anchor item difficulty distribution. If the anchor test is similar to the total test in scope and statistics, it is called mini-test. If the anchor test identical to the total test in scope but different in item difficulty distribution all items being at medium level of difficulty, it is called midi-test. However, if the anchor item difficulty distribution falls between mini and midi test, it is called semi-midi test. In studies with smaller anchor item difficulty distribution than in the main test, error was found to be lower (Antal, Proctor and Melican, 2014; Hagge, 2010; Fitzpatrick and Skorupski, 2016; Kim, 2014; Liu, Sinharay, Holland, Feigenbaum &Curley, 2011; Sinharay, Haberman, Holland and Lewis, 2012; Sinharay and Holland, 2006, 2007). Sinharay, Holland and others used midi anchor test as internal anchor test and also used midi anchor test in external anchor test because of difficulty of meeting statistical requirements of the total test. In this study, because of scarcity of examples with internal anchor test (Fitzpatrick and Skorupski, 2016; Kim, 2014), a comparison was made between performance of mini and midi anchor test in internal anchor test. Moreover, review of literature provided no specific example comparing equating results in the Rasch model. In present study, Rasch model was selected from IRT models and mean-sigma method was selected from item calibration methods. This is because parameter $b$ is the only parameter used in both Rasch model and mean-sigma model calibration method, and anchor item difficulty distribution is obtained by changing the parameter $b$. The aim of the study is to compare performances of midi and mini anchor tests in IRT-based equating. To this end, the study was carried out seeking answer for the following question.

In the case of tests equated using mean-sigma as a separate calibration method in nonequivalent anchor test (NEAT) design with Rasch-model; how does each of the

- slope coefficient,
- intercept coefficient, and
- bias and total error regarding equated scores differ in relation with sample size, ability distribution, difference between difficulties of test forms and anchor item difficulty?

Method

Generating and Obtaining Study Data

The data generated in this study were equated by using NEAT design. The study also discusses sample size, ability distribution, difference of difficulty between test forms, and anchor item difficulty distribution circumstances. In NEAT design, two different groups are applied two different
tests with anchor items. Equating pattern consists of the old form (Form X), the new form (Form Y) and the anchor items. Item response patterns of respondents taking Form X and Form Y are generated separately. The data generation procedure was conducted according to the Rasch model. In Rasch model, the only item parameter is the difficulty parameter \( b \). The item difficulty parameter of Form X was derived from the constant and standard normal distribution \( (b \sim (0,1)) \) under all circumstances. The \( b \) parameter of Form Y was generated under two circumstances as \( (b \sim (0.05,1)) \) and \( (b \sim (0.2,1)) \). Since the purpose of equating is to statistically arrange item difficulties between test forms, distribution of item difficulty parameters was differentiated. Also \( b \) parameters of the anchor items were studied under two conditions. In the case of mini anchor test with item difficulty distribution identical to the main test, the parameter \( b \) was chosen with zero mean and one standard deviation \( (b \sim (0,1)) \); in the case of midi anchor test with anchor item difficulty distribution smaller than the main test, it was chosen with zero mean and standard deviation corresponding to 50% of the main test, which is 0.5. Kolen and Brennan (2014) pointed out that equating in Rasch model requires at least 500 subjects in each group. In this study, three different sample sizes were taken for each group as 250 (small), 500 (ideal) and 2000 (large). For the group taking the old form, both mean and standard deviation values were derived from the standard normal distribution \( (N \sim (0,1)) \) and taken as constant under any circumstance. As for the group taking the new form, ability distribution was examined under three conditions. The mean and standard deviation of the ability distribution were derived as \( (\theta \sim N(0.05,1)), (\theta \sim N(0.5,1)), (\theta \sim N(0.25,1.25)) \). The number of test items was designated as 50 considering the number of items in national scale tests held in Turkey. It is suggested that the number of anchor items should be about 20% of the entire test items (Angoff, 1971; Budescu, 1985; Kolen and Brennan, 2004). Hambleton et al (1991) stated that the number of anchor items should be around 20% to 25% of the entire test items. Therefore, the number was fixed at 20% in this study. While the number of anchor items is 5 in a test of 25 items, it was planned as 10 for a test with 50 items.

The study examines the performance of IRT true score equating under mean-sigma as a separate calibration method applying to 36 conditions for simulations covering 3 different sample sizes, 3 ability distributions, 2 different test form difficulty difference and 2 different anchor item difficulty distributions. Mean-sigma was preferred as a calibration method because it uses item difficulty parameter only. All replications for the test forms were conducted on the software called R. Item and ability parameter estimates were conducted by the \textit{ltm package} in R (Rizopoulos, 2015). Item parameters were estimated by using the Marginal Maximum Likelihood and ability parameters were estimated by using Expected a Posteriori (Rizopoulos, 2015). After item parameter estimations were completed, scale calibrations and equating were performed by using the codes written by researcher. To obtain more stable estimates, 100 replications were performed for each condition.

Results

This section gives results regarding bias and error values obtained from equated scores and equating slope and the intercept coefficients according to the equating operations carried out in NEAT design under simulation conditions.

Results regarding Research Questions

\textit{In relation with first research question}, bias and error results obtained for slope parameter among equating coefficients under conditions of sample size, difficulty difference between test forms, distribution of ability and distribution of anchor item difficulty are given in Table 1. Slope parameter is calculated based on standard deviation of the parameter \( b \) obtained from anchor items.
Table 1. Bias and Error Values Obtained from Slope Parameter

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Difficulty Difference</th>
<th>Common Item Type</th>
<th>Ability Distribution of the Group Taking the New Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N(0.05;1)</td>
</tr>
<tr>
<td>250</td>
<td>0.05</td>
<td>Mini</td>
<td>-0.001*</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>Midi</td>
<td>-0.003*</td>
</tr>
<tr>
<td>500</td>
<td>0.05</td>
<td>Mini</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>Midi</td>
<td>0.000</td>
</tr>
<tr>
<td>2000</td>
<td>0.05</td>
<td>Mini</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>Midi</td>
<td>0.000</td>
</tr>
<tr>
<td>250</td>
<td>0.2</td>
<td>Mini</td>
<td>-0.003*</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>Midi</td>
<td>-0.005*</td>
</tr>
<tr>
<td>500</td>
<td>0.2</td>
<td>Mini</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>Midi</td>
<td>0.001</td>
</tr>
<tr>
<td>2000</td>
<td>0.2</td>
<td>Mini</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>Midi</td>
<td>0.001</td>
</tr>
</tbody>
</table>

* negative biased

Table 1 shows that bias values of slope parameters are quite low when ability distribution is (0.05; 1) and (0.5; 1); but negative bias estimates are obtained in samples of 250 examinees. In cases of ability distribution (0.25; 1.25), bias values are seen to increase in comparison to other conditions of distribution. While midi anchor tests yield higher rates of bias in ability distribution at (0.25; 1.25) and sample of 250 examinees, they yield smaller bias or remain unchanged under all other conditions. In addition, it is observed that as sample size increases, bias values remain the same or decrease in all conditions. In addition, it is observed that as sample size increases, bias values remain the same or decrease in all conditions.

When total error values of slope parameter are examined, it is seen that anchor item difficulty distribution varies in all conditions. In other words, midi tests yield higher error rates. As sample size increases, error rate seems to decrease. Besides, as item difficulty difference increases, error remained unchanged or change inconsiderably in many conditions.

Table 2 shows bias and error results obtained from the equating intercept parameter, which is one of the equating coefficients under conditions of sample size, difficulty difference between forms, ability distribution and anchor item difficulty distribution. Equating intercept parameter is calculated from mean of the parameter b obtained from anchor items.
Table 2. Bias and Error Values Obtained from Equating Intercept Parameter

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Difficulty Difference</th>
<th>Common Item Type</th>
<th>Ability Distribution of the Group Taking the New Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N(0.05;1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bias</td>
</tr>
<tr>
<td>250</td>
<td>0.05</td>
<td>Mini</td>
<td>-0.012*</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>Midi</td>
<td>-0.010*</td>
</tr>
<tr>
<td>500</td>
<td>0.05</td>
<td>Mini</td>
<td>-0.007*</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>Midi</td>
<td>-0.012*</td>
</tr>
<tr>
<td>2000</td>
<td>0.05</td>
<td>Mini</td>
<td>-0.004*</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>Midi</td>
<td>-0.009*</td>
</tr>
<tr>
<td>250</td>
<td>0.2</td>
<td>Mini</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>Midi</td>
<td>0.001</td>
</tr>
<tr>
<td>500</td>
<td>0.2</td>
<td>Mini</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>Midi</td>
<td>0.002</td>
</tr>
<tr>
<td>2000</td>
<td>0.2</td>
<td>Mini</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>Midi</td>
<td>0.002</td>
</tr>
</tbody>
</table>

* negative bias

It is understood from Table 2 that negative biased estimates are found in all sample sizes when difficulty distribution between tests is similar at ability distribution of (0.05,1); in samples of 2000 examinees when difficulty distribution between tests is similar at ability distribution of (0.05,1); in all sample sizes with increased difference of difficulty between forms; in both differences of difficulty at ability distribution of (0.05,1), and lastly in samples of 250 to 500. Among negative biased estimates, midi anchor tests result in lower bias except in samples of 250. As for positive biased estimates; similar or smaller estimates are obtained from mini and midi anchor tests at ability distribution of (0.05,1) and (0.5,1), but mini anchor tests give smaller values in samples of 2000 examinees at ability distribution of (0.25,1.25).

As total error values from the equating intercept parameter are examined, it is seen that the highest error rate occurs in the case of increased ability distribution mean (0.5,1), while close mean error rates are obtained under the other two ability distribution conditions. The highest error rate occurs at ability distribution (0.5,1) which has higher meanwhile error rates are found to be close in the case of the other two distributions. In all circumstances, midi anchor test yields smaller error rates than mini test or mini and midi anchor tests result in equal error rates. When difficulty difference between forms increases, error rate remains the same or change little in many conditions. Moreover, larger samples lead to smaller error.

Bias and error values obtained from equated scores under conditions of sample size, difference of difficulty between forms, test length and anchor item difficulty distribution are shown in Table 3. The bias and error rates for this parameter are calculated by taking the mean of the values found for each of the equated scores.
Table 3. Bias and Error Values Obtained from Equated Scores

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Difficulty Difference</th>
<th>Common Item Type</th>
<th>Ability Distribution of the Group Taking the New Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bias</td>
</tr>
<tr>
<td>250</td>
<td>0.05</td>
<td>Mini</td>
<td>-0.025</td>
</tr>
<tr>
<td>250</td>
<td>0.05</td>
<td>Midi</td>
<td>-0.021</td>
</tr>
<tr>
<td>500</td>
<td>0.05</td>
<td>Mini</td>
<td>0.013</td>
</tr>
<tr>
<td>500</td>
<td>0.05</td>
<td>Midi</td>
<td>0.017</td>
</tr>
<tr>
<td>2000</td>
<td>0.05</td>
<td>Mini</td>
<td>0.008</td>
</tr>
<tr>
<td>2000</td>
<td>0.05</td>
<td>Midi</td>
<td>0.009</td>
</tr>
<tr>
<td>250</td>
<td>0.2</td>
<td>Mini</td>
<td>-0.024</td>
</tr>
<tr>
<td>250</td>
<td>0.2</td>
<td>Midi</td>
<td>-0.008</td>
</tr>
<tr>
<td>500</td>
<td>0.2</td>
<td>Mini</td>
<td>0.015</td>
</tr>
<tr>
<td>500</td>
<td>0.2</td>
<td>Midi</td>
<td>0.018</td>
</tr>
<tr>
<td>2000</td>
<td>0.2</td>
<td>Mini</td>
<td>0.011</td>
</tr>
<tr>
<td>2000</td>
<td>0.2</td>
<td>Midi</td>
<td>0.011</td>
</tr>
</tbody>
</table>

*negative bias

Table 3 shows that equated scores generate negative bias in samples of 250 examinees and positive bias in the other samples. As for samples of 250 examinees, smaller bias are obtained from mini anchor test at ability distribution of N(0.05,1), while bias are smaller in midi anchor test as a result of the other two distributions. Mini anchor test gives smaller bias in samples of 500, while midi anchor test yields smaller or equal bias in samples of 2000. Total error rates for equated scores reveal that midi anchor test results lower rates than mini test in all conditions except for the sample of 250 examinees when distribution of ability is at (0.25,1.25) and difference of difficulty between forms increases. Also larger samples lead to smaller error rates. However, increased difference of difficulty among forms leads to increased error rates in all conditions. Of all, the highest error rate is recorded against increased difference of difficulty among tests (0.2) and ability distribution of (0.5,1).

Apart from that, ANOVA analysis was performed to follow up variance of bias and errors under conditions provided in this study. As a result of ANOVA analysis, bias and total error rates of equated scores with equating slope and intercept parameter are demonstrated in Table 4. The table reveals F and eta square (η²) values of significant effects.

Table 4. Significant ANOVA Results of Bias and Equating Error Values for Equated Scores

<table>
<thead>
<tr>
<th>Results</th>
<th>Criteria</th>
<th>Effects</th>
<th>df</th>
<th>F</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equated Scores</td>
<td>Error</td>
<td>SS</td>
<td>2</td>
<td>131,001*</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>ADD</td>
<td>1</td>
<td>107,245*</td>
<td>0.859</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SS<em>AB</em>ADD</td>
<td>4</td>
<td>14,754*</td>
<td>0.937</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SS<em>GF</em>ADD</td>
<td>2</td>
<td>19,831*</td>
<td>0.908</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SS<em>AB</em>ADD</td>
<td>4</td>
<td>33,406*</td>
<td>0.971</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SS<em>AB</em>DDF</td>
<td>4</td>
<td>10,837*</td>
<td>0.916</td>
<td></td>
</tr>
<tr>
<td>Bias</td>
<td>AB</td>
<td>2</td>
<td>21,005*</td>
<td>0.949</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SS *ADD</td>
<td>2</td>
<td>11,795</td>
<td>0.901</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Error</td>
<td>SS</td>
<td>2</td>
<td>69,604</td>
<td>0.964</td>
</tr>
<tr>
<td></td>
<td>SS*ADD</td>
<td>4</td>
<td>7,007</td>
<td>0.873</td>
<td></td>
</tr>
</tbody>
</table>

*p<0.002  (SS-sample size; AB-ability distribution; DDF-difference of difficulty between forms,  ADD-anchor item difficulty distribution)
The ANOVA results in Table 4 reveal that the interaction effect of sample size, ability distribution, anchor item difficulty distribution and sample size, ability distribution, and difference of difficulty between forms are statistically significant. Moreover, main effect of ability distribution is at significant level in slope parameter equating. Of all interaction effects; the interaction of sample size and anchor item difficulty distribution is found significant. As for effect sizes for bias, main effect and interaction effects seem to be large (Cohen, 1988). Equating errors as a result of ANOVA in equated scores Table 4 indicate that of all study variables, sample size and anchor item difficulty distribution’s main effects seem to be at significant level. As for interaction effects; sample size, ability distribution and anchor item difficulty distribution interaction and sample size, difficulty difference and anchor item difficulty distribution interaction is statistically significant. According to results of equating intercept parameter, the main effect of sample size seems to be at significant level; so does the interaction between sample size and anchor item difficulty distribution. Lastly, effect size for errors reveals that main effect and interaction effects generate larger effects (Cohen, 1988).

Conclusion and Discussion

This study was carried out to investigate the effect of sample size, difficulty between forms, ability distribution and anchor item difficulty distribution on bias and total error rate through the use of IRT true-score (Rasch model) equating model. For this purpose, data was generated taking into account the conditions applying to real data applications.

In relation with equating slope parameter, average of ability distribution and standard deviation (0.25, 1.25) between groups result in increased bias values compared to the other conditions of ability distribution. The finding suggests that differential distribution of ability between groups leads to increased systematic error. Except for several conditions, the bias values obtained from midi anchor test and mini anchor test seem unchanged or the former yields lower bias. Considering total error rates, it is seen that midi anchor test brings about higher equating errors than mini anchor test in all conditions. The reason behind this could be the fact that equating slope parameter is obtained from difficulty parameter of anchor item’s standard deviation ratio in test forms.

In the case of equating intercept parameter; midi anchor test gives smaller negative biased estimates except for a few conditions. As for positive biased estimates, midi and mini test yield close bias and sometimes the former gives smaller bias under two conditions when ability distribution standard deviation is identical. Nevertheless, it varies for the sample of 2000 examinees when mean and standard deviation of ability distribution differ. Then, mini anchor test generates lower levels of bias. Apart from that, the highest equating error is recorded when mean of ability distribution is differential (0.5, 1). In the other two ability distribution cases, equating errors are found to be close. For equating intercept parameter, equating errors are found to be equal or smaller in midi anchor test. Equating intercept parameter varies depending on average of the parameter \( b \) and equating slope parameter. Since equating intercept parameter is dependant on equating slope parameter, error and bias are seen to be affected from it even if average of the parameter \( b \) remains unchanged in the case of midi anchor test. In relation with slope parameter; while midi test gives higher error rates, midi anchor test is seen to bring smaller error rates in the equating intercept parameter indirectly affected from the parameter \( b \).

For equated scores, bias values are found to vary depending on sample size. In samples of 500, mini anchor test results smaller bias; but in samples of 2000, midi anchor test supplies smaller or equal bias to mini test. In another sample, 250, varying distribution of ability is seen to affect bias values. When distribution of ability varies between groups, midi anchor test is found to have better results. In relation with equating error, midi anchor test often lets smaller error rates than mini anchor test except under several conditions.

According to ANOVA results, difference of difficulty between forms is found to generate a significant effect only in relation with interaction effects in equated scores. In relation with equating
In general, midi anchor test is potent of giving as good results as mini anchor test and even the former gives better results in some circumstances. It seems to support findings by Sinharay and Holland (2007), Liu et al. (2011), Kim (2014) and Fitzpatrick and Skorupski (2016). In their study comparing the chain and post-stratification equipercentile equating methods by using data generated on the basis of 2PLM and multidimensional IRT, Sinharay and Holland (2007) found out that midi and semi-midi anchor test yields as good results as mini anchor test in internal anchor test. Likewise, Fitzpatrick and Skorupski (2016) reported in their study with 3PLM-compatible data and IRT true-score equating methods that midi anchor test supplies as good results as mini anchor test in internal anchor test. Also in their comparative study on chain equating methods, Tucker and frequency estimate equating methods by using true data, Liu et al (2011) found out that midi anchor test provides better results than mini anchor test considering standard and total error in internal anchor test. In a study by Kim (2014) on 3PLM-compatible data using Kernel equating, frequency estimate, modified frequency estimate, equipercentile equating and chain equating methods, midi anchor test noted better results in relation with bias and equating error. It can be inferred from the mentioned studies that smaller variability of anchor item difficulty distribution than total test leads to smaller error rates (bias and equating). The reason is that midi anchor test contains easier items, which causes more examinees to answer the test correctly and thus equating results increase accuracy and precision.

Anchor item difficulty distribution is found to have an effect on ability distribution among groups. In all ability distributions, midi anchor test is found to yield better results than mini anchor test. Yet, in similar ability distribution between groups, mini and midi anchor tests yield quite close results. On the other hand, the difference between obtained values becomes even larger (except in one condition) as distribution of ability becomes more differential. It can be said that this result is consistent with Fitzpatrick and Skorupski (2016) and Liu et al (2011a, b). However, Liu et al (2011) noted that mini and midi tests deliver equal results in the case of similar/identical ability distribution between groups, while Fitzpatrick and Skorupski (2016) pointed out that mini anchor test yields better results than midi anchor test in few conditions only. Furthermore, in the event of larger difference between groups, results are found to be more biased in our study. It seems to be in compliance with Kim (2014) and Power et al (2011). In both studies, different distribution of ability between groups results in increased errors. Such effect could be, among other reasons, because the group with higher levels of talent could answer correctly the items with medium level of difficulty, while the group with lower levels of talent answered the same items wrong. So if examinee groups show different ability distribution, midi anchor test seems to be preferable.

Sinha ray and Holland (2007) stated that developing of anchor tests with restrictive characteristics would prevent developing tests with required statistical characteristics. The main test and the anchor test must have a similar scope and identical statistical characteristics. However, since mini anchor test entails too easy or too difficult items as well, it seems too hard for test developers to meet this requirement. Liu et al (2011) argued that statistically unsatisfactory items are also added to the test for the sake of this necessity. Apart from that, Fitzpatrick and Skorupski (2016) stated that item pools involve less items which are too easy or too difficult, and dispute could rise between content and statistical requirements in developing mini anchor tests. Hence, pressure would be placed to choose easy and difficult items for preparing a mini anchor test, which could have a negative impact on test content. As in previous studies, our study puts forth that anchor tests with smaller variability end up with better results than conventional mini anchor test in a number of conditions. So, it can be suggested that test developers could be more flexible in developing anchor tests.
In this study, mean-sigma method was used as an IRT-based method and data compatible with Rasch model. For future research, different calibration methods could be used to examine the effect of anchor item difficulty distribution. This study was conducted with simulated data. It is suggested to repeat the study with real data in the future to compare results with present study. In addition, bias and total errors were used as evaluation criteria in this study. Future studies could focus on comparing test equating effects of mini and midi anchor tests by using group invariance indices, first-order-second order equity and DTM indices.

References


The Right to Rights: Education as the Problem and Solution to the Lack of Enforcement of International Human Rights Law

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Abstract

One of the biggest criticisms of international law is the lack of effective enforcement, often compounded in human rights law by the system of treaty reservations that detracts from the main object and purpose of human rights protections. Ideally, once a country has ratified a treaty, it may create domestic law that provides an enforcement mechanism that may be lacking at the international level. However, in cases such as the Convention on the Rights of the Child, one can see the limits of such an indeterminate system. The two questions being posed are: “Could the implementation of human rights education enhance enforcement within countries of international human rights accords?” and “How should one go about implementing a human rights education initiative?” To answer these questions, literature regarding human rights education initiatives around the world were reviewed and focus was put on initiatives working to enforce international human rights law. From reviewing the literature, a major component of the effectiveness of a human rights education initiative is the quality of training the teachers received and the level of commitment to the initiative by school administrations.

Keywords: education, rights, international

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Introduction

UNESCO, ICRC, UNICEF, CEDAW, ICPR, etc. What do all of these international human rights treaties have in common? They are viewed to be failing in many of the countries in which they are ratified due to one of the biggest obstacles facing international human rights bodies: enforcement. Two main obstacles arise after ratification of treaties, lack of effective enforcement and the treaty reservation system. Through the treaty reservation system member states can make reservations to international law if the country is not able to incorporate fully every part of the treaty. Often this situation creates much controversy over the legitimacy of International Human Rights Law. Several countries have ratified legislation such as the International Convention for the Rights of the Child (CRC), and then have consequently made reservations that inevitably change the meaning and reasoning behind the initial convention. States such as Pakistan use religion and ‘traditional thinking’ as justification for not adhering to certain human rights legislations (Sudduth, 2009). It is the state that ratifies international human rights law, however it is also the state that fails to provide the human rights that they promised their citizens. Thus, begs the question that many scholars have been trying to answer, how do we enforce International Human Rights Law? The most common form of enforcement that comes from UN bodies and the international community is what Fredrick Kirgis calls “mobilization of shame” and the application of pressure. Many international human rights treaties, such as CRC, require parties that ratify the treaty to hold themselves accountable by reporting on their compliance with the treaty. “State parties are often told to send a representative to appear before treaty-monitoring bodies to explain how they have complied or why they have not” (Kirgis, 1996).

From literature regarding enforcement of international human rights law, it is evident that the enforcement will most likely not come from the top, so it must start from the bottom. In this sense, means grassroots movements in education that are working to implement an ethos of human rights into K-12 education. This leads to the central hypothesis of this paper: education, namely human rights education (HRE), is the biggest problem as well as the solution to the lack of enforcement of International Human Rights Law. HRE can be briefly described as an educational pedagogy aiming to use an ethos of human rights to can serve as a framework in which to teach. By looking at the problem of enforcement itself then exploring current human rights education initiatives and the theories behind them, one can begin to piece together a framework of what is and is not needed to successfully implement a human rights education initiative that mainstreams human rights and thus enforces international human rights treaties.

This paper will first review the issue at hand using the Convention on the Rights of the Child (CRC) as a key example of the lack of enforcement. This paper will then investigate what international initiatives exist for HRE and their effectiveness in supporting international human rights law. This investigation will be conducted through a review of published literature, from which the factors for improvements will be identified. At the conclusion, the elements most prevalent from the reviewed literature will be highlighted to invite further research and progress in the field of HRE.

Convention on the Rights of the Child (CRC):

A key example of lack of enforcement that directly effects a society’s knowledge of their rights is regarding the CRC. The CRC is comprised of 54 articles and includes rules that govern children’s rights in four major groups, such as civic, economic, social, and cultural spheres, similar to the UDHR (Uçus and Dedeoglu, 2016). Examples of topics the articles include: 11: kidnapping, 19: Protection from all forms of violence 20: children deprived of family environment, 21: adoption, etc. In the Convention’s articles, it requires that the countries that sign the Convention to guarantee that children are informed about their own rights (Uçus and Dedeoglu, 2016). As noted by Osler and Starkey (2005), “this does not mean a straightforward one-to-one relationship between rights and responsibilities. For example, that a one-year old child has the right to food does not mean the child has a responsibility to ensure that others can enjoy their right to food” (Howe and Covell, 2010, p. 93). Howe and Covell submit that this is an important note to keep in mind when implementing the
convention into HRE as implementation can make or break the effectiveness of an HRE initiative. An understanding of rights at the forefront of human rights curriculums, before responsibilities will in turn effectively enforce the Convention’s aims.

The enforcement mechanism put in place for this convention lies in Article 4 of the CRC. Article 4 of the CRC requires countries to ensure all governmental and other measures for enforcement of the rights recognized in the present convention is in place and effective immediately (Howe and Covell, 2010). “If countries fail to honor their commitments, they can become the subject of serious domestic and international critic and embarrassment” (Howe and Covell, 2010, p. 92). Again, we see that there is no physical or logistical enforcement mechanism put in place that will effectively ensure that children are taught the right to their rights.

On February 6, 1995 Pakistan entered an objection to the CRC “for any article or provision that contradicted Islamic Sharia”, and stated “that the convention shall be interpreted in the light of the principles of Islamic laws and values” (Sudduth, 2009, p. 576). In Pakistan, due to the suppression of girls’ education, one of the four categories of rights, participation rights, is a major hamper in the growth of knowledge and of rights in Pakistan.

Participation rights are rights aiming at providing the child to gain an active role in the family and society. These rights are pointed out as expressing opinion and taking part in the decisions process concerning children’s issues (Uçus and Dedeoglu, 2016, p. 92).

Tactics of enforcement such as embarrassment or critique, as Kirgis (2009) described above as the “mobilization of shame” often does not work effectively as can be observed from the outcome of Pakistan’s ratification.

**Review of the Literature on the Rights to Human Rights.**

The purpose of the review was to identify studies and review articles regarding the efficacy of HRE initiatives and the specific characteristics that are implicated in the success or failure of each program. Extensive searches of Google Scholar, the Journal for Progressive Education, HeinOnline, Springer Link, and JSTOR through World Cat were conducted using the following terms: human rights, education, studies, civic engagement. A total of around 70,000 entries were returned. We then added the search terms human, engagement, and conventions and excluding any not in English. This subsequent search resulted in decreasing the number of citations to 500. At that point, the titles of the articles were scanned to exclude any paper not directly pertinent to the purpose of this review. This resulted in excluding 450 articles. The abstracts of the 50 remaining articles were reviewed. A majority of reports pertained to studies regarding HRE initiatives around the world. All papers not addressing the three components addressed in this paper, 1. A specific HRE initiative being discussed 2. An evaluation of the efficacy of that initiative and 3. The pedagogies being used/ the theory behind the initiative. Review articles were utilized as sources for additional papers and as sources for proposed hypotheses. Despite the fact that the majority of the literature addresses the implementation of HRE in schools, studies regarding HRE initiatives out of school settings were not excluded. For the purposes of this review, studies can be assumed to be related to implementation inside of school settings unless otherwise specified. A total of 5 reports addressed the efficacy of HRE education initiatives around the world. Additional searches of Google Scholar did not yield additional reports.

**Surveys, Studies, and Initiatives**

**Rights, Respect, and Responsibilities (RRR) Initiative**

The initiative called the Rights, Respect, and Responsibilities (RRR) initiative was launched by the Hampshire England Education Authority in 2004. So far, the program has been employed in
varying degrees in over 300 Hampshire primary schools. The researchers explained how the RRR initiative incorporates the articles of the CRC and human rights education into the curricula “across subjects and grade levels and provides the core of school mission statement, behavior codes, and school policies and practices” (Covell, Howe, McNeil, 2010, p.118), so in a sense, the CRC is the ethos of the school and the foundation for all other learning subjects. For example, the RRR implements activities that incarnate human rights education into science through topics like the right to water and health when learning about microorganisms. Another activity the initiative has utilized is,

After reading the story of Cinderella, students were able to dissect the CRC violations committed against Cinderella by her family and then were encouraged to take action to hold Cinderella’s perpetrators accountable, i.e. writing a letter to the police (Covell, Howe, McNeil, 2010, p. 119).

Howe and Covell (2008) completed a three-year study on the effectiveness and impact of the RRR initiative in Hampshire. The study consisted of interviews and surveys from principals, teachers, and students in 18 infant, primary and junior schools for three years, 2005-2008. Thirteen schools completed the study and gave a complete data set. The assessment was a comparison between two types of schools, schools where RRR was fully implemented (FI) and schools where the program was partially implemented (PI). Upon completion of the study the researchers reflected that, “in meeting its objective, Hampshire’s RRR program has received a favorable overall evaluation (Covell et al., 2008), but in particular area, certain shortcomings have come to light in the program, illustrating more general pitfalls in educating children about the connection between rights and responsibilities” (Howe and Covell, 2010, p. 96). These pitfalls are vital to take into account as they can be weeded out when initiatives are transposed into other communities.

The results of the study illustrated that out of the 13 schools studies, five schools were able to fully implement the curriculum and eight schools were able to partially implement the initiative. The researchers then did a comparison of PI and FI schools. “Children from FI schools demonstrated an understanding that rights are inalienable rather than dependent…. They explained how rights promote equality and have positive effects on individuals and in the community”, as is part of the aims of the CRC (Howe and Covell, 2010, p. 99). In comparison to the teachers and principals in FI schools, teachers and principals in PI schools were more reluctant to educate children about their rights in a systematic and comprehensive way. In other words, teachers and principals in PI schools used traditional thinking as justification for their hesitation to fully implement the human rights education. Second, they were much more comfortable in teaching responsibilities or giving emphasis to responsibilities in the overall teaching of rights and responsibilities. Third, as described by Howe and Covell, the effect of such a focus on responsibilities was to compromise the power of teaching children rights and to undermine the success of the initiative (Howe and Covell, 2010). This reluctance prevalent in the PI schools to teach human rights to children is correlated with lack of knowledge or ignorance regarding the rights of the child as stipulated in the CRC (Howe and Covell, 2010). A major problem found was that in PI schools teachers and principals were more likely to focus on responsibilities first or exclusively and either only touching on human rights or completely neglecting them. From the words of one head teacher at a PI school “This year we have our responsibilities. After the children have learned these, then we will work on rights” (Howe and Covell, 2010, p. 98).

Education literature, such as the study carried out by Howe and Covell, has shown evidence that teachers in Britain, specifically the one’s in the PI schools studied, are overwhelming lacking in preparation to teach in non-traditional ways. Making the transition from traditional schooling to a rights-based education can be a very hard transition for schools, especially ones who have not received the proper trainings first, as it requires a reinterpretation of human rights and specifically children’s rights. The widespread lack of understanding or knowledge in general of the CRC, often creates a feeling of resistance to teach children their rights before or even as equal to their responsibilities. Children’s rights, such as human rights in general, are seen as posing a threat to the authority over the
teachers or principals; a phenomenon also seen in Pakistan and in the U.S.A with the reluctance to provide women and black people human rights education.

Howe and Covell explained that one issue found in the RRR initiative was that teachings that are responsibilities centered are often also demoralizing and children typically have hard time connecting their everyday lived experiences with this type of education (Howe and Covell, 2010). Howe and Covell then went on to explain that the teachings that focus on children’s rights as the forefront of activities and learning allows students in Hampshire to engage their self-interest. “Self-interest promotes engagement and increases the likelihood that what is learned will become integrated into the child’s individual developing identity” (Howe and Covell, 2010, p. 99). The founders of the RRR initiative reflect in the study carried out by Covell and Howe, that another issue with the effectiveness of its implementation involved the enthusiasm of the teachers and school administration and thus the importance of free teacher trainings. The founders go on to illustrate that the trainings for this particular initiative should describe models of successful practice with sufficient research evidence and flexibility/creativity in how teachers and principals should implement the programs into their classrooms and school (Covell, Howe, McNeil, 2010).

For the RRR initiative and possibly other educational setting as well, when human rights education is adopted fully by each individual teacher, principal, and person in the school, human rights becomes less of a learning objective and more of an underlying foundation to life (Howe and Covell, 2010). A head teacher at a FI school stated that the RRR is not an extra aspect of the curriculum that needs to be taught in addition to her original workload. Rather, it is fits in as part of the curriculum already being taught. “It works as a foundation not just for our other programs but our school council, our school policies, and our school ethos” (Covell, Howe, McNeil, 2010, p. 126). This underlying framework created through this initiative works to perpetuate an environment of global interconnectedness through a bridge between children’s self-interest and the international human rights conventions that work to protect them.

Survey by Uçus and Dedeoglu

A study carried out in Ankara, Turkey by Uçus and Dedeoglu in 2016 examined the effectiveness of the implementation of children’s rights curriculum to ensure that the rights given to children in the CRC are met. The purpose of the study was to try to answer the following questions:

1. How does children’s rights curriculum benefit children’s cognitive and socio-emotional skills regard to their protection rights and freedoms?
2. Does developed curriculum bring awareness and sensitivity to children about children protection rights?
3. Does developed curriculum bring different viewpoints to children?
4. How does teaching actualize in the curriculum implementing process? (Uçus and Dedeoglu, 2016, p. 93)

The participants of their study included twenty-four female and twenty male students. The participants were freshman continuing their education in elementary school teaching in an elementary school in Ankara who were to implement the human rights curriculum (Uçus and Dedeoglu, 2016). The type of human rights curriculum implemented in this study incorporated activities in the classroom consisting of case studies, role-playing, utilizing newspapers and movies. Each student and researcher kept a diary to evaluate each module. Modules were implemented once a week. Children’s diaries were accepted as a reflecting part of children’s rights day and were investigated for student perceptions and their learning outcomes (Uçus and Dedeoglu, 2016). The researcher explained that the instrument used in this study to collect data was an Awareness of Children’s Rights Scale that
comprised of 36 open ended, multiple choice, and true-false questions that were all based on articles of the CRC. Below is a table of how each period of the curriculum worked to enforce a particular article of the CRC.

**Table 1: Children’s Rights Education Curriculum: Protection Module (Uçus and Dedeoglu, 2016, p. 96).**

<table>
<thead>
<tr>
<th>Related Articles from CRC</th>
<th>Protection Rights</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Respect to Individual Difference, Anti-discrimination</td>
<td>3</td>
</tr>
<tr>
<td>11, 19, 20, 22, 34</td>
<td>Abuses of children’s rights</td>
<td>10</td>
</tr>
<tr>
<td>35-40</td>
<td>Protection from child abuse and neglect</td>
<td>5</td>
</tr>
<tr>
<td>32</td>
<td>Child labor</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>Right of Privacy</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Protection from Media</td>
<td>3</td>
</tr>
</tbody>
</table>

One part of this initiative included how the participating teacher examined child abuse and neglect with their students, which are illustrated in the CRC articles 35-40, by talking about child poverty, abuse of right to health, gender mainstreaming, children with disabilities, and kid brides. The researchers illustrate how the participating teachers explained each issue related to article of CRC by using CRC document, which was attached on the classroom board and separated them in terms of bad or good news. Afterwards students were put into groups and they wrote a petition regarding child abuse, chose the institution to submit the petition, and wrote down their demands (Uçus and Dedeoglu, 2016). As one can see, this initiative employs not only the exact articles from the CRC but also implements participatory activities that integrate the notion of democracy with children’s everyday lives, i.e. including their self-interest.

The results of the study taken from the pre and post human rights awareness test showed that the questions regarding child labor under child neglect and abuse showed significant increases in conceptual understanding of the convention’s articles after participating in the human rights curriculum. The first question regarding child labor had a pretest score of 8.76 and a post test score of 16.73. The second question about child labor had a similar increase with the pretest score being 8.86 and the post-test score being 18.89 (Uçus and Dedeoglu, 2016).

“After the post-test application it was seen that there is a meaningful difference in favor of experimental group between the academic success and attitudes toward children’s rights of the test group and control group” (Uçus and Dedeoglu, 2016, p. 107). Article 29 of the CRC supports the idea that child-based activities and teaching activities are the more appropriate methods in teaching human rights and that teaching children’s rights education should not be arranged with traditional methods. This will inevitably pose an obstacle, as it did with the implementation of the RRR initiative.

In addition to the tests as result bearing, it was inferred from participant children’s reflections that the protection of rights and the idea of child abuse and neglect cannot be taught separately. “Children who participated in activities realized children’s rights implementation in daily live but did not establish a bond between children’s rights and their daily life and gave examples about rights. It was pointed out that children rights education can actualize a level of nominal before age 11” (Uçus and Dedeoglu, 2016, p. 106). Often this notion is central to what inhibits fear in people with fundamentalist or traditional thinking as they believe that when people can make connections between treaties such as CRC and their daily lives, humans will rise in anarchy and riot in the streets.

The researchers noted that the teaching of human rights education did not cause any anarchy or unruly resistance in family, school or societal environments, thus the fear that is prevalent in many
societies, such as Pakistan, in regards to fully enforcing and implementing human rights treaties is a conception refuted by this study (Uçus and Dedeoglu, 2016).

**Survey by Sabanci, Kurnaz, Yürük**

A different survey conducted in Ankara, Turkey by Sabanci, Kurnaz, and Yürük (2016) studied the implementation of human rights education and the idea of concept formation and as well as alternative concepts. Understanding basic concepts such as human and civil rights can lead a path into formulating a deep understanding of the reasons for human rights legislation such as the CRC. Concepts are the building blocks of knowledge because “they play a major role in both internalizing the knowledge, skills and values expected by the students and in converting them into scientific principles” (Sabanci, Kurnaz, Yürük, 2016, p. 48). Alternative conceptions were found to be the main obstacles facing teachers in students when learning new topics. Alternative concepts are concepts that students acquire as a result “of their own experiences before being taught scientific concepts [and] are ideas that are different from those accepted as correct by the scientific community” (Sabanci, Kurnaz, Yürük, 2016, p. 48). Alternative concepts pose a problem in understanding concepts such a democracy which pave the way for students to better understand historical and cultural events. Alternative thoughts can be compared to the traditional thinking so prevalent in the other studies provided.

Turkey underwent an educational reform in 2004 where the educational model transitioned from behaviorist model (teaching to) to a constructivist model (teaching with). “Constructivism is a learning theory which is based on the central notion that as learners we construct our own understanding of the world around us based on our experiences as we live and grow” (Sabanci, Kurnaz, Yürük, 2016, p. 50). The purpose of this study was to create a model of comparison for the conceptual understanding of the 7th grade primary school students who were exposed to pre and post-2004 social studies program regarding the common citizenship concepts taught in the social studies, citizenship and human rights education course (Sabanci, Kurnaz, Yürük, 2016). The participants included 289 students from five randomly selected pilot schools where the post 2004 social studies program was being implemented and 317 students from 10 randomly selected schools where the pre 2004 model is being followed (Sabanci, Kurnaz, Yürük, 2016). The instrument used to obtain the data was a three-tier conceptual understanding test consisting of 36 multiple-choice questions developed by the researchers (Sabanci, Kurnaz, Yürük, 2016). In order to identify students’ understanding of the concepts about common citizenship before the implementation of the new program, a test comprised of open-ended questions was given to a random group of 50 sixth and seventh graders chosen from six random schools that participated in the old program (Sabanci, Kurnaz, Yürük, 2016).

The results of the study illustrated that there was a significant difference found regarding the conceptual understanding of citizenship concepts between students in the previous and current programs. These results explained that students taught using the previous program had a greater number of alternative conceptions compared to the students taught with using the current program (Sabanci, Kurnaz, Yürük, 2016). “The current program using the constructivist model showed statistical significance in topics regarding participating, state value, public opinion, solidarity, sovereignty, patent, civilization, and tradition” (Sabanci, Kurnaz, and Yürük, 2016, p. 54). The results of this study emphasize that concept learning in regards to citizenship and human rights starts in the family and continues in school and societal environments. The study also supports the idea that prior knowledge of students is quite important in terms of their formation of alternative concepts and that nontraditional teaching methods are found to be more effective in the implementation of citizenship education and thus the enforcement of international human rights treaties that mandate citizenship education such as the CRC (Sabanci, Kurnaz, Yürük, 2016). The results from this study can be used to reflect on how in Pakistan every student is coming to class with several alternative conceptions regarding the proper interpretation of sharia. Many of those interpretations were learnt from their parents or grandparents as set in stone with no room for deeper understanding and criticism. It is thus the responsibility of the school and educational structures to unravel and challenge those alternative conceptions, especially ones that are directly correlated to the human rights of the child.
Education for Democratic Citizenship (EDC) Initiative by Osler and Starkey

Researchers Osler and Starkey explained in one of their studies on human rights education how there are many areas of discrimination that cannot only be tackled by the law alone. There is also a need for practical action that will “help change the underlying prejudices that fuel racist attitude and behavior. Education is called on to play a fundamental role in this endeavor” (Osler and Starkey, 2002, p. 147). The researchers go on to illustrate how ensuring that human rights ideology is not only at the forefront of the public conscience but mainstreamed so to require that human rights permeate the whole education process (Osler and Starkey, 2002). The study completed by Osler and Starkey in 2002 was on the Education for Democratic Citizenship (EDC) program launched by the Council of Europe in 1997. The program aimed to promote and develop best practices regarding the implementation of citizenship education in European schools (Osler and Starkey, 2002). The purpose of the study was to “explore some of the tensions implicit in education for citizenship and consider whether such programs can effectively contribute to combating racism” (Osler and Starkey, 2002, p. 143).

Osler and Starkey found that the EDC program emphasized the fundamental importance of education as a tool in dismantling ideologies of racial and xenophobic discrimination, as several international human rights treaties mandate, “acknowledging that these are barriers to democracy and social cohesion” (Osler and Starkey, 2002, p. 143). The study found that a downfall of the EDC program was by linking democracy only to government, the program abandoned possibilities for “democratic participation of children and young people in other institutions including the family, the school and the workplace” (Osler and Starkey, 2002, p. 155). This weakness illustrated in the study in the study carried out by Osler and Starkey is further explained in that “schools, as well as being a means to combat racism and xenophobia, may also contribute to the problem…this raises the questions of what they offer by way of citizenship education and, equally importantly, how they offer it” (Osler and Starkey, 2002, p. 144). This quote by the researchers explaining how citizenship and human rights education, which are both necessary to fully implement international human rights treaties, can be the problem or the solution, depending on its implementation. This does not mean that one should not implement human rights education in schools because of not having the perfect template, as a one-fits-all perfect template will never exist. “As well as being part of the problem, education is seen as part of the solution and the report recommended that schools have an important role in enabling the development of greater racial justice” (Osler and Starkey, 2002, p. 150). This statement instead should be taken as a warning to ensure that the means to implement human rights education should be an open and amendable initiative that allows for growth and change with new research and studies. This study of the EDC program further suggests the importance of having space for the self-interest of students that links their democratic selves to local and international governing bodies.

Survey by Leung, Yuen, Chong

Another study provided is in regards to the development of civic education in Hong Kong. The Hong Kong Special Administrative Regions (HKSAR) of the People’s Republic of China (PRC) has ratified 15 international human rights conventions and passed associated local legislation inter alia, a Hong Kong bill of rights ordinance (Leung, Yuen, Chong, 2011).

The implementation process of Civic Education in Hong Kong has taken place in four stages chronologically (Leung, 2008). HRE was first included in the school curriculum in stage two of this development, known as “1984-1997: The politicization of the Intended curriculum” (Leung, 2011, 147), just before 1996 when Hong Kong’s sovereignty returned to the PRC. In stage three known as, “1997 onwards: re-depoliticization of civic education and official affirmation of nationalistic education” (Leung, 2011, 147) HRE was excluded from the mainstream school curriculum again. This stage occurred immediately after the return of sovereignty to PRC (Leung 2007, 2008). The education reform that is discussed in this study is the fourth stage that began September 2009. In this stage liberal arts was introduced as a compulsory subject with focuses in civic education and HRE. The
initiative was started with senior secondary students. The researchers, Leung, Yuen, and Chong, from the center for citizenship education under the Hong Kong institute of education, performed a study on this new HRE initiative. The researchers explained the makeup of the project team, “the project team was composed of three academic colleagues with expertise in civic education, one academic colleague with a law and human rights background, and one research assistant” (Leung, Yuen, Chong, 2011, p. 148).

In the study two schools are discussed, School A and School B. In both schools, the initiative was incorporated into their integrated humanity subject (Leung, Yuen, Chong, 2011). Both schools were also Co-ed with 195 participants around the age of 14. At School A, each core element lasted for approximately a month, with three lessons per week, while each lesson lasted for 55 minutes. The pedagogies adopted included chalk and talk, use-based approaches, group discussion and experiential learning. At school B there were 11 double-lesson with each single lesson lasting for 35 min. Similar concepts to school A were taught with an addition of a childrens’ rights section (Leung, Yuen, Chong, 2011).

Data was collected through pre and post project questionnaire surveys to assess the impact on students as well as through teacher interviews (Leung, Yuen, Chong, 2011). The number of valid questionnaires collected for both School A and B was 195. Four themes were included in the questionnaire for both schools: 1 attitude toward human rights, 2 knowledge of human rights, 3 attitude towards rule of law, 4 knowledge of rule of law. Questions regarding children’s rights were for school B only (Leung, Yuen, Chong, 2011).

The results of this study outlined clear obstacles as well as successes. The most commonly encountered obstacles were “insufficient knowledge among teachers, difficulties in maintain student interest, difficulties in assessment, and concerns about the misuse of human rights concepts” (Leung, Yuen, Chong, 2011, p. 151). Regarding the difficulty of insufficient knowledge among teachers, it became evident to teachers that they did not have the ability to answer students’ questions about the subject matter. In turn, teachers had to rely heavily on the textbooks which also lacked in quality. The researchers explained how a couple of teachers “admitted they may even have conveyed the wrong messages occasionally” (Leung, Yuen, Chong, 2011, p. 153). The lack of sufficient training on the subject matter was reflected in the lack of confidence teachers had when conveying the lessons to students. Several teachers expressed their interest in further training, “I wish to understand, besides the need to obey the law, the essential aspects of the rule of law” (Leung, Yuen, Chong, 2011, p. 153).

Regarding the difficulty stated about retaining student interest, below are statements made by students explaining where their disinterest comes from:

“We feel more interested if we can discuss or debate issues. But because there is little time, the teacher just keeps on talking, making us feel very bored. After all, the issues are controversial and we want to express our views” (Leung, Yuen, Chong, 2011, p. 153)

“When we learn the Universal Declaration of Human Rights (UDHR), we just focus on a few themes. Then we move on to discuss discrimination. I wonder whether we truly understand the issue of discrimination given our limited understating of UDHR” (Leung, Yuen, Chong, 2011, p. 154).

Both above statements present a theme of lack of depth into each subject as well as a negligence of children’s self-interest. The obstacles prevalent here support participatory pedagogies such in-class debates and roundtable discussions. These types of participatory pedagogies allow students to make connections with the subject matter and their everyday lives. Students from both schools describe how their learning has impacted their world view outside of school, “When I am having dinner with my family and hear about human rights abuses on TV, I will talk with them about the human rights we learned about in class” (Leung, Yuen, Chong, 2011, p. 155), “now we are learning about human rights and the rule of law and I have become more alert to whether human rights abuses are taking place” (Leung, Yuen, Chong, 2011, p. 158), “If people go to Beijing to appeal
against their unjust treatment they are always stopped by the police. Is this an infringement of their human rights” (Leung, Yuen, Chong, 2011, p. 155). From these statements one can see how the students were cognizant of the injustices happening in their community and an underlying premise of how human rights creates a foundation for one’s daily life. Not only are students aware, but they are interested in learning about their rights under international conventions. The process of introducing international human rights law to students is the first step, the implementation process in the second. This study suggests how the lack of teachers’ preparation was a major detriment to the students learning and one might take from this study that teacher training to increase teaching capacity is a step towards creating a more successful HRE initiative that will in turn strengthen the enforcement of human rights legislation.

Discussion: A Deeper Look into Teacher Trainings Initiatives

From the above studies regarding the implementation and efficacy of different HRE initiatives in Hong Kong, Turkey, and England, one recurring obstacle was insufficient teacher training and how this hindered enthusiasm and interest from both teachers and students. The above studies support the idea that sufficient teacher training is essential for successful implementation of an HRE program. This necessary element pushes one to look further into current initiatives focused on HRE teachers’ trainings.

Salam Institute for Peace and Justice Initiative

A study was carried out on a human rights education project that was initiated in Chad and Niger by the Salam Institute for Peace and Justice. The Salam Institute is a “non-governmental organization that focuses on designing and implementing training and educational materials on interfaith dialogue and interreligious peace building in Islamic contexts” (Abu-Nimer, Nasser, Ouboulahcen, 2016, p. 539). The program utilized an intervention into the Qur’anic Schools (QS) due to the fact that 55000 QS exist to serve 14 million people and are “forming parallel educational institutions that preserve and perpetuate certain Islamic teaching” (Abu-Nimer et al., 2016, p. 537). The intervention into the QS was specifically through teacher training with a participatory pedagogic framework used to guide and manage the intervention “at the level of content, context, and process to contribute to building a culture of peace in the targeted community” (Abu-Nimer et al., 2016, p. 540). Teacher training was viewed to be the most important initial intervention because the teachers in QS have for a long time maintained a great deal of symbolic power as gatekeepers of the core values of authentic Islam (Abu-Nimer et al., 2016). Abu-Nimer, Nasser, and Ouboulahcen performed a case study on the Salam Institute’s human rights education initiative in Niger. The researchers explained how “this study attempts to address the problematic issue of how to improve the allegedly substandard intolerant and uncritical education offered by QS (Abu-Nimer et al., 2016). In order to conduct the case study, researchers visited 20 of the 76 schools through a partnership with the Zinder Union of QS (Abu-Nimer et al., 2016). Data was collected through interviews, observations, and focus groups. The 20 schools were chosen based on consultation and agreement with the Union secretariat as well as the general availability and access to the schools during the time of the case study (Abu-Nimer et al., 2016). Researchers explained how the teacher training consisted of about 56 teachers and utilized highly participatory tactics such as learner centered and context appropriate teaching tools, as well as planning sessions for dissemination of peace messages in other QS (Abu-Nimer et al., 2016).

How the initial intervention was facilitated was viewed by the researchers to be very important as QS teachers are always cautious in dealing with international organizations. “Teachers view it as their holy duty to resist any form of incursion into their perceived authentic Islamic faith and value system” (Abu-Nimer et al., 2016, p. 541). The researchers explained how the Salam Institute made initial contact with the Union through in-kind donations of chairs, books, computers, etc. This tactic proved crucial to gain the primary trust of the local partners and provided as a conduit into more difficult conversations regarding the implementation of teacher trainings with the institute. Another
crucial aspect of the training group was the inclusion of Muslim Arab Speaking experts having a key facilitative role.

Abu-Nimer et al., illustrated how the intervention was introduced to the local partners,

“We framed the goals of the intervention as not changing the curricula, but rather building the teacher’s capacity in context appropriate learner centered teaching methods. Using role plays, cultural rituals, stories, poetry…. Cultural proverbs provided excellent opportunity to introduce values such as tolerance, human rights, and nonviolence with little tension and suspicion of our intentions trainers” (Abu-Nimer et al., 2016, p. 545).

After being allowed to proceed with the project, the researchers described how the team had teachers “design sample lessons on specific themes with illustrations from the Quran and Hadiths, provided by the participants, to support the spreading of the message of peace” (Abu-Nimer et al., 2016, p. 546). Another activity involved the teachers brainstorming stories, examples, cultural sayings, and local and national poems that supported the values of peace education that they could use in their class rooms as a non-traditional way of promoting Islamic writings and peace messages.

The researchers found several successes and challenges that resulted from the Salam Institutes initiative. The successes included the way in which the institute was not only accepted but appreciated in the community. Abu-Nimer et al., explained how the local community felt that the trainers demonstrated a sincere and genuine interest in documenting the needed improvements to the QS and did not come off as “serving external western agendas of changing Islamic beliefs” (Abu-Nimer et al., 2016, p. 546). A local leader declared to the local governor that the team was genuine due to the determination of the trainers to visit over 20 of their schools and spend time getting to know the communities children (Abu-Nimer et al., 2016). Researchers also illustrated how there was a clear shift in certain teacher’s perception of their roles as educators as one educator stated, “as a result of the training, I began thinking about not using violence in teaching the students, I noticed that in this training we were relaxed and managed to learn lots of information about teaching” (Abu-Nimer et al., 2016, p. 548). In several of the other studies mentioned in this paper, a fear of losing respect, and namely control, over the students is often cited as a factor preventing teachers from fully implementing peace education. However, it is seen in the study above that through the relaxed nature of the teacher training, that fear was dismantled in a teacher.

A challenge illustrated in the case study was regarding the initial hesitation of participants due to the previous lack of any human rights education. “Peace education principles were absent from the teachers perception of their role in the first workshop, several teachers emphasized that this was their first –professional training after 15 years of teaching with the same memorization methods” (Abu-Nimer et al., 2016, p. 548). Abu-Nimer et al., explained how several teachers found the training insulting when it was proposed that QS teachers could organize a neighborhood trash pick up, however, not however by the end of the training, as QS teachers were “planning a project to involve parents and students in initiating a public celebration to support the school” (Abu-Nimer et al., 2016, p. 549).

A second challenge described by the researchers was focused on certain ethno- and religious-centric interpretations. “Such beliefs fundamentally contradict the core training many participants expressed their belief that ‘Islam is superior to all other faiths” (Abu-Nimer et al., 2016). The training team decided not to confront this controversy and avoided being caught in local political dynamics and debates over religious-centric beliefs (Abu-Nimer et al., 2016, p. 550). This is another example of alternative concepts as described above or resistance due to traditional thinking.

A last, but very hindering challenge was funding. Lack of funding was found to be a major challenge as it impeded the capacity to disseminate manuals to a larger number of QS (Abu-Nimer et al., 2016). However, despite the several challenges present throughout the implementation of the
initiative, teachers expressed their willingness to try and thus provided evidence that the QS teachers in Zinder schools “are open and willing to engage with agencies and third party interventions that take into consideration the sensitivities discussed above” (Abu-Nimer et al., 2016, p. 552). Careful and skillful relationship building with leaders in QS is found to be crucial in order to build initial trust and successfully implement their training.

**International Human Rights Training Program (IHRTP)**

Another initiative is the International Human Rights Training Program (IHRTP) offered by the Canadian Human Rights Foundation (CHRF). “The IHRTP is an intensive, [three week], intermediate-level training program on human rights education for human rights activist and educators” (Nazzari, McAdams, Roy, 2005, p. 173). This program brings about 120 people working to progress HRE initiatives from over 60 countries around the world and has had over 2,000 participants since it started in 1980. An underlying ethos of this IHRTP is constructivist learning, a theory mentioned in an above study as well, as it is an important source in understanding transformative learning theory. “Constructivist learning theory assumes that meaning exists within us rather than in external forms and as such, learning construct their own knowledge based on interaction with their environment” (Nazzari, McAdams, Roy, 2005, p. 174). Some of the constructivist activities include case studies simulations, concept mapping, jigsaw learning, brainstorming, debate, fishbowl discussion techniques and open space technology. Upon completion of the program each participant takes home a CD ROM with many of these same activities from the training and additional resources. The authors of the study found that “82% of participants stated that the activities undertaken during the program had resulted in some changes in their perceptions or ideas” (Nazzari, McAdams, Roy, 2005, p. 183), “36% of participants suggested that their perceptions or ideas about human rights education had changed” (Nazzari, McAdams, Roy, 2005, p. 183). Today, the IHRTP continues to act as a catalyst for the development of new HRE projects worldwide through putting importance on the forefront disseminators of HRE, the teachers and advocates.

**Discussion**

Article 42 of the Convention on the Rights of the Child (CRC) mostly advises on children’s rights. However, it also implies that children need to receive human rights education (Uçus and Dedeoglu, 2016). Despite the limited availability of studies regarding effectiveness of human rights education, there are many HRE initiatives and individual advocates currently working around the world.

In Pakistan where a majority of women, especially in rural areas, must choose between their education and their life, there are several initiatives (Suduth, 2009). The Asian Development Bank’s report on Civil Society Organizations in Pakistan outlines several of those initiatives. One example is a decentralized elementary education initiative that was approved by the Pakistani government in 2002. The goal of this project is to increase accessibility and quality of elementary education using free educational resources and increased teacher training (ADB, 2009). Another initiative is the Advocacy for Girls Education that was approved in 1999 for funding. The objectives of this project include facilitating an educational environment for girls that enables them to “strengthen education networks, stimulate social pressure to bring about positive change in education policy, develop a database of organization and institutions working on education for girls, and promote girls’ education through the media” (ADB, 2009, p. 4). Jennifer Sudduth describes some other Non-governmental organizations (NGOs) doing work in Pakistan, such as Shirkat Gah Women’s Resource Centre and Khwendo Kor, monitor the implementation of the Convention Eliminating Discrimination Against Women (CEDAW) in the educational settings by the Pakistani Government and go as far as petitioning for change and organizing community support for girls’ education (Sudduth, 2009).

Other organizations in Pakistan such as the Central Asia Institute have created community-based education programs throughout Pakistan. Alkhidmat, a nationwide NGO, alone is operating
almost 100 non-formal schools in the small villages of Sind, Baluchistan and NWFP provinces. Girls and adult women are admitted for primary education” (Sudduth, 2009, p. 591). According to a survey in the Civil Society Brief by the Asian Development Bank, “nearly half (46%) of Pakistan’s nonprofit organizations cite education as their main activity. The second largest component in the nonprofit sector consists of organizations engaged in advocacy (18%)” (ADB, 2009, p. 3). This push for education and advocacy in grass-roots initiatives is not a coincidence, but a very intentional move to begin the reinterpretation of Sharia Law before a whole new generation of Pakistani children’s rights are neglected and the lack of enforcement of the CRC, the convention for the rights of the child, is upheld.

Bottom-up agitation for human rights education does not only come from NGO’s, individuals also put their lives at risk in order to fight for their human rights. The first girl to pursue higher education in Pakistan’s village of Hushe Valley, Shakeela, stated, “At first, when I began to attend school, many people in my village told me a girl has no business doing such a thing” (Weaver, 2007, p. 483, 485). Shakeela explained how she saw the minds of the people in her village start to change and how now when she returns to her village there is a vast increase in families sending their daughters to school (Sudduth, 2009). Dr. Cherif Bassiouni describes another individual from Pakistan named Malala Yousafazi who was 15 years old when the Taliban in Northwest Pakistan’s Swat Valley sought her out and shot with the intent to kill her for publicly speaking out against the Taliban’s hindering of girls’ education in the region (Bassiouni, 2014). Resulting from her activism and resistance against fundamental interpretations of Sharia, she was able to put women’s education in Pakistan on a global stage (Bassiouni, 2014). Another example offered by researchers Howe and Covell is of a 14 year old girl in India named Uchengamma who believed that her only option was to forgo an education at age 11 to go work in the fields until she was put in a pre-arranged marriage. Uchengamma was given the opportunity to learn about her rights that in turn reformed her life. This education led her to advocate on the rights of children and was “empowered not only to go to school and to improve her own life, but also to fight injustices committed against other working children and those denied education” (Howe and Covell, 2010, p. 100).

These organizations and individuals work in the understanding that modernist reinterpretation of the Quran is what is needed for long-term reform of women’s education and human rights in general. In other words, deconstruction of alternative concepts and traditional thinking should be implemented early on in one’s education to ensure a generational shift towards human rights.

A review of the HRE initiatives provided above suggest several key aspects that hindered successful implementation. Lack of student interest was found to be a major obstacle that was traced back to two key factors. The first was teacher training. Teachers that were not able to expand on the theories and injustices being discussed relied too heavily on textbooks that often were inadequate. Teachers’ inability to answer questions posed to them created an environment that lacked confidence and understanding. The second factor was a lack of a bridge connected the information being learned and their everyday lives. Self-interest was found to be important factor for both students and teachers, in the material in turn allows people to understand the information as an underlying framework of their human and civil rights in society. The studies above suggest the importance of using nontraditional pedagogies for disseminating HRE as traditional thinking and alternative concepts were often found to be contradictory to rights laid out in human rights treaties such as the ICRC. The last obstacle addressed, not necessarily specific to HRE initiatives, was funding. Any bodies hoping to begin a HRE initiative must keep funding in mind when measuring the sustainability of the program.

Conclusion:

International human rights treaties are nothing beyond words on a piece of paper if an individual, or a country, chooses to look at it as so. What gives international human right law treaties their legitimacy is through the ratification and effective enforcement of the treaties’ mission. One can see from the literature that enforcement has rarely come from the top, hence a global and recurring
phenomenon of ineffective enforcement mechanisms as seen in Pakistan and the U.S.A. “Countries are agreeing that it is children who are the claim holders, who have fundamental rights as individual persons” (Howe and Covell, 2010, p. 92), however until children are not only granted those rights, but taught that they have a right to those rights, no one is going to ensure those rights are not violated. Providing an environment for opportunity and rights for children is just the first step. Children need to be motivated by an intrinsic feeling of responsibility as well as being willing to exercise that responsibility. This motivation is an impulse every person is born with however children need to be taught how to participate in society through structured and intentional curricula that is continually being studied, taking into account other successful models, and given room for creative growth and implementation. Notably, the enthusiasm of the school community is one of the most vital criteria for successful human rights education. Persons in power, whether it be a head teacher at a school, the Taliban, or local government in Pakistan, often get scared at the notion of people learning their human rights, as they believe it will breed anarchy. “True or full-blown rights education is the least common approach. It is, however, the only approach that takes the convention seriously” (Howe and Covell, 2010, p. 96). Due to the limited number of studies surrounding different models and obstacles for human rights education, current initiatives will be working with limited resources. Professor Cherif Bassiouni explained in his book, The Shari'a and Islamic Criminal Justice in Time of War and Peace, “why innovative solutions [to the radical interpretations] have not been developed has nothing to do with the sharia itself, but with those who have the ability and the power to interpret the sharia in a progressive manner” (Bassiouni, 2014). Thus, what must be done is to support the NGO’s and individuals who are using their power to interpret sharia in a progressive manner despite entities using radical interpretations to deny women their human right to education and persons their human rights in general. In order for human beings to continue to rethink and reshape how society can work successfully in a democratic and equal nature, more studies and research need to be conducted on education and the important role it plays in the enforcement of international human rights law.

References


What does it mean to teach? Redefining the teacher in an era of misconception

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Abstract

It seems that in the mind of the public, teachers have come to be defined by what they solicit (protection in the form of a union) and what they fail to elicit (passing scores for students on standardized tests) as opposed to what it is they do, which is teach. This misinterpretation may very well arise from the lack of clarity in defining the practice of teaching. Using the emerging recognition of non-human animals as social transmitters of information to provide insight into what teaching is from an evolutionary perspective, this paper explores the inextricable link between biology and educational philosophy. Using Dewey’s (1902, 1944, 1953) polymathic approach to investigating and understanding education as both a model and a foundation, this paper identifies nexus points between pedagogical theory, cognitive neuroscience, and ethology. The result is a redefinition of both the teacher and the act of teaching that has the potential to bring clarity to the purpose of a profession that has long suffered from public—and political—misperception.

Keywords: Teaching, John Dewey, social transmission, academic optimism, evolutionary education, teacher evaluation

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Introduction

There has been a general dissatisfaction with teachers as of late. It has manifested itself on multiple fronts, ranging from frustration that teacher unions in the United States have a single-minded focus on increasing teacher pay and benefits (Brimelow, 2004), to the inability to implement market-based reforms of teacher evaluation (Eberts, Hollenbeck, & Stone, 2002), to teacher preparation programs that have little effect on the readiness of new teachers (Walsh & Podgursky, 2001). The public outcry against American teachers came to a head in the past year, where the governor of Wisconsin helped precipitate a pitched battle over the right of teachers to collectively bargain in his state (Lyman, 2011), and the teachers of the Chicago school district went on strike to begin the school year in response to a contract that would have included student test scores as a component of their evaluations (Luce, 2012). Outside of the United States, researchers for the World Bank have argued that unions are preventing educational progress (Bruns & Luque, 2014), in part because teacher unions are the ones fighting against school choice and tying pay to standardized testing (Weiner, 2012). Due to their activities, “teacher unions have been singled out for attack because throughout the world they are the most significant barriers to this project’s implementation” (Weiner, 2012, p. 89).

Taken together, these cases reflect the two principal but proximate causes of frustration with teachers; one represents the issue of the power of unions (Moe, 2011), while the other is representative of the decided lack of improvement by students on standardized external measures of knowledge (Fleischman, Hopstock, Pelczar, & Shelley, 2010; OECD, 2012). The ultimate cause of the public’s frustration with teachers derives not from what they or their unions are or are not doing, but a lack of a clear understanding of what teachers are or, perhaps more importantly, what they should be.

Observed from this standpoint, that of the linguistic analyst, being a teacher has become synonymous with union member and individual responsible for student test scores. It seems that, what has largely become lost in the public’s analysis of the teacher is that, above all else, it is the teacher’s job to teach. Unfortunately, there exists widely disparate perceptions of what teaching means to the highly select group that consider themselves educational philosophers, much less a republic of 330 million citizens or a global population of 7.6 billion, so it is almost justifiable that the teacher gets reduced in psychological stature to a few highly quantifiable metrics that easily allow for definition and evaluation. This desire for calculability, likely a product of modernism and the industrialization of all aspects of culture (Ritzer, 2010), leads to a rationalization about the profession of teaching that is highly irrational, for this rationalization fails to capture the essence of the countless acts that define the vocation. In order to be able to truly evaluate the teacher, one must know what teaching is. It is therefore the humble goal of this paper to proffer an explanation of the act in the hopes that teachers might be evaluated by the single index that should define their profession: one’s capacity to teach.

Can Teaching Be Defined?

When one seeks to define teaching, he or she could do much worse than Pearson’s (1989) definition. He posited that

When faced with the question of determining whether an action is a teaching action, as opposed to some other action such as reciting, talking or acting in a play, it is the intention of bringing about learning that is the basis for distinguishing teaching from other activities. The intention the activity serves, then, is a part of the meaning of the concept, and not a factual discovery one makes about the activity (p. 66).

Viewed from this perspective, teaching becomes about intentionally bringing about learning in students. The presence of intentionality suggests that a teacher is capable of discerning a student’s naïveté, something that requires what is widely referred to in psychological circles as a “theory of mind” (Leslie, 1987; Premack & Woodruff, 1978). Due to the significant doubt in the field that exists
about whether other primates possess a theory of mind (Strauss, Ziv, & Stein, 2002; Tomasello, Carpenter, Call, Behne, & Moll, 2005; Tomasello, Kruger, & Ratner, 1993), it should come as no surprise that a recent review by Csibra and Gergely (2011) has concluded that humans are the only species to possess what they consider a natural pedagogy. With the seemingly unique capacity to impute the mental states of others as well as to communicate intentions verbally, Csibra and Gergely (2011) claim that the natural pedagogy that exists is essentially the ability to explain. And yet the same researchers state that they “do not think that there is a single cognitive or psychological factor…that makes humans unique” (p. 1155). How is this possible?

This contradiction may be a product from the mistaken assumption that the capacity for language is unique in humans. When viewed from a neurological standpoint, homologs for the two regions of the brain most frequently associated with linguistics, Broca’s and Wernicke’s areas, have been identified in non-human primates (Gannon, Holloway, Broadfield, & Braun, 1998; Gil-da-Costa et al., 2006; Spoer et al., 2010; Taglialatela, Russell, Schaeffer, & Hopkins, 2008). It has also been posited that the seat of language processing in humans exists not in the primate, or even mammalian portions of the brain but within the reptilian region (Lieberman, 2002), suggesting that language may simply be the outward manifestation of the necessity of social species to communicate. This recognition would explain why, from a behavioral standpoint, it has been identified that the primary function of vocalizations is to communicate social standing within the group for both humans (Calude & Pagel, 2011) and non-humans (Seyfarth & Cheney, 2010). If this is the case, while language may be used to ascertain and transmit information of a social nature, it may not always provide the best method for transferring all information.

Due to the apparent purpose and intentionality of vocalizations across a wide variety of taxa including humans, but its assigned importance to teaching only in humans, were one to try to identify teaching in other species, it seems the definition would be quite different than the one proffered by Pearson (1989). Into this apparent void stepped two pairs of researchers nearly two decades apart. The first duo, Caro and Hauser (1992) proposed that

An individual actor A can be said to teach if it modifies its behaviors only in the presence of a naive observer, B, at some cost or at least without obtaining an immediate benefit for itself. A’s behavior thereby encourages or punishes B’s behavior, or provides B with experience or sets an example for B. As a result, B acquires knowledge or learns a skill earlier in life or more rapidly or efficiently than it might otherwise do, or that it would not learn at all. (p. 153)

By approaching the question of teaching from an empirical and scientific perspective, Caro and Hauser (1992) produced a definition that explicitly omits the concept of intentionality, instead emphasizing learning in the naive pupil.

This definition provoked responses from psychologists that focused on the fact that all of non-human teaching seemed to be focused purely on foraging (Premack & Premack, 1996) and was done without the sort of intentionality that comes from the possession of a theory of mind (Strauss et al., 2002; Tomasello et al., 1993, 2005). The collective academic wake of this backlash seemingly stifled any subsequent reviews for the next fifteen years. Then, on the backs of three studies (Raihani & Ridley, 2008; Richardson, Sleeman, McNamara, Houston, & Franks, 2007; Thornton & McAuliffe, 2006), a review was published by Thornton and Raihani (2008) that—using Caro and Hauser (1992) as a model—proposed a new biological framework that suggested teaching is: 1) a form of cooperative behavior with response-dependent fitness payoffs, 2) an action whose function is to facilitate learning in others, and 3) a behavior that involves the coordinated interaction of a donor and a receiver of information (p. 1825). In the review, though they explain that the uniquely human capacity to infer the cognition of others may affect teaching in some areas, many forms of human tuition do not require teachers to impute mental states to pupils. This suggests that there may be the intention to transmit information present without there existing a theory of mind in the teacher.
That conclusion is important for three reasons. The first reason that these definitions are important is that, by eliminating the necessity of a theory of mind to teaching, they present the possibility of even richer avenues for teaching existing in those species (i.e. humans) that are in possession of the capacity to infer not only the relative ignorance of another individual but the ability to facilitate an experience that will provide the greatest chance at the acquisition of knowledge and skills by the receiver of the information because of this capacity. The second reason is that these definitions, particularly the Thornton and Raihani (2008) iteration, emphasize the necessity of a relationship between teacher and student in order for the effective transmission of information to occur. The final reason is it promotes potential definitions of teaching that not only omit the necessity of language, but deemphasize a word that may possibly be more troublesome to define than teaching: learning. Instead, the Caro and Hauser’s (1992) definition emphasizes the acquisition of knowledge or skills, a subtle shift that provides the opportunity for the collection of empirical data to evaluate the quality of the teaching based on the effectiveness of the transmission. The clarity provided by these definitions allows for one to more accurately assess what teaching truly should be.

**Utilizing Pedagogical and Content Knowledge**

As Csibra and Gergely (2011) intimate, humans may well be the only species with a “natural pedagogy,” but that does not mean that an explanation of the purpose for acquiring particular skills or committing to memory bits of knowledge is the ideal method of transmission. Dewey (1902) considered the purpose of early education “… to get hold of the child’s natural impulses and instincts, and to utilize them so that the child is carried on to a higher plane of perception and judgment, and equipped with more efficient habits” (p. 127). As his career moved along, Dewey continued to place great weight on utilizing a child’s experiences and natural proclivities (Dewey, 1902, 1944, 1953, 1997a; Noddings, 2012) which would serve as a springboard for what he considered “growth” in the child. Dewey (1902, 1944, 1997a) thought this almost ephemeral concept of individual advancement—which in the Caro and Hauser (1992) would likely define as the acquisition of knowledge and skills—is best achieved through play both inside and outside the constructs of the classroom. Different from what he considered “fooling around” (which was detrimental to a child’s academic development), Dewey’s conception of play is in line with what has been observed by contemporary anthropologists—that in most hunter-gatherer societies, there is no difference between work and play for children (Muller, 2010). And though the idea of play as an avenue for the acquisition of survival skills has been around for over a century (Groos, 1898), it has recently been brought to the forefront of the academic community as a viable method for developing a greater understanding of both information and processes (Brown & Vaughan, 2009). With play working at the interface of procedural (skills) and declarative (information) knowledge, it helps to develop the kind of semantic learning that has been empirically shown to advance both outwardly observable behavior and neural connectivity (Brown & Vaughan, 2009; Marler, 1991).

As an educational philosopher who valued scientific thought, Dewey would likely have appreciated the care with which evolutionary psychologists, ethologists, neurologists, and psychiatrists have compiled data to support his fledging inclinations towards play as a pedagogical method in light of his interest in evolutionary theory (Dalton, 2002; Dewey, 1929, 1958, 1997b; Popp, 2007). His concern, however, would have been for its tendency to, without careful observation by the teacher, to devolve into the aforementioned “fooling around” (Dewey, 1944). In order to prevent such an unproductive transformation of the learning environment from occurring, the teacher must therefore possess the kind of foresight that enables him/her to ensure that the provided opportunity for play presents the opportunity for the advancement of understanding; otherwise, it is likely that another method may have provided a greater chance for success. This stipulation requires that teachers possess not only the content knowledge necessary to envision the next cognitive step for his/her students, but the kind of pedagogical knowledge necessary to identify the ideal information delivery device. The interface of these two produces a third type of knowledge required of a skilled teacher—pedagogical content knowledge (Shulman, 2004).
Though the cognitive capacity of animal teachers is limited as compared to humans, there exists a difference in intentional transmission techniques in non-human teachers based on whether the required knowledge is fixed (declarative) or progressive (procedural) (Thornton & Raihani, 2008). But when one takes into account the various methods of information transfer in animals whose learning and cultural development has been likened to humans (i.e. other primates and social carnivores) via practices such as observation (De Waal, 2009; Gallese, Fadiga, Fogassi, & Rizzolatti, 1996), master and apprenticeship (Horner, Proctor, Bonnie, Whiten, & de Waal, 2010; Matsuzawa et al., 2001; Whiten, Schick, & Toth, 2009), and participatory “tagging along” (Drea & Carter, 2009; Thornton & Raihani, 2008), the pedagogical possibilities for a species that is as self-aware as humans are seemingly endless. Unfortunately, the overwhelming nature of the aforementioned pedagogical possibilities combined with an ever-growing foundation of available content knowledge may explain why, even when Dewey was working at the turn of the century, that subjects had a tendency to insulate themselves from each other (Dewey, 1902).

The development of essentialism in education (Gutek, 2004) and its contemporary successor, the standards movement (Ravitch, 2011), further entrenched the generation of subject specific curriculum. This development has created intellectual vacuums within classrooms, leading to the kind of dictatorial teaching of abstractions that Dewey espoused was detrimental to the growth of the child for the entirety of his career (Noddings, 2012; Winn & Randall, 1959). He was not alone in this recognition, as his successors (Shulman, 2004), progressive contemporaries, and predecessors dating back to Rousseau all suggested that the teacher’s role was not to dictate facts but facilitate understanding (Noddings, 2012). The forced isolation of the content of the classrooms bears no resemblance to the interactive nature of the “real world,” an effect recognized as far back as Plato’s first writings about the teaching practice of his mentor Socrates (Noddings, 2012). This renders the student’s natural way of encountering the world, so valued by educational psychologists from Piaget (1964, 1970) to Gardner (2000), moot, forcing them into a mode of knowledge acquisition that is likely to leave them unable to create the kind of semantic knowledge necessary to thrive outside of the classroom.

Not surprisingly, pragmatic philosophers—spearheaded by Dewey—and progressives have suggested that it was the teacher’s job to ascertain the student’s ideal mode of learning (Gutek, 2004; Noddings, 2012) and quality of their intelligence (Dewey, 1944). In works throughout his career, Dewey stated that the purpose of this practice was to facilitate growth in the student, but this begs the question, to what end? Is the goal to access the student’s primary facet of intelligence so state-prescribed knowledge has the best chance at cognitive assimilation? Or is it to provide a student insight into her own individuality, producing the kind of natural experience and reflection positive feedback cycle that allows for her to understand her role in the world? Conservatives and educational essentialists would tend to favor the former interpretation, as it would allow for the perpetuation of cultural literacy (Gutek, 2004; Hirsch, Kett, & Trefil, 1988). Creative theorists would certainly argue the latter, for it is through an individual’s identification of his “element” that allows him to live a meaningful, and productive life (Robinson & Aronica, 2009). In either case, if this is the sort of growth Dewey references, providing a “fitness pay-off” (Thornton & Raihani, 2008) and “knowledge a student might not otherwise learn” (Caro & Hauser, 1992), then a teacher must engage in the second facet of true teaching—they must develop some sort of cooperative, caring relationship with the student.

Caring for the Student as a Developing Person and Individual

As alluded to in the Thornton and Raihani’s (2008) definition of teaching, the relationship between teacher and student is “coordinated” and “cooperative.” This relational emphasis aligns with Dewey’s perception of the teacher’s role, for he wrote, in regards to students, “it is the teacher’s business to know what powers are striving for utterance…and what sorts of activity will bring these to helpful expression, in order to supply the requisite stimuli and needed materials” (Winn & Randall, 1959). He recognized that for this level of coordination to occur, a teacher “must be aware of the past
experiences of students, of their hopes, desires, chief interests [in order to] better understand the forces at work that need to be directed and utilized” (p. 135). Such knowledge of the student suggests there has not only been some sort of cooperation on the part of the student but a recognition that the teacher not only cares about the student as one who needs to be taught, but cares for the student as an individual (Noddings, 2003, 2012).

In order for a caring relationship between the teacher and student to transpire, the teacher must understand where the student is developmentally. Advocated by progressive philosophers going back to Rousseau (Gutek, 2004; Noddings, 2012; Wilson, 1999) and grounded originally in the empiricism of 20th century child psychologists like Piaget and Vygotsky (Wilson, 1999), the capacity of a teacher to understand a student’s likely developmental state has only been heightened by the work of 21st century cognitive neurologists (Gazzaniga, 2009). Such work has allowed the teachers insight into the need for differentiation due to varied modalities of learning (Gardner, 2000), as well as the need for concreteness to facilitate the learning of abstraction (Wilson, 1999) due to the embodied nature of our cognition (Clark, 2016). The necessity to understand a pupil’s biological and experiential development is not unique to humans, for in two species identified as teachers, meerkats and wild pied babblers, modify their practice based on the developmental cues they receive from their pupils (Raihani & Ridley, 2008; Thornton & McAuliffe, 2006).

That development can be ascertained both by external cues and an awareness of a species’ developmental timeline is supported biologically, suggesting that the type of information and fashion in which it is presented could be identified in advance of attempting some form of transmission. Plato, however, argued the reverse, that the presentation of information affects development (Egan, 1997). This seemingly essentialist declaration too is true from a biological standpoint (Gazzaniga, 2009), and it requires that teachers know the students in their classrooms not simply as vessels on a voyage of development but as individuals with different experiences and levels of knowledge. For a teacher—one who truly succeed in facilitating even the most modest of Deweyan growth in a student, he/she must be able to identify the student’s level of naïveté in regards to essential skills. This has been observed in two highly social creatures, hyenas (Drea & Carter, 2009) and tandem-running ants (Richardson et al., 2007), whereby the knowledgeable individual awaits feedback cues from the learner before proceeding with adjustment to the level of support provided. Human teachers, however, are at a distinct disadvantage as compared to the non-human teachers mentioned in the previous two paragraphs: all of the animals are a part of communal living species whereby the acquisition of knowledge about their pupils’ level of learning is a product of their constantly close proximity, and in most cases, being a part of a multi-generational family. Such a situation breeds the kind of trust necessary for a caring relationship to develop (Noddings, 2003), and this in no way mirrors the situation in which most teachers (particularly those in secondary education) find themselves.

In order to elicit the trust required of the cooperation and coordination for a functional student-teacher relationship, a human teacher must be deemed trustworthy, and among the most successful ways to receive this cognitive designation is to be considered authentic. Authenticity from a leadership perspective derives principally from the possession of a clear purpose (Northouse, 2012). As suggested by Dewey (1944), this purpose may be to promote growth in one’s students, or as suggested by Caro and Hauser (1992), it may be to facilitate the acquisition of knowledge or skills that would not happen as successfully in the absence of a teacher. From either perspective, teaching could be considered an act of altruism (Hoppitt et al., 2008). The teacher is therefore not an actor seeking some sort of reciprocity but one with an innate sense of caring (Noddings, 2003) and moral understanding (De Waal, 2009). With the desire to teach being derived from such a strong moral foundation, a teacher’s purpose is likely to produce the sort of pedagogical practice that allows her, as a leader, to promote a classroom climate that will allow her students the opportunity for positive self-development (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008).

The necessity of creating a classroom culture of optimism cannot be overstated, for without it, learning becomes much more difficult. Initially identified in the social psychology literature as
priming, today the “nudges” people receive—be they natural or unnatural—can shape a person’s response to potential learning experiences (Bargh, 2014). When people are primed in an optimistic manner (e.g. “be clever”) prior to a task, they show more activity in the anterior paracingulate cortex, an area of the brain responsible for monitoring errors, and they slow down their actions in responses to errors (Bengtsson, Dolan, & Passingham, 2011). It seems that focusing on exhibiting a positive trait has activated a part of brain linked to learning (Sharot, 2011). It has also been shown that a person’s beliefs are more likely to be changed when he or she has received good news as opposed to bad news (Garrett & Sharot, 2017), suggesting that both immediate and future behavior are more likely to be changed through an emphasis on optimism. The importance of optimism is only now beginning to be recognized and quantified in school settings, where operating from a position of what has been termed academic optimism has not only been linked positively to teacher’s zest for work and perceived success (Sezgin & Erdogan, 2015) but also to increased reading achievement by students (Mitchell & Tarter, 2016).

For most people, optimism is a product of operating not from a position of weakness, but from one of strength (Rath & Conchie, 2008), allowing them to effectively use the cognitive processes they have developed and acquired throughout their lives. For teachers, this would mean assisting students in the identification of their “element,” or the way or form in which they best encounter and interpret the world (Robinson & Aronica, 2009). Such actions would allow students to “put his or her personal stamp on some aspect of the surround” (Sarason, 1990), allowing for the actualization of the sort of creativity that Dewey (1980) and subsequent theorists have suggested is central to human experience (Dutton, 2009; Wilson, 2007). By getting to know one’s students both developmentally and individually, a teacher has the ability to provide a student with the environment most likely to produce the individualized growth in the essential knowledge and skills necessary to facilitate such a cognitive leap. But because the knowledge and skills must be derivative of a student’s self-determined academic direction, it cannot be the state that mandates the essentials necessary to achieve satisfactory growth—this will lead to the sort of uniform conformity that stigmatizes teachers and education (Winn & Randall, 1959). Instead, what must be learned in order for a student to achieve some measure of personal creative success has to be determined through the process of cooperation between a trusted caring teacher and her pupil as they move toward the pupil’s desired goal.

The Facilitation of Evaluation

With the zenith of learning being the exhibition of creativity in a self-selected modality, it should be expected that students would produce some artifacts as they make their way through their formal education. Artifacts, by their very nature, provide opportunity for evaluation not only by their creator but by outside observers that, in some way, engage with the product (Crawford, 2009; Henshilwood & d’Errico, 2011). The generation of something concrete—be it the creation of a brand-new marionette or the rejuvenation of a decrepit motorcycle transmission—activates the human mind in a fashion that is both unique and basal at the same time (Wilson, 1999). This is because in order to create or fix, the mind has to activate both its unique capacity for symbolic thought (Gazzaniga, 2009) and its familiar “rules-of-thumb,” the heuristics it uses to make decisions (Todd, 2000). This synthesis can provide a richness that is absent when dealing purely with abstractions. And perhaps more importantly, it produces a concrete measure for the creator in regards to how much growth has transpired, as well as in what direction more growth is needed to achieve personal success (Crawford, 2009).

For the few in education that have overtly recognized that there exists a possibility to evaluate students in the absence of universal standards, it would come as no surprise that the “Laboratory for Making Things” in Cambridge, MA has been a rousing success. Its creator, Bamberger (1991), recognized that with the emphasis in schooling on symbolic knowledge, it is not surprising that attention focuses on what these children cannot do, and it is also not surprising that the school world sees them not as virtuosos but as “failing to perform.” [We started] from a different assumption,
namely that “hand knowledge” and “symbolic knowledge” constitute equally powerful but different and not equally appreciated ways of organizing worldly phenomena (p. 38).

By focusing on student weaknesses, schools prevent students from developing the optimism necessary to learn (Sharot, 2011), even in the modalities that are most comfortable for them. The emphasis on standardized “essentials” measured with the high stakes tests has become the educational dogma of the past two decades (Ravitch, 2011), and it has prevented students from encountering the sort of low stress investigative environments necessary to allow for the integration of acquired knowledge and skills (Brown & Vaughan, 2009). And it is this interface of procedural and declarative knowledge perpetuates the kind of semantic knowledge that becomes transferable from situation to situation and from person to person (Pinker, 2007). Achieving this type of growth in students is difficult even within a classroom structure built to facilitate these sorts of experiences. Bamberger (1991) noted in an interview that among the “Laboratory for Making Things” students;

Some…were terrific at solving mechanical problems, solving problems in building a gear machine, or figuring out how to connect electrical circuits. But—and this is the critical point—when they would make instructions so that someone else could build what they had built, or when they tried to describe how it worked…their descriptions, their drawings, and even their notations might focus on features quite different from those you or I might think were the important ones, or were the ones kids are taught to notice in school (Wilson, 1999, p. 283).

With students paired up with teachers in the sort of cooperative and purposeful learning that is exhibited by other animals (Drea & Carter, 2009; Guinet & Bouvier, 1995; Matsuzawa et al., 2001; Richardson et al., 2007; Thornton & McAuliffe, 2006), the teachers received significantly more feedback about the experience they were helping to generate than in a typical classroom centered around the dissemination of “essential” content. This allows them to encounter the limitation of their own compartmentalized learning and to think about the nature of their own understanding—and the process by which it was achieved (Shulman, 2004). A teacher that does this recognizes that, even as he and the student move towards a more abstract understanding of a concept, he does not cease to use more basal methods of interpretation (Egan, 1997). And because this teacher is acting in cooperation with the student, he is able to provide support as his student both pushes himself to succeed both in the requisite creativity and reflection required for deep and transferable learning (Shulman, 2004). Such actions facilitate the growth in understanding through the sort of experiential process advocated by the likes of Dewey (1944) and expected by the human brain (Gazzaniga, 2009; Gigerenzer, 1998).

Teachers that have truly engaged students in the subject matter through the activation of their innate creativity and have become engaged with the process themselves are likely to be well positioned to evaluate the degree to which a student has “acquired knowledge and learned the skills” (Caro & Hauser, 1992) necessary for a “payoff” (Thornton & Raihani, 2008) in their selected endeavor. In the process, the teacher has developed the prestige necessary to inspire followership from his students (Horner et al., 2010), creating the kind of master and apprentice learning characteristic of chimpanzees (Matsuzawa et al., 2001) and humans alike (Wilson, 1999). This sort of learning environment provides a second level of concreteness for evaluation—it provides a concrete example for the student of whom they might become (Crawford, 2009). For the learner, this presents a model for success that closes the gap between her envisioning of the future and its realization (Geary, 2005), and facilitates the sort of reflection necessary to solidify learning (Minkel, 2006; Shulman, 2004). It is only through this cooperation between teacher and student that both can effectively evaluate their success in relation to each other.

The Teacher: One Who Teaches

There is some sentiment among educational practitioners that computers are in line to finally become the teachers our students deserve. They will be able to respond in real time to the information they derive from student entries and provide students with feedback on their progress (Collins &
When one applies the value added model of teacher evaluation in this situation (McCaffrey, Lockwood, Koretz, Louis, & Hamilton, 2004; Sanders & Horn, 1994), a less than satisfactory outcome won’t force a district to jump through the legal hoops necessary to terminate a teacher’s contract—it will only require an update to the software. And yet the addition of standardized delivery of content to the standards-based tests will only serve to drive education further into abstraction. While this may serve to perpetuate the prevailing culture due to students’ inability to wrestle with anything tangible, it will do each student a disservice, for as Dewey concluded, it will prevent the sort of “free inquiry…that may most readily excite intellectual interest in young people” (as cited in Winn & Randall, 1959, p. 135). This will make developing some sort of connection with any aspect of the world more difficult, for humans are, at their most basal level, a social species built to live and work in groups (De Waal, 2006; Dunbar, 1993; King, 1980). In the course of living this naturally interactive life, they are likely to transmit information both vertically and horizontally in a fashion that has made their species unique in their ability to build upon their predecessors’ ideas (Whiten, 2011) and improve them through intercultural trades (Ridley, 2010).

By having a teacher that cares not only about their subject and the effectiveness of its transmission but for his students, there exists the opportunity to develop a relationship necessary to perpetuate growth both at an individual and at a cultural level. And through the utilization of the capacities to evaluate information about student understanding and to use varied pedagogical practice, the teacher, regardless of species, will be able to not only bring the student a greater understanding of the world, but of their self-determined place in it. Teachers will therefore produce the kind of citizens that are not just complicit within contemporary culture, but create those that exhibit the most human of characteristics, the ability to contribute to cultural advancement. And because they will have participated with the students every step of the way, they will certainly be in a position to evaluate how much better the student, the world, and they are because of it—regardless of whether they are in a union or not.

References


Teaching the Poor in Turkey: A Phenomenological Insight

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Abstract

The purpose of this study was to analyze how primary school classroom teachers experienced teaching poor students. This study was designed in a phenomenological approach. To fulfill the aim of the study, in-depth and focus group interviews were held as well as classroom observations. The data gathered through interviews and observations was firstly transcribed and then content analyzing technique was embraced to be able to reach meaningful themes. As a result of analyzing process, two main themes were emerged. One of these themes was identified as ‘education and poverty’, and the other theme was identified as ‘effects of poverty’.

Keywords: Poverty, teaching the poor, phenomenology of teacher experiences.

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Introduction

One of the greatest sources of educational inequalities perhaps, is poverty which is an inevitable result of capitalist social formation. As Apple (2006) states, it is not possible to understand what happens in schools, without relating education with evergrowing poverty. First, it is crucial not to forget that poverty is an political economy circumstance, rather than a circumstance due to scarcity of resources, or to the individual, and is caused by the injustice of the wealth-distribution policies in a society (Books, 2004). In a society with distribution inequalities, one should actually search for the source of the educational inequalities in the economical system, not in educational system itself (Condron, 2011). The division of labor, the authority, and the structure of prize in education reflects the economical system it is within (Bowles & Gintis, 2011). Therefore, justice in economy could be considered as a prerequisite of educational justice (Anyon, 2005).

For the schools aim to integrate the new generation with the social order; to provide an open, objective, and meritocratic mechanism, reinforcing the belief that economic success merely depends on technical and cognitive abilities; and thus to justify economical inequalities in the society by directing individuals to economically inequal positions (Bowles & Gintis, 2011). Particularly in the meritocratic educational systems, in which the advancing opportunities in the system of education such as advancing through grades, advancing to a next level institution, admission to higher education institutions, the success of students, teachers and school are determined mostly by standardized exams and the curriculum is standardized in all schools, the direct effects of inequalities strengthening with poverty can be observed clearly. In systems of education, in which aforementioned exams are strictly practiced, ethnical identities and class inequalities are re-produced by standard tests, and the burden brought in by these exams, while affecting all of the students, is mostly loaded on the shoulders of students from low-income families (Au, 2009). In other words, in educational systems where students advance depending on their test scores, such as Turkish educational system, children of poor families are much more disadvantageous than their wealthy counterparts.

Poverty does not deem a student ineducable, but the experiences regarding to school of many poor students are in the status of being obstacles for them rather than aiding them (Books, 2004). Many of them come to school in various ability levels they have acquired from their environment, and they stay in their economically inequal environments longer than they stay in the school; thus, the increase in social class-based differences in students' cognitive abilities, in periods the schools enter summer holiday is in a manner to support this claim (Cooper, Nye, Charlton, Lindsay, ve Greathouse, 1996; Downey, Hippel, & Broh, 2004; Alexander, Entwisle, & Olson, 2007). While children belonging to middle-class families improve in a lot of abilities through opportunities offered by their families, children of families in a lower socio-economic level lack these opportunities and fall behind (Berliner, 2013). For in school performance, non-school factors such as poverty, political and financial power are in a more influential position, compared to in-school organizational features (Apple, 2006). Berliner (2013) too, has stated that non-school factors describe almost 60% of a kid's success in school. The children of relatively wealthy families become more successful in school also, due to access to material resources, the time reserved by their families for them and the support they receive from them, and their higher attendance to extra-curricular activities (Evans, 2004). Condron’s (2011) work with 2006 PISA data is also in a manner to support these arguments. The researcher, in the study, has reached to the result that PISA scores in societies having high-level economic equality, are higher with respect to countries with lower inequality levels.

Students living in poor regions face with many problems in a social sense. For example, there exists evidence that, one of the greatest predictors of depression in adolescents is poverty; relative to middle-class students, poor students are more exposed to both physical and psychological sources of stress; and the cronical stress they experience is on higher levels and they have many behavioral disorders due to this stress (Evans & English, 2002; Denny, Clark, Fleming, & Wall, 2004; Almeida, Neupert, Banks, & Serido, 2005; Jensen, 2009).
The effects of poverty upon students reflect also on the relations they develop in classrooms. Calarco (2011) has stated that students belonging to middle-class get more help from their teachers relative to poor students, interrupt their teachers when required, and benefit more from teaching activities, and thus create their own advantage. On the other hand, it is also known that poor families are forced to make a selection between the education of their children and economic insurance, that they are less interested in the education of their children with respect to wealthy families, and that even if they want to be they couldn't, because of the limitations which are economical and are regarding time, that they couldn't support their children academically, and that this situation affects the child's cognitive and socio-emotional abilities negatively (Gershoff, Aber, Raver, & Lennon, 2007; Lister, 2010; Cooper, Crosnoe, Suizzo, & Pituch, 2010; Cooper, 2010).

It is also required to discuss the relation of education with poverty, demographically. Poverty varies with respect to locality, as well. It also comes into prominence that the concept of urban poverty which emerges in this sense, is evaluated according to education. Urban poverty may be defined as a continuous and unorganized supply of labor, not demanded to be formed by the industry, this labor condensing according to locality, and the marginalization of this structure of population (Kaygalak, 2001). In other words, the urban poverty is the poor population in cities to concentrate in certain areas. Turning into an unchanging state, for poor urban areas, brings out hard-to-overcome problems for those who wish to escape, despite many individual movements occurring in such areas (Giddens, 2013), and such decomposition of the structure of population in the city is therefore also observed in the area of education. Students living in poor regions happen to go to schools in which poor students like themselves are condensed. The poverty observed in cities to be condensed in certain regions, in turn sets along foundation for poverty to be condensed in certain schools. And poverty, which is a continuous indicator of failure academically, raises its influence even more, when condensed at the level of region, school and even classroom (Moore, 2011).

With poor population concentrating in a region, the schools of that region suffer problems of financial resource and the poor students became obliged to attend schools having less resource, compared to the wealthy students (Condron & Roscigno, 2003). Anyon (2005), as well, has stated that the schools in those regions were funded insufficiently, their number of qualified teachers were less and their curriculum was simple, many students of them had low academic success, the physical structure of school buildings was in a bad condition and the classes were crowded; and that therefore such schools offered much less opportunities, and schools in these regions posed an obstacle to high quality education. This description would vary according to which country and what kind of educational system is discussed, however for many schools in poor regions, it is possible to state that it generally fits.

Role of the Teacher in the Relation of Education and Poverty

Poverty too is one of the inequalities occurring in classroom, as in society, and at this point, the approach of the teacher in the classroom toward these inequal circumstances also gains importance. The teacher, in particular when it comes to poverty and social class, while being able to transform these inequalities, has the possibility to re-produce these. The behaviors in the classroom, the expectations from the students, and the adopted pedagogy of the teacher, determines this most of the time. For instance, Anyon's (1980) identification that the kids of the working class learn in lectures the most basic things and mostly others' knowledge, that the teachers lecture in order to keep the students occupied, on the other hand that students of the middle-class, to prepare them for higher-education, are assured to be actively involved in the lecture and that they produce knowledge on their own, takes place in the literature as a striking finding. In other words, the lecture attended by students reflects the class status of the students, and therefore the teachers may contribute to re-produce the class status of them. And teachers are able to perform it, in increasing the feeling of inadequacy of the poor students, by the assignments they give and the experiences they provide to the students, and when the number of poor students in their class increases, the sensitivity towards the quality of the education they give decreases (Pianta, Carollee Howes, Clifford, Early, & Barbarin, 2005; Ullucci & Howard, 2015).
Certainly many teachers do not say they intentionally view their students this way, and actually the teachers are also unaware in doing this, however the matter of actual importance is how they reify the hierarchies in the society upon the students (Mills, 2008; Ullucci & Howard, 2015). Haberman (1991) names the pedagogy adopted and the conduct followed in this point by the teacher towards the poor students, as the “pedagogy of poverty”, and states that in this approach which can be observed more in the schools in poor regions, the teachers could not get beyond giving information, asking questions, giving assignments, controlling the seating arrangement, holding examinations, evaluating the exams, intervening student fights, punishing inappropriate behavior, and grading. For the teachers having poor students, to adopt an approach as described agrees with Anyon's (1980) striking findings, and with the discussion held by Bowles and Gintis (2011).

Behind teachers’ adopting such an approach lies the falsity of their understanding of poverty and the bias they have for poor students due to this falsity. The teachers, even unaware, might keep their expectations of their poor students low. Therefore it is known that the social class of the students shapes their teachers' expectations of them, and that the teachers to be in a low expectation, while affecting the academic performance of the student negatively, also can cause the student to experience social and emotional difficulties. (Rist, 1970; Jussim & Harber, 2005; Ullucci & Howard, 2015). At this point, the teacher's expectations of the students realize a self-proving prophecy, and the teacher, in addition to the obstacles laid before them by their social class and poverty, comes up as an element dissociating the poor students from their wealthy peers. On the other hand, when the teachers label students as “poor”, they justify the academic failure of the student and happen to blame the victim (Ullucci & Howard, 2015).

The teachers to make a false conceptualization regarding poverty also lies under this situation in their approach towards poor students. It leads the students to see themselves, or their families as the ones responsible for problems rooted in poverty which they experience that the teachers consider poverty in a single dimension and mostly in isolation from the political and economic structure of the society they live within. For example, it is quite striking that Robinson (2007), in his research, reaches the result that teachers who thought poverty is caused by the social and economic structure ignored many problems in poor regions but teachers who believed poverty is individualized preferred to work in wealthier regions to get away from these. Since many current teacher training programs do not include a study addressing this matter, many teachers evaluate the students and the families deficiently, since they begin their careers with insufficient knowledge regarding poverty and poor students (Amatea, Cholewa, & Mixon, 2012). Ullucci and Howard (2015) who consider this false judgement of the teachers toward poverty and poor students as pathologic, have listed these “myths” the teachers have as follows: (1) the idea that the individual, if tries hard, can get rid of poverty; (2) that the individual to be poor is own fault and mostly caused by his/her own laziness and incompetence; (3) the belief that poor children aren't sufficiently intelligent and their readiness levels are low; (4) the idea that the poor maintain their own poverty and share a certain “culture of poverty”.

**Context and the Purpose of the Study**

Education, certainly can not be thought as a mean of resolution for the inequalities in society. Since, the influence of society on education precedes the influence of education on society. In short, inequalities in the field of education will not be removed unless inequalities in the society are removed (Anyon, 2005; Berliner, 2013).

The teacher in this inequal system plays an important role. The teacher has the potential to reduce the impacts of poverty at least in his/her classroom, whereas s/he can re-produce poverty which is a cause of this inequality. But it can be told that the function to be performed by the teacher will be determined by the convictions they have regarding poor students. In this context, the problem of this research consists of the analysis of how teachers experience teaching poor students. The purpose of this study is to analyze experiences of primary school teachers working in poor neighborhoods, through their own statements.
Methodology

Research Design

Qualitative research approach has been adopted in this research. The aim of the qualitative research approach is based on examining research object in its context by approaching it holistically (Punch, 2005). This approach rejects determinism as opposed to quantitative research because the probabilities can be known but the exact results are unknown and unpredictable (Balci, 2015). The main source of data for researchers who conduct qualitative research in social sciences is man himself, and the researcher reconstructs the research data together with the research subject rather than aggregating data from an already existing resource (Kümbetoğlu, 2005).

This research was carried out in the pattern of phenomenology, which is intended to reveal how a concept or a phenomenon is experienced and understood by individuals (Creswell, 2007). Although poverty has a material and objective basis, it is also a socially and mentally constructed reality, and a lived experience in the context of schools and classrooms. For this reason, "poverty" is tried to be revealed by understanding when, how and with which processes the information about poverty is formed. According to Patton (2002), phenomenology focuses on exploring how human beings make sense of experience and transform experience into consciousness, both individually and a shared meaning. As this research aims to understand how poverty in the context of schools and classrooms is experienced and conceptualized by teachers, phenomenology is the most suitable qualitative research design to fulfill this purpose.

Participants

In this research, purposeful sampling method was adopted. In qualitative researches, sample selection is based on research purpose, not on methodological requirements, and purposeful research technique enables researchers to be able to chose the most suitable participants for the research purpose (Creswell, 2007; Marvasti, 2004). Qualitative researchers use purposeful sampling because they do not work in large groups as meaningful as random selection and because they do not intend to make generalizations, purposeful sampling enable them to be able to select rich situations for information, which allows the researcher to learn a great deal about important issues (Patton, 2002).

The participants of the study, all of whom are primary school classroom teachers, were selected in accordance with criterion sampling method, one of the most common types of purposeful sampling. According to Patton (2002), the logic of criterion sampling is to review and study all cases that meets some predetermined criterion of importance. As Creswell (2007) stresses, criterion sampling works well when all individuals studied are people who have experienced the same phenomenon. According to Maxwell (1996), criterion-based selection is a strategy in which particular settings, persons, or events are selected deliberately in order to provide important information that can not be gotten as well from other choices.

To be able to guarantee that all of the participants are selected in accordance with the research purpose, the criteria of this study were determined as being a classroom teacher, and working in a poor district. Because this research adopts a phenomenological approach, teachers’ lived experiences are important. Furthermore, class teachers know their students and their families better than any other subject teachers. As a result, participant group of this research consists of seventeen (N= 17) classroom teachers who are teaching in poor districts of Istanbul, Turkey. 10 of these participants were interviewed individually and two focus group interviews, one of which was held with 3 teachers while the other was held with 4 teachers, were conducted. 9 of the participants were male and 8 of them were female teachers. All of the participants have been teaching poor students of Turkey for at least five years.
In Turkey, primary school teachers are appointed by the central administration body, which is Ministrate of National Education. As there is teacher shortage in Turkey, especially in disadvantaged regions, newly appointed and young teachers start their teaching careers in poor regions. They are mostly appointed either to schools of southeast region, which is the poorest region of the country, or poor districts of crowded metropols such as Istanbul where almost 15 million people live. Istanbul is one of the Turkish cities where poverty is highly condensed (Açıkgöz & Yusufoğlu, 2012).

All of the participant of this study were teaching in Istanbul’s primary schools as classroom teachers. Participants’ being classroom teachers were important for the study because any other field teachers such as mathmetics or science teachers could have limited contact with poor students so they could have a limited understanding of teaching the poor.

Data Collection Process and Analysis

The data of the study was formed by triangulation method, which employs three different data gathering technique. The research data was gathered with semi structured in-depth interviews as well as focus group interviews and observations. The triangulation of data enables researchers to be able to produce more accurate results (Denzin & Lincoln, 2011). As Creswell (2007) indicated, the most suitable data collection technique for phenomenological researches is semi structured in-depth interviews (Creswell, 2007). This technique is a very useful data construction tool that enables the researcher to be able to analyze phenomenons, processes and social relations deeply and holistically rather than describing only visible facts (Kümbetoglu, 2005). Thus, the researcher tries to construct a holistic image of experiences and viewpoints of participants (DeMarrais, 2004).

In order to construct research data, 10 individual interviews and 2 focus group interview sessions with different participants were conducted, as well as classroom observations. Both focus group and individual interviews were held in accordance with semi-structured interview protocol prepared by the researcher based on related literature and research purpose. In phenomenological researches, participants are asked two main open ended questions, which are as general as possible, and these two main questions are supplemented with other open ended questions (Creswell, 2007). The interview protocol was revised by six different experts in the field of educational sciences. The questions in the interview served to open further discussions about poor students’ education and teachers’ experiences in teaching the poor. After revisions of the experts, interview protocol was finalized and two pilot interviews were conducted with appropriate participants in order to ensure reliability and validity of interview questions.

Actual interviews lasted approximately 30 to 75 minutes, and each interview was audiotaped. Both individual and focus group interviews took place at teachers’ schools. Before starting interviews, each participant was informed about the main purpose of the research and was asked to read and sign the consent form. Furthermore, each one of the interviewee was notified that they could withdraw from the interview at any time or they did not have to answer any question they did not want to do so. They were also notified that any personal information about them would be confidential. Thus, pseudonyms were used to protect participants’ confidentiality.

Four of participants were also observed in their classrooms. The main purpose of the observation was to be able to witness and analyze teachers’ behaviours in their natural settings (Patton, 2002). Observations were conducted in accordance with the observation checklist which was prepared by the researcher beforehand, and notes were also taken during observations. Notes taken during observations supported the data gathered via focus group and individual interviews.

After data collection process was completed, all the notes taken during observations and audiotaped recordings of interviews were transcribed. The transcription text was read several times and coded to construct themes. The codification and analysis process of the data were handled by the researcher himself manually. In order to analyze the data, firstly the general sense of the data was
explored; secondly the data was encoded; and finally themes were specified as Saldaña (2009) and Creswell (2007) indicated.

In order to ensure reliability and validity of codification process, different experts were asked to examine interview transcriptions and observation notes. Research report including analysis and interpretations of data were returned to research participants for member checks, in order to ensure credibility and confirmality of the data and to strengthen it (Maxwell, 1996; Creswell, 2007).

Findings

In most of the accounts by primary school teachers that participated in the study, it was seen they had discussed the points about families of poor students. In addition to this, education has been considered by the participants as an element eliminating poverty. It was one of the things pointed out by the teachers working in poor regions that poverty has different aspects affecting both the teacher and the student. As a result, two themes have been found by the analysis of the research data. These themes were conceptualized as 'education and poverty' and 'effects of poverty'. In this section, these themes are presented and supported with the opinions of the participants.

Theme 1: Education and Poverty

It was seen that the teachers considered education and poverty as two closely related phenomena. That one of the most prominent elements in this relation being family was among the highlights by the participants, and it was stated that the attention and support by poor families to their children's education influence directly the training and education process of the children. Alper, for example, has stated his views about students who were unable to get attention and support from the family, with the statements "The permanence of learning, the prevalence of learning, the application of a learned information wouldn't be stable". Emrah has stated the problems he has with the students who don't receive attention and support from their family by saying "...there are such kids in first grade that, as I said, since there is no family support they can not proceed even in the first group of letters, that is in ten months". Mustafa has expressed the importance of the support and attention received by the kid from the family, in education and training process with his following statements:

Well, at some point whatever you do, the education, according to me, consists of three pillars. The teacher, the family, and the student. I mean, the teacher may give his attention however s/he wishes. When received no support from the parent, unless they want it, doing something is hardly possible. I have tried this in the southeast many times. The kid does not want to come to school. He hardly cares. The family doesn't care. It doesn't happen if both the family doesn't care, and the kid doesn't want. I was teaching there, in weekends also. The parents were saying me this. They were saying 'Will you make professors out of our kids', etc.

Besides family support, it has been expressed by the teachers that cultural capital possessed by the family was also a factor negatively influencing the education process of poor students. Fatma, for example, has pointed out that most of the poor families are uneducated, therefore having low cultural capitals, by the statements "In general, our poor parents are mostly our illiterate ones. As a matter of fact, one who has read a little, who has seen some books does not reflect her poverty on her child." Similarly, Mustafa has also expressed in the context of education of poor students, low cultural capital possessed by the family as follows:

I think, when you examine a poor and a wealthy class, there will be a difference. In the end, not in the sense of intelligence but in the sense of social environment of the kid, I think the wealthy student has a wider social environment, a wider opening. For, in that sense and in the sense of producing new things, the wealthy kid had seen more. I mean,
I had students who haven’t seen the airplane. I had a student who didn’t know what an airplane is. And I had a student who had flown with it. I don’t expect the two classes to produce same things. And actually, it does not happen. They also view life differently. They give different examples. And naturally, this affects our lecturing style. We had been trying to explain white from yoghurt and etc. I mean, I can give such an example, for instance when introducing colors. I always give such examples, that they have before their eyes, from the things they can find. While explaining others differently, in Urfa, I explain much more differently.

While the education process of poor students is one that is affected by poverty negatively, the education has been considered, by some teachers, as the means to escape poverty. Ruhan, for example, points out that education for the poor is a chance to level up through social classes, with the statements, “The education has a relation with poverty, for sure. I think if education increases, poverty decreases.” Similarly, Hatice also expresses her views that educated individuals can escape poverty, as follows:

There surely is a relation between poverty and education. People who complete their education, cultivate themselves, and come to good positions, live in welfare. They may take place in an upper layer of society as an attorney, a doctor, or a teacher. But when levels of education decrease, you see it also happens that people go into dire straits.

According to opinions of the participants, education while allowing individuals to escape poverty by offering them a chance to level up through classes, also causes them to gain awareness against poverty. In this context, Murat has pointed out that education provides an awareness against poverty, in saying “In my opinion, the greatest cause of poverty is lack of education. After all, if people educate themselves just a little bit, would there be such various types of poverties?” Similarly, Hatice has also expressed the awareness which may occur with education, with her following statements:

Education, in the end, alters our viewpoint. Education alters our way of thinking. It causes us to think widely. We have a look at our uneducated state, and we have a look at our current state, oh my god, we have made it so far. Would these be possible without education? They wouldn’t. So, education should be there, that is, moreover it must be there, all over. If there are people who think one-way, we loop in a vicious cycle, struggling, like this. We end up in the same place in the end. There should be people who are comprehensive, troubleshooting, and who come up with problem-oriented solutions, in this struggle against poverty.

To summarize the findings reached about the first theme of the research, it is found that the teachers who participated in the research and has been working in poor regions try to explain the relation between education and poverty, mostly as related to families of the students. It has been stated by the participants that families who were poor, were unable to attend to their children, and therefore that this situation reflected on education process of the children negatively. In addition to this, the view that cultural capital possessed by poor families, in some circumstances, negatively affect the education of their children, also stands out. On the other hand, the teachers, in the relation of education with poverty, has also stated that education allows poor individuals vertical mobility in terms of social mobility. Finally, in elimination of the effects of poverty, or in the struggle against poverty, the awareness through education has also been considered to be important by some teachers.

Theme 2: The Effects of Poverty

It is seen, the assumption that poverty affects many processes and actors related with education in distinct ways is reflected on the narratives of the teachers working in poor regions. Teachers who participated in the research have pointed out the effects of poverty on themselves and on
their careers. In this context, the most prominent of the teacher views is that working in a poor school is providing the teacher with power over both the parents and the students. For example, it is quite striking in this context that Alper identifies being a teacher in a poor neighborhood with the statements, “You feel yourself as the superhero of the deprivation zone. The families would have so much expectation from you.” Similarly, regarding this experience Fatma too has pointed out the power provided to herself by being a teacher in a poor neighborhood, saying “A good teacher is his [the poor student’s] only chance.”, and has added following statements:

I would definitely be shaken if I worked in a rich school. I'm good in such places. I made a comparison like this. The wife of my elder brother is a teacher. She is a teacher in Thrace, I'm a teacher here. We now did this, er.. I'm now making parents buy that, etc. But she says I sometimes get mad at parents, they expect too much from us. She says for example, why is my child sad today. I mean, the one saying this, is public school. But teacher, we have donated so much this school. Why must we still complete assignments with our kid, at home. He inquires like this. All of the parents have occupations. Doctor, teacher, judge, district attorney... Then I turn to me, I inquire the parent. Here, I hold the parent accountable. I say, why haven't you train him in the evening. Even though I had warned you, why haven't you done that. She can not act before the parent like this. That parent would shred her into pieces, there. But I, can rebuke the parent here. I am the authority, that is, in my class. I am the authority over the parent too. If I say do that, that parent must do that. I think so. Here, I am in power.

It is clearly seen from the statements of the participants, to have been working in a poor neighborhood may provide the teacher with a status of epistemological authority, over both the families and the students. In addition to this, it is possible to see the effects of poverty, also in the professional practices of teachers. It seems that poverty, particularly in material sense, is an element which affects professional practices and development of teachers. Emrah, for example, has highlighted the negative effects of poverty upon his professional development with his statements, “…not having materials, blunts us a bit.” Mahmut has approached to the situation from another perspective, and has stated the satisfaction he might get from teaching in a wealthy neighborhood with the statements “A student with a good financial state and who takes education seriously would be much entertaining. All of your needs are ready.” And Kemal has stated possible effects of working in a school, which has non-poor students, upon his professional development as follows:

Now, when looked from the perspective of the teacher, in my opinion, being in a wealthy school forces me into personal improvement a little bit. The expectation from the teacher increases too much. It enforces personal improvement. Let me exemplify from another school in Bakırköy. Let me give example from this mind games of the teachers in Bakırköy. When the parent says, such a game has come out, why don't you use it in the classroom, the teacher has no luxury to say we can't get this game in this class. Or he has no luxury of telling, is that so, I'm not aware. He is obliged to learn that the next day. Because the parents have a request like this, teacher such a game has come out, fifty liras each, for example. Fifty liras each, there are thirty students, 1500 liras, let me either give the money, or buy the game and come to classroom and give it. But let us start it tomorrow. This teacher is obliged to learn it. Therefore, when one looks from the perspective of personal improvement, working in a wealthy school is, I think, a greater advantage, all the time. Here, maybe there are conscientious dimensions and basic skills to be taught. Reading, writing, addition, and subtraction. There, since the targets get higher, I think, in the sense of teaching, your condition is obliged to get higher. For in those places where parents of that kind exist, the utmost priority, he says teacher, is assignment, he would learn the lesson, addition, and subtraction actually in high school. If he doesn't, I would send him to a private learning institution, if again he doesn't learn, I would make him get private tutoring. But when this kid comes here, he ought to complete his personal improvement, he ought to socially spend time with his
friends. Because in primary school, until the ages 10-11, it is the same if the kid learns the lesson, and if he doesn't. And because of this, many teachers would be obliged to be actively involved in the drama. Because they would have to apply in the classroom. But here, blunts us, in some sense. Because, I, for example, begin to forget those particular games I had played three years ago. But since I will use these kinds of things in such a place, you will have to force the limits, in the sense of personal improvement.

Even though it has been stated by some participants that poverty has negative effects on the professional development of teachers, there are also statements that poverty, at the same time, leads teachers to search for ways to use the facilities they have most effectively. Hatice has expressed this situation with her statements “Since the financial status of the students are insufficient, you think different things. You get creative, for once. Your aspect of creativity improves. You produce different alternatives.”, and pointed out she tried to overcome the obstacles rooted in poverty with her creativity. Mustafa also has pointed out to same situation, with his statements, “You become the inventing teacher. You should do brand new things. Because you can't get anything materially from the students.” Similarly Hüseyin has expressed his struggle to overcome the obstacles rooted in poverty as follows:

For example if there are no tools in the course, we build our tools ourselves, we create the tool of the course. For example, well, tools of mathematics, whatever, this or that, whatever you look for, we build all by ourselves. The occasion comes, we utilize everything. For example, well, from A to Z, whatever is needed in classroom, we make it ourselves. The occasion comes, and we make it. We look for the ways to make best use of the opportunities at hand.

As can be understood also from the accounts of the teachers, poverty provides an advantage in terms of status in their relations with the parent and the student. In addition to this, some teachers have pointed out that working in a poor region have effected them negatively in professional sense. And the existing opportunities to be limited causes some teachers to seek alternative ways to make best use of the opportunities at hand.

In addition to professional practices of teachers, it is also prominent among the points they have stressed out that in terms of material and extra-curricular activities, poverty affects students cognitively, behaviourally, and socially, in a negative manner. And the most frequently highlighted of these is the deficit suffered by students in terms of material and extra-curricular activities. Yaşar, for example, has pointed out poor students were not able to attend extra-curricular activities, and therefore their performance decreased with the statements, “The kid couldn't improve himself with merely reading and writing. He wouldn't be able to enjoy activities such as music, theatre, swimming, basketball and volleyball. Therefore, the level inevitably drops.” And Murat has pointed out with his below statements, the negativities posed by poverty to both materials and extra-curricular activities:

For example, if I ask for something, an extra item or material, I always think this. Now, she is there who can buy, he is there who can't buy. For instance, earlier we would go to a school trip. They told it was thirty five liras or something. I said I wouldn't go. For I know, if I were to attend that thirty-five-lira trip, five people from my class would come, at maximum. But see, tomorrow we're going to go to movies for ten liras. Twenty people are coming. Was I able to explain? A trip as cheap as possible. Now, if I were to buy test books, a marvelous set maybe, I see, the price is sixty liras. Two people in my class would buy that. Coercibly, you cut some of the stuff. Maybe trips, maybe resources. Getting assignments done, is as I said. I couldn't make them do a different research. Maybe, I am to ask a research in a different dimension. Maybe I am to say, come and make a presentation on the computer. I can't. Actually, if I were to, it would
be great. Maybe, I would see all kinds of things. I would like to teach the children to use powerpoint on computer. But I can't. Because if I say I will teach, half of the class will be disappointed.”

Another point which the teachers point out regarding the effects of poverty upon the student is related to self-reliance. Some teachers have pointed out that poor students experience confidence problems. Cem, being one of these teachers, has highlighted this situation, relating it to the incidents of violence experienced by poor students, as follows: “They are shy towards the teacher, for my students who are poor are usually the students who already suffer violence at home.” Similarly, Fatma too has pointed out poor students have low confidence, with her striking statements below:

“For example they can't dance. The poor student can not dance. They can't write on whiteboard with great letters. They write tiny, much tiny. Do you know why? See, when you're dancing, you become much free, you extend your arms extremely, you jump, and etc. I have seen this, for example, you know, when they come before the board. He holds his pants. For his pants, certainly are ripped somewhere. He pulls his pants as such. Next, his shoes are his elder brother’s, probably too large. You know, his shoes are large. A shoe belonging one of them had flown while playing. Since he experienced that. He wouldn't ever play again. And one of his friends says, teacher look, says it is ripped, for example. Since his friend saw that. He couldn't do that again. Others too, oppress him as such. They really become meek. And they have no courage as to say let me get out, jump, do freely. They have no such thing. There is always a state of cringe for them. There is a state of staying oppressed.”

Besides confidence problems, that poor students experience behavioural problems is also among the elements pointed out by participant teachers. Emine’s statements that “Some are too combative. They express themselves by fighting with their friends.” remarks poor students might exhibit contentious behaviours. Sadullah, similarly, has also expressed that besides their tendency to fight, they also swear when they talk, as follows:

“While the children of poor families spend time at street, the children of good financial status spend time with social activities. This of course, directly affect their behaviour. Of course they have no self-control, while they tend to all, from foul-mouthedness to violence, when you look at the children of wealthy families, they act a little more conscious. If one harms her, for example, she knows she should first speak to her friend, and then to her teacher. She acts like that. But the kid who grows at street, because of the street logic, when somebody does something to him, can directly respond and fight with them. And also in behaviours of poor families, a thing like this might be in effect. A friend sitting next to one student might come with a distinct clothing, or pair of shoes, or notebook, book, bag, etc., for instance, everyday. The student who comes with the same bag from first grade till the fourth, might interpret this with jealousy or lack, and trying to cause an incident from a different direction, apply violence.”

It has been highlighted by the participating teachers that the groups in which poor students socialize and the experiences they gain from their social environment have negative aspects both socially and academically. Emine for example, expresses this situation as “In general, it is too few that poor students are successful students, for it is being social that influences success. And since they couldn't socialize, they aren't able to become very successful students.” Huriye similarly has pointed out social relations of the poor student and its reflection on the academic success, saying “The poor student doesn’t even have a socialization to continue his life. You won't expect much from that kid academically. You cast him aside.” Similarly, Murat has also stated that the environment in which poor students socialize, consists of children like themselves socio-economically, as follows:

“They generally experience trust issues. You know, in blending in society and such. For when you look, other kids say I have been here, been there. The man has gone to picnic,
he has ridden bicycle and gone swimming too. He knows different things, has different traits. The other one who is poor looks, and sees he has none of these traits. Therefore factions inevitably occur. You look and see that the kids having a particular level of income are together, and the poor are together. In my own class, I say clearly. I have three illiterate parents, for example. They also are very poor. And actually they haven't been in school regularly. He has been there one year, and he has left. Some haven't been ever. They have emigrated from the east and come. You see that their kids play together. For they also play at street together. Because the children of the parent of that kind play at street too. But the other one goes, for example, to the swimming course. When that ends, for instance, at weekends he takes our courses. He takes the course of mind games. He takes drama classes. He goes to picnic. The child of the poor man plays in front of the door of his house. And inevitably, factions occur.

Finally, the teacher opinions that poverty is an element affecting students cognitively in a negative manner, thus limiting learning has been reached. Ebru for example, has highlighted the difficulties in learning, experienced by poor students, with her statements, “In general, they are a bit behind. They have lower perception. And it is caused by the stimulants not being much. That is, other kids are provided with much more stimulants, but since these are not provided much stimulants, their perception is lower. And they are intelligently dispersed.” Murat has also pointed out a similar situation, saying “You sometimes can't get understood. That is, there is a very clear, simple thing, you ask for something, the kid doesn't get it. Rich students, however, are cognitively stronger.” And Mahmut has used following statements to stress the cognitive effects of poverty:

Poverty has a cognitive effect also. The abilities of the kid who has good financial status, who has grown in an educated cultured family becomes much different. Her perception is clearer. Since in her life, in different places, she has participated in trips, and a lot of things, she can place the thing you said, the thing she learned in a lot of places. There is a place where she can connect that. But in the poor kid, there isn't. In particular, for example, the expression skills in Turkish language. In composing essays, in self-expression, they have a bit difficulty in them. Due to vocabulary. Because the family doesn't read, they have no such period. Their level of conception is different. If the family doesn't spend such time, if they don't do such things with them, both reading and conception are too difficult for them.

To summarize, it is prominent in the opinions of teachers that in relation to education process, poverty is an element affecting both the teachers and the students. Poverty, while on one hand providing teachers with power upon the parent and the student, on the other hand it can be an element that handicaps the professional development of the teacher. However some teachers have also stated that poverty led them to being creative, and have expressed they tried to overcome these problems.

As for students, poverty becomes apparent from many perspectives. While poor students can't receive necessary materials to maintain their educational process, the attendance of these students in extra-curricular activities also get limited. Teachers, on the other hand, have also stated that poor students experience confidence and behavioural issues, and that poverty determines their socializing environment, and effects students cognitively in a negative manner.

Conclusion, Discussion and Recommendations

This research was conducted for the purpose of analyzing experiences of primary school teachers working in poor neighborhoods, through their own statements. The research data collected through 10 in-depth interviews, 2 distinct focus group interviews, and observations has been analyzed by means of content analysis, and two main themes has been established. The first one of these was named as education and poverty, and the second one as effects of poverty.
In the first theme, which is identified as education and poverty, there are statements regarding how participant teachers comprehend the relation between education and poverty. Participant teachers usually establish that relation through families of the students. In this context, the two mostly highlighted elements by the teachers are the attention and support of poor families to their children and the low cultural capital possessed by them. Most of the teachers have pointed out that poor families fall short in supporting the education process of their children and in showing necessary attention to them. And therefore this situation has been evaluated as an element affecting education process of poor students negatively. Indeed, Evans also (2004) relates the children of wealthy families being more successful relative to the poor, to the support received by students from their wealthy families and their participation in extra-curricular activities. Since poor families can happen to have to make a selection between the education of their children and making money; and therefore they pay less attention to the education of their children and fail to support their children academically (Gershoff, Aber, Raver, & Lennon, 2007; Lister, 2010; Cooper, Croson, Suizzo, & Pituch, 2010; Cooper C. E., 2010). In addition to this, Diamond and Gomez also (2004) have stated that working class families gave less value to education and therefore they paid less attention to the education of their children. And, Lee and Bowen (2006) have remarked that families with a low-income failed to pay attention to the education of their children, due to not being able to access to child care services, transportation hindrances, and working circumstances.

Another point highlighted by the teachers regarding families of the students is the low cultural capital possessed by poor families. It has been pointed out by the teachers that due to low cultural capital of their families, poor kids were in a disadvantageous position. Here, the cultural capital has been considered, through Bourdieu's (2006) definition, as the accumulation based on education and family experiences. Cultural capital, in other words, manifests as the pleasure and consumption patterns which are culturally valued, and is defined as the competencies acquired in family and through education. Thus, it can be stated that school education is established on the cultural capital received from the family (Bourdieu, 2006). Sullivan’s (2001) study, at this point, brings out important evidence. According to the research, students obtain linguistic abilities and cultural accumulation from their parents at home rather than at school, and the cultural capital of the student obtained from their family predicts mostly their academic success. Considering that cultural capital too varies among social classes, and therefore leads to the failure of the children in lower classes (Sullivan, 2001), the teachers to point out that poor parents had low cultural capital is tought to be an important finding. Again, in accordance with the previous finding, families with low cultural capitals pay attention to the education of their children much less, and therefore their contribution to the academic success of their children happens to be much less (Lee and Bowen, 2006).

Even so, teachers view education also as gaining awareness against poverty and escaping it, and as an element which opens poor students the gates of vertical social mobility. Some teachers argue that the students and families gaining awareness through education could ease the effects of poverty. Similarly, education has also been considered as an element providing vertical mobility, and therefore saving from poverty.

The second theme coming out through analysis of the data has been identified as the effects of poverty. The teachers’ views regarding the effects of poverty has been included in this theme, and the teachers have expressed that poverty had various effects both on themselves and on their students. The most prominent element, when its effects on the teachers themselves were investigated, is that poverty provided the teachers with power over both the parents and the students. Therefore, some teachers have stated that working in a poor region provided them with more satisfaction professionally. And it can be stated that this situation was due to class differences existing between the families and the teachers. It is possible to state most of the parents of lower socio-economic levels than teachers, have lower cultural capitals as well. Therefore, families might happen to view the teacher as more competent in decisions regarding the education of their children. Indeed, the findings referring to that families who are poor and who belong to disadvantageous groups trusted in the expertise of the the teachers rather than trusting in themselves in their relations with the educational system, are in a
manner to support this argument (Lareau, 1994; Reay, 1999). Hoover-Dempsey, Bassler and Brissie (1987) too, have stated that families of high socio-economic levels gave more value to education, rather than considering themselves lower as poor families did, could consider themselves as a peer who contribute to the execution of the curriculum. Horvat, Weininger and Lareau also (2003) have demonstrated that in situations where the teacher applied violence to the students, while middle-class families could act collectively and held the teacher responsible for his behaviour, worker-class families considered such circumstances individually, and that they could choose to accept them.

The power provided by having been working in a poor region to the teacher, considering with the higher cultural capital possessed by the teachers relative to parents, is possible to be more important than many other material incentives. At this point, the findings of Tamir (2009), which he obtained by his study in which he sought answers to the question that why the alumni of the elite universities in the USA, rather than choosing more prestigious and more income promising professions, chose teaching profession are quite striking. According to findings of the study, the teachers graduating elite universities view their profession as an opportunity which could change the lives of poor students, and which they could decrease social inequalities. Therefore, according to Tamir (2009), the teaching profession for these teachers, gives them the chance to be a person who can leave a mark on the society and who is prestigious, and provides a considerably high symbolic capital. Teaching, therefore, may happen to be as satisfactory at least as other prestigious professions. If Alper's, one of the participant teachers of this study, statement, “You feel yourself as the superheroes of the deprivation zone.” is visited once more, what kind of a power and a symbolic capital working in a poor region provides to teachers is much better understood. For instance, Byrd-Blake and others (2010) to reach in their study the finding that teachers felt a great satisfaction being able to create a difference in the lives of poor students, may also be considered in this context.

In some statements, on the other hand, it has also been highlighted that due to various impossibilities, working in a poor region negatively affects teachers in a professional sense. Teachers who work in poor regions stated they didn't need professional development, due both to financial problems and to the demands coming from the parents and the students not being high. For instance, one of the teachers to state that working in a rich neighborhood would compel them to self-improve professionally is quite striking in this sense.

Some teachers stated that to overcome material obstacles due to poverty, they forced the limits, and thus had to use their creativity. And this can be explained by the sense of responsibility felt by teachers toward poor students. Indeed, Halvorsen, Lee and Andrade (2009) have pointed out in their study that the teachers who said they felt responsibility towards poor students made more effort, and therefore were able to obtain positive differences in students' learning. In other words, as much as teachers don't feel the need of professional improvement working in a poor region, when they take responsibility to overcome obstacles due to poverty, they might be able to positively contribute to the success of their students.

The element most pointed out regarding the effects of poverty upon the students is that the students couldn't access to much educational materials and couldn't participate in extra-curricular activities. In addition to this, teachers who stated poor students were less confident relative to the rich have also pointed out that poor students had behavioural issues, as well. Calarco (2011), similarly, has pointed out that students belonging to middle-class could be more confident and active in classroom relative to poor students, and thus might obtain advantage against poor students. Farid, Anwar, Iqbal, Jan and Khattak also (2014) have reached in their study where they investigated the effects of poverty on education, the finding that students might experience confidence issues due to poverty.

That poverty led students to socialize in other student groups which were poor like themselves is also among the highlights teachers made regarding poor students. Poverty, particularly in big metropolises such as Istanbul, concentrate locally, and the ghettos forming with this concentration may generate hard-to-overcome problems for individuals (Kaygalak, 2001; Giddens, 2013). Therefore,
poor students are led in a situation where they socialize with other students just as poor as they are. Horvat, Weininger and Lareau (2003) also stating that middle-class families have wider social relations, however the social networks of poor families usually consists of kinship and neighborhood relations, is also in a manner to support this result obtained in the study. Farid and others (2014) too, similarly, have reached the finding that poverty has influence on the socialization patterns of students. On the other hand, poverty, as Moore (2011) expresses, may concentrate in certain locations and perpetuate academic failure of the students.

Finally, some teachers have stated that poor students were cognitively on a lower level and experienced difficulty in learning. Indeed, while it is known that cognitive abilities possessed by poor students are lower relative to their wealthy peers and that poverty negatively affects the cognitive development of students, the further they progress in the educational system the more this difference increase (Garmezy, 1991; Brown & Pollitt, 1996; Gershoff, Aber, Raver, & Lennon, 2007; Ayoub, O’Connor, Rappolt-Schlichtmann, Vallotton, Raikes, Chazan-Cohen, 2009; Cooper, Crosnoe, Suizzo, & Pituch, 2009; Mani, Mullainathan, Shafir & Zhao, 2013).

Considering teacher views that poor students may experience cognitive or behavioral problems, in the context of cultural capital, it is possible to come up with different interpretations. One of the striking findings of this study is that poor families at the same time possess low cultural capital. Cultural capital, considered in the simplest form, can be defined as being knowledgeable about the values which are thought highly in the society (Palabıyık, 2011). Cultural capital is the structure injected by the ones in power to families and thus to individuals through education; in other words, knowledge capital (Bourdieu & Wacquant, 2016). The primary function of education, according to Bourdieu and Passeron (2015), along with maintaining and promoting prevalent cultural heritage, is also procuring socialization in a certain cultural tradition. The cultural heritage maintained and promoted through education includes cultural codes possessed by higher classes rather than cultural codes possessed by poor classes. And education, at this point, makes a distinction between those having prevalent cultural capital and those who don’t, and re-produces prevalent cultural capital through the relation between the strategies of families and specific logic of the school institution (Bourdieu, 2006). Therefore the result is while the child of a family belonging to middle-class gets equipped with a better education and successful, the child of the worker family fails (Palabıyık, 2011). In evaluation of this research, the possibility that students having behavioral codes, knowledge obtained from their family, and conception that are incompatible to prevalent cultural capital might have been seen as problematic by the teachers, should be taken into consideration.

Based on the findings reached in this research, some recommendations were developed. Investigating the narratives of participant teachers, it has been found that none had considered poverty in a context that is political economic or social. Participant teachers have established the education and poverty relation mostly through poverty of families, and have not placed poverty in a context such as distribution injustice. At this point, Robinson's (2007) finding that teachers who consider poverty in an economic and social context struggle against this problem more, but those who take it individually avert the fact of poverty, also is in a manner to explain the importance of how teachers consider poverty. Therefore, among the recommendations which can be suggested from the results of this research, teachers to be made aware about the identification of poverty and its sources comes first. Considering, currently many teacher training programs don't include such study and therefore teachers might evaluate students and families falsely (Amatea, Cholewa & Mixon, 2012), it comes first among the recommendations which may be suggested, to form both the pre-service and in-service trainings of the teachers in a direction to discuss the fact of poverty in a political economic and social context.

The recommendations developed for further research is as follows: As can be understood from the results of this study, obstructions of communication and cooperation might emerge due to differences of status, existing between the parents and the teachers. Therefore, research which discuss the relation of poor parents with the teachers and the schools may be designed. Although they follow the same program, studies which comparatively examine courses in poor and wealthy neighborhoods
may be conducted. Research that discuss the direct professional practices of teachers working in a poor district may be carried out.

References


Effect of Multi Modal Representations on the Critical Thinking Skills of the Fifth Grade Students

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Abstract

The purpose of this study was to explore the effects of multi modal representations within writing to learn activities on students’ critical thinking. Mixed method was used. The participants included 32 students 5th grade from elementary school. The groups were randomly selected as a control group and the other class was selected as the experimental group. Data collection tools has been Critical Thinking Test (CTT) and writing actives. The students were asked to tell their peers about the subjects in the unit with a writing activity using the summary writing type. The students performed three writing activities, one preparation and two real practice activities, in this process. The most basic dissimilarity between the groups is the request of the use of multimodal representations asked from the students in the experimental group. The Cronbach’s alpha reliability coefficient of the CTT was determined as 0.72. The results of this study show that the use of the multi modal representations in writing to learn activities improved the scientific critical thinking of the students.

Key Words: Writing to learn, multi modal representations, critical thinking.

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Introduction

Writing is a communication tool we use in everyday life. Mankind has always established communication through writing no matter what time and place they were in (Graham & Perin, 2007). Writing has also become an important instrument for scientists to make science and share their thoughts with others. It is known that writing could be used in learning (Emig, 1977; Hohenshell & Hand, 2006; Sampson et al., 2013). Considering learning as a cognitive process; learning-oriented writing is related with experiences and thoughts of the writer (Greenstein, 2013). Writing studies that are conducted at schools and homework are effective upon developing the thinking processes of students (Walker, 2003). Science expects learners to develop their capacities of creative thinking and critical thinking (Hand & Prain, 2002). Sometimes things may expect to be explored and writing could be an efficient way of revealing that thing (Flower & Hayes, 1980). Learning by writing has become a new pace for students to comprehend profound concepts (Prain & Hand, 1999), distinguish misconceptions (Baker et al., 2008), develop critical thinking skills (Avcı & Akçay, 2013) and bring forward new ideas (Flower & Hayes, 1981).

One of the best ways of learning is to read many scripts and write about them, which is thought to be associated with the subject to be investigated (Condon & Riley, 2004). Writing activities in classrooms are performed for different purposes and in different ways. These writing activities generally include traditional writing applications like summarizing a book, taking notes of what are written on the board and preparing laboratory reports (Yore, 2000). In traditional writing applications, students are usually expected to show knowledge and skills they have learned inside or outside the classroom (Çavdar & Doe, 2012). In traditional sense, writing education has been a process where students conduct researches by asking questions about the script and write down important points of the subject at the end of the research (Galbraith & Rijaarsdam, 1999). In such writings, students may not be able to make explanations through investigating and questioning or justify their thoughts. Traditional writing education aims to measure how much students learn the knowledge rather than how they learn (Yore, 2000; Atilla, Günel & Büyükkasap, 2009). Qualified as innovative writing applications; structured writing applications aim to allow students to develop their thinking and writing performances and acquire some skills (Çavdar & Doe, 2012). Students may need applications that would allow them to learn how to develop their writing skills. Hand and Prain (1996), propounded a model which could enable to learning. This model consists of five components; subject of writing, type of writing, purpose of writing, interlocutor of the text written and the production method of the text (Hand & Prain, 2002). Hand and Prain (1996), suggest that it is possible to acquire effective and strong learning by using these five different elements in various ways. This model is important as it allows teachers to guide through writing applications that are conducted in science classes and shows students how and why they learn (Hand, Lawrance & Yore, 1999).

Learning-oriented writing activities make a positive contribution to students’ learning and help them develop the skills of recollection, interpretation, consolidation and communication (Günel et al., 2009a). Effective learning tools like writing, which could be applied both inside and outside the classroom develop the thinking process of students (Walker, 2003). Through writing, students are able to evaluate their thoughts on paper and develop critical thinking skills (Çavdar & Doe, 2012). One of the advantages of using the writing applications in the classroom is that it enables learning by affecting the high level critical thinking skills (Hobson & Schafermeyer, 1994; Baker et al., 2008).

Critical thinking is basically a special state of natural thinking rather than a different type of thinking (Siegel & Carey, 1989). Ennis (1993), states that critical thinking is an indicator of reasonable, rational and reflective thinking in decisions about our beliefs or actions. Critical thinking, in the broadest sense, includes cognitive or intellectual skills like proving the accuracy, trueness and reliability of information or a claim, using various criteria in deciding on an issue, trying to obtain evidence concerning something that is read or heard, asking others to prove their claims and thoughts according to various bases before accepting them, as well as fairness, honesty, consistency and accuracy (Özdemir, 2005). It is known that critical thinking is a complex and extensive process that
requires top level cognitive skills (Kuhn, 1999; Güven & Kürüm, 2006) and allows individuals to learn the knowledge better, apply them to new conditions and develop the ability of evaluation (Semerci, 2003). However, writing to learn activities can improve a combination of many skills including metacognition, self monitoring and critical thinking (Chen, Hand & McDowell, 2013). Versions of good learning, teaching and judgment is directly associated with reflection (Wang & Lin, 2008). Students use writing in many different ways to advance reflection (Boud, 2001). Reflections on the process of learning recruit students to realise critical overview and enhance making sense about knowledge (Xie, Ke & Sharma, 2008).

Critical thinking skills might be expressed as an indicator of explanation, interpretation, prediction, analysis and evaluation (Abrami et al., 2008). Establishing open and supportive classroom environments where thoughts are expressed and examined freely within a discipline and learning environments where students can share and evaluate their thoughts will have positive effects upon acquiring critical thinking skills and tendencies (Seferoğlu & Akbıyık, 2006). Examining the literature concerning critical thinking; the concept can be classified in two categories: The first one includes giving consistent and logical justification, whereas the second one includes proving and questioning the present knowledge (Vandermensbrugghe, 2004). Acquisition of critical thinking skills should be associated with some elements concerning justification, such as classroom studies, determination of problem, formation of assumptions, main idea, exploration of evidences, determination of concepts and ideas, exposure of differences or similarities and finalization (Celuch & Slama, 1999).

Justification of thoughts, on the other hand, is performed by using comparisons, reasoning and evidences (Siegel & Carey, 1989). In the process of justification, it is required to evaluate ideas about a purpose and relevant concepts in terms of various theories or principles and try to explain them with the help of evidences or experiences (Paul & Binker, 1990). Students will develop critical thinking skills on condition that they use critical thinking methods like justification in the process of writing (Dixon et al., 2005). Many writers and even experts know how difficult it is to show evidences and justify their thoughts while writing (Galbraith & Rijlaarsdam, 1999). Students may also have a difficulty in showing evidences and justifying their thoughts while writing. Teachers are required to use teaching strategies that involve learning activities for students to acquire critical thinking skills (Vieira, Tenreiro-Vieira & Martins, 2011). It is known that learning-oriented writing activities will allow students to think, learn the concepts and make interpretations if they are arranged in such a way that they reveal the justification abilities of students in studies (Hand, Hohenshell & Prain, 2004).

Students could form representations to show their thoughts by writing and using different modes like diagrams, pictures and images (Hoban & Nielsen, 2011). Representations contain the interpretation and explanation of a scientific idea or concept by using modes like analogies, verbal statements, written texts, diagrams, graphics and simulations (Tang, Delgado & Moje, 2013). Even if different classifications are made for different purposes, the common general opinion about the modes are the categories of their being expressed with different demonstrations of the same concepts and operations representationally (texts, graphics, charts, tables), figuratively (pictorial, metaphorical, analogical), experimentally and mathematically (Waldrip, Prain & Carolan, 2006; Günel, Atilla & Büyükkasap, 2009). Using these multiple modal representations and showing scientific reasons and findings in connection with scientific sources will describe the knowledge (Waldrip, Prain & Carolan, 2006). Using multimodal representations is to describe the same concept again and again in different ways, describing it like the modes containing pictures, diagrams, tables, graphics and mathematical calculations and doing exercises (Prain & Waldrip, 2006). Structuring the knowledge by using multiple modal representations will enable learning (Jewitt, 2008; Prain & Waldrip, 2010). Understanding science is important for the students from the points of using multimodal representations and thus their seeing that they can understand (Tolppanen et al., 2013). Multiple modal representations are an inseparable part of scientific language (Tang, Delgado & Moje, 2013). Students are required to develop their description abilities for specializing in or learning scientific subjects (Ainsworth, Prain & Tytler, 2011). Thus, students need to learn scientific concepts (Atila, Günel & Büyükkasap, 2009) and comprehend the variability of the modes concerning processes (Ainsworth, 2006). If students acquire an awareness in interpreting and structuring multiple modal representations,
they will learn how to explain and interpret scientific texts and acquire scientific literacy (Prain & Waldrip, 2010).

Haglund, Jeppsson and Andersson (2012), were found that young children’s drawings as different kind of scaffolding (providing a complement to spoken and written language) affect children’s reasoning. Children make drawings and they figured out representations of their ideas, reflection, judgement. Drawings may be seen as a tool that promote reasoning and communication (Haglund, Jeppsson & Andersson, 2012). Reasoning is associated to as explaining about concept with using models and relationships, making predictions or drawing outcomes supported by the data shown in representation (So, 2016). When students used model representations embedded writing to learn activities, they establish a connection between daily language and science language that provide individual reasoning and construction of scientific knowledge (Günel & Yeşildağ-Hasançebi, 2016). Reasoning is one of the most significant component for critical thinking. There for this study investigates the effect of using multiple modal representations in learning-oriented writing activities upon the critical thinking skills of fifth grade students. In this context, the study secondarily aims to evaluate writing activities with the help of rubric and determine the quality of writing.

Method

Research model

In this study, mixed research method was used. While the quantitative part of the study comprised of pretest-posttest control group pattern, which is among experimental methods; the qualitative part of the study comprised of case study in integrative single-state pattern. From this point of view, the students in the experimental group were asked to do writing to learn activities in which the use of multimodal representation was expected or demanded, aimed at the purpose of the research. On the other hand, the control group was only asked to perform learning-oriented writing instead of using multiple modal representations. Critical thinking skills of students were measured by applying the Critical Thinking Test as pretest-posttest and the data were collected by evaluating the learning-oriented writing activities prepared by students.

Participating Student-Teacher

The working group consisted of totally 32 fifth grade students studying in two different classes of a secondary school in a village located in Northern Turkey during the school year of 2013-2014. Groups were selected randomly as control (17 students) and experimental group (15 students). The researcher who conducted the study is a teacher with 5 years of experience who applied the writing to learn activities in the classroom environment.

The Application Process

CTT was applied to the students as the preliminary test in the beginning, as aimed at the purpose of the study. Writings/articles in Children’s Science Magazine of TUBITAK (The Scientifical and Technological Research Council of Turkey) magazine comprising a lot of representations were distributed to the students in both groups (the Experimental and the Control Groups) before the application and the students were asked to read them and express what they understood. Later, discussions about the multimodal representations were made with the students for them to comprehend why and how they used the representations. In the continuation, after the researcher explained the representations to all of the students, he asked them to classify or determine the multimodal representations (texts, images, mathematical expressions, graphics, tables, diagrams, lists) and he introduced them the multimodal representations. Thus, awareness about the multimodal representations was provided. The basic reason why this preliminary study was actualized in both
classrooms was to limit the influence of the external variable which could affect the study (Büyüköztürk et al., 2013).

Each of the experimental and control groups determined randomly were explained how they would do the writing to learn activities they had to prepare, distributing them instructions prepared by the researcher. As it was remarked in the instructions, while the students in the experimental group were doing unit based writing to learn activities using multimodal representations for their peers, the students in the control group did writing to learn activities for their peers. Moreover, standards like subject, writing type, interlocutor and the number of pages were indicated in the instructions. It is known that the multimodal representations depend on the attention of the learners and they have a potential for providing effective learning in them (Waldrip, Prain & Carolan, 2006). Because of this reason, the only and basic difference in the homework instructions was that the students in the experimental group were asked to use the multimodal representations in the writing to learn activities, as something different than the students in the control group. A preliminary practice was done in the first unit of the 5th grade Science lesson (The Unit “Let’s Solve the Puzzle of Our Body”) for the students to cognize the application process. No evaluation was made in this practice. The intention was only to introduce the students the process. Later, the students were asked to do the same writing to learn activities for both units (“propagation of the light & voice unit (U1)” and “measuring the magnitude of force unit” (U2)). CTT was applied as the post test after all of the students did the writing to learn activities for both of the practice units in accordance with the instructions. Thus, the application stage of the study was completed.

Data Collection Tools and Statistical Analysis

Critical Thinking Test

In this study, a published critical thinking test was used. CTT was from Cornell Critical thinking test series and CTT was created by Ennis and Millman (1985). The test was used to assess 4th – 14th grade students’ critical thinking skills. CTT is a 72 item multiple choice test. Each item has three choice and one keyed answer. The following is a sample item from the CTT.

“Suppose you know that

Jane is standing near Betsy.

Then would this be true?

Betsy is standing near Jane.

YES

NO

MAYBE”

The correct answer is C, “MAYBE”. Even is Jane is standing near Betsy, Betsy may be sitting. Betsy might be standing near Jane, but she might be sitting near Jane, or something else. You were not told enough to be certain about it, so “maybe” is the answer.

The CTT was translated and adopted into Turkish by Mecit (2006). The test was also checked by school teachers for provide face and content validity. After, the item analysis was done and reliability coefficient computed by Cronbach alpha estimates of internal consistency of this test was found to be 0.75. In this study, Critical Thinking Test was applied to fifth grade students. Students were given 50 minutes to do this test consisting of 72 questions. Throughout this duration, it was
observed that students were able to finish the test and had no problem with understanding the questions. Within the scope of this study, the Cronbach’s alpha reliability coefficient of the test was determined as 0.71.

Critical Thinking Test was applied to the experimental and the control group as pretest before the application and posttest after the application. In the process of evaluation, blank and wrong answers were given 0 and right answers were given 1 point by ignoring the fact that wrong answers canceled right answers. In this context, the scores to be obtained by students from CTT range between 0-72.

Writing to learn activities

The target of this research was the students’ doing writing to learn activities in order to study the effect of the use of multimodal representations. These writing activities became an important writing to learn activity for the students to use the multimodal representations, to know them and to be able to practice and transform the modes into each other. These writing activities prepared by the students were evaluated through an evaluation rubric. The evaluation was made from on four basic dimensions. They are the evaluation of the text, the general evaluation of the summary, the general evaluation of the alternative modes and the individual mode analysis. The text’s being grammatical, the students’ ability to express the concepts expected to be mentioned, their correct use of the concepts, the writing characters’ and the writing language’s suitability for the level are the criteria in the evaluation part. The presence of the key words which should be found in the summary is also the criteria in the text evaluation part. Using alternative modes together with the text, the alternative modes’ relation to each other and the alternative modes’ being related to more than one concept were evaluated in the general evaluation of the summary part. Examples given or not given in the writing and the emphasis on the main idea were also evaluated in the general evaluation of the summary part. The sort and the total number of each mode used in the summary, the total number of the inappropriate (unnecessary) modes and the total number of the appropriate modes were indicated in the general evaluation of the alternative modes part. The levels and the qualities of the appropriate modes which were determined in the general evaluation part were tried to be determined in the individual mode analysis part. The total score obtained made the total score of the writing activity.

Analysis of Data

While evaluating the quantitative data obtained from the study; we used the t-test for determining whether or not there was a difference between the groups in terms of critical thinking skills before the application and the ANCOVA test after the application. Using the ANCOVA, we compared the corrected posttest scores of groups in respect of the pretest. In a covariance analysis where averages are compared by controlling the effects of an independent variable, the unexplained change (error variance) will be decreased (Can, 2014). Besides, Pearson’s correlation test was applied to the scores obtained by students from the writing activities and from the posttest of critical thinking skill for the purpose of determining how much (%) the writing activities of students explained the scores obtained from the Critical Thinking Skills Test. Additionally, the qualitative data of the study were analyzed by using rubric. The aforementioned rubric was developed by the researchers based on an integrative point of view.

Results

Critical Thinking Test Pre and Post Test

CTT was applied as a pretest at the beginning of the study for the purpose of determining whether or not there was a statistically significant difference between the groups. Examining the
Independent samples t-test and the data; no statistically significant difference was determined between the groups at the level of $p < 0.05$. ($t_{(30)} = -1.238, p=0.226$). Table 1 shows the score averages obtained by the groups from the pretest of CTT and the standard deviations.

**Table 1. Critical Thinking Test Pretest**

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-CTT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>17</td>
<td>27.647</td>
<td>6.11</td>
<td>-1.238</td>
<td>0.226</td>
</tr>
<tr>
<td>Experiment</td>
<td>15</td>
<td>30.733</td>
<td>7.76</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This unit uses the scores obtained by each group from the pretest as a common variable in the ANCOVA analysis of the data. Table 2 shows the corrected CTT posttest scores of students in the control and the experimental group in respect of the CTT pretest scores.

**Table 2. Critical Thinking Test Posttest**

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>Mean</th>
<th>Adjusted mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>17</td>
<td>27.65</td>
<td></td>
</tr>
<tr>
<td>Experiment</td>
<td>15</td>
<td>39.93</td>
<td></td>
</tr>
</tbody>
</table>

Examining Table 2; it could be stated that there is a difference between the control and the experimental group according to the corrected critical thinking posttest score averages. The following table shows the results of the ANCOVA, which was performed for determining whether this difference was significant or not.

**Table 3. ANCOVA result of CTT**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean squares</th>
<th>F</th>
<th>P</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-CTT</td>
<td>588.232</td>
<td>1</td>
<td>588.232</td>
<td>9.996</td>
<td>0.004</td>
<td>0.256</td>
</tr>
<tr>
<td>Group</td>
<td>805.326</td>
<td>1</td>
<td>805.326</td>
<td>13.685</td>
<td>0.001</td>
<td>0.321</td>
</tr>
<tr>
<td>Error</td>
<td>1706.584</td>
<td>29</td>
<td>58.848</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39209.000</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Examining the data in Table 3; it is seen that there is a significant difference between the experimental and the control group in terms of the corrected posttest score averages in respect of the critical thinking pretest scores. ($F_{(1,30)}=13.685, p<.05, \eta^2=0.321$). Examining the partial eta square value ($\eta^2$); it is seen that the use of multiple modal representations in writing to learn activities by the experimental group in contrast to the control group explains 32.1% of the variability in the CTT posttest scores independently from the pretest variable. It could be suggested that applications in the experimental group affected the critical thinking skills of students.

**Writing to Learn Activity**

Writing activities were conducted as evaluation of texts, general evaluation of abstracts and general evaluation of modes being used. The evaluations in question are given under separate titles for each unit.
U1 writing to learn activities

U1 text evaluation: The writing’s being grammatical, the suitability of the writing characters for the person, suitability of the writing language for the level of the student and the correct use of the rules were considered while the text was being evaluated for the writing activities. The evaluation of the concepts mentioned or not mentioned in the text was considered. The presence of the keywords in the unit in the writing activity was also considered. While the students generally mentioned the concepts of force ($f=32$), movement ($f=31$), dynamometer ($f=23$), force unit ($f=20$), frictional force ($f=26$) and contact force/non-contact force ($f=6$) in the writing activity, they mentioned the concept “contact/non-contact force” ($f=6$) less than the others. While each student in the experimental group included 5 concepts in the writing activity in average, each student in the control group included 4 concepts in average. When each student in the experimental and the control group was studied separately, it was seen that the students in the experimental group included the concepts “force, movement, dynamometer, force unit, friction force” more in their writing activities. However, they included the concepts “contact force / non-contact force” less in their writing activities. As for the students in the control group, they included the concepts “force, movement, friction force” more but they included the other concepts less in their writing activities.

U1 evaluation of the summary: The purpose of the writing activity is to enable the students to use the modal representations in a suitable way in the text. Because of this reason, whether the modal representations were used or not used in the writing, the relation between the modal representations used and whether the modal representations were related or not related to more than one concept were the aspects evaluated while the writing activity was being evaluated. Whether the examples were used or not used while doing the writing activity and the emphasis on the main idea were also the aspects evaluated while the writing activity was being evaluated.

While the use of the alternative modes was being evaluated together with the text, the writing activities which consisted of only text were evaluated as 0 (No), the writing activities in which 1 or 2 representation modes were used were evaluated as “partly”. The writing activities in which more representation modes were used were evaluated as 2. When the writing activities of the students were analysed, it was determined that 10 students in the control group did not use modes at all, 6 students used one or two modes and 1 student used three or more modes. A section from the homework of the student who used most modes is given in Figure 1. When the section was analysed, it was seen that the student used images, one of the modes, after the text. The student explained the force of friction using modes of text. In this text, the student exemplified force of friction and visualised with modes of image.

When the data about the number of the modes used by the students in the experimental group was analysed, no writing activities without any modes used were encountered and it was determined that 1 student used one or two modes and 14 students included 3 or more modes in their writing activities. Almost all of the students in the experimental group used many modes. A section from the homeworks of the students is given in Figure 2. When the writing activities are analysed, it can be said that the modes are related to each other and the modes enable the students to emphasize on the details of the subject while doing the writing activity. For instance, in the section in Figure 2, the student explained the force with his own statements and gave examples from the daily life. He also made a classification, specified the force as requiring and not requiring contact and explained the listing mode by associating it with images.
U1 general evaluation of the alternative modes: When the writing activities were generally evaluated, it was seen that the modal representations used by the students in their writing activities were respectively texts (f=82), pictures (f=70), lists (f=26), mathematical expressions (f=14) and table representation mode (f=9). They are given from the most frequent to the least. The findings about the evaluations aimed at the kind of mode used from the point of the groups are given in Graph 1.

When Graph 1 was analysed, it was determined that texts (f=29), pictures (f=24), mathematical expressions (f=6), graphics (f=5) and lists (f=4) were the multimodal representations used by the students in the control group in their writing activities. Tables (f=0) were not used at all by them. As for the experimental group, the multimodal representations used by the students in their writing activities were texts (f=53), pictures (f=46), lists (f=22), graphics (f=11), tables (f=9) and mathematical expressions (f=8). Moreover, it was determined that the students in the control group gave more place to the inappropriate / unnecessary modes in their writing activities.
U2 writing to learn activities

U2 text evaluation: It was seen that the students generally included concepts like “light”(f=32), “sound”(f=32), “shadow”(f=9), “transparent, semi translucent and opaque matter”(f=20), “lunar and solar eclipse”(f=11) and “difference between light and sound”(f=13). In addition, while every student in the experimental group included 4-5 concepts in their writing activities in average, every student in the control group included 2-3 concepts in average. When each student in the experimental and control groups was analysed seperately, it was seen that the students in the experimental group included almost all of the concepts “light, sound, transparent, semi translucent and opaque matter, lunar and solar eclipse, difference between light and sound” in their writing activities. As for the students in the control group, while they included the concepts “light and sound” more in their writing activities, they included the other concepts less.

U2 evaluation of the summary: When the writing activities of the students were analysed, it was determined that 10 students in the control group used no modes, 6 students used one or two modes, 1 student used three and more modes. Figure 3 shows a section of the homework of a student using modes the most in the control group. Examining the section; it is seen that the student explained how the light spread by listing. In the continuation of this listing mode, he used an image mode where a point light source formed the full shadow of a non-transparent object. Thus, he associated the listing mode with the image mode.
When the data about the number of the modes used by the students in the experimental group was analysed, no writing activities without modes were seen and it was also determined that 2 students used one or two modes and 13 students included 3 or more modes in their writing activities. Almost all of the students in the experimental group used an exceeding number of modes. Examining the writing activities as in U1; it could be suggested that modes are related with to each other and the writing activities of modes enable emphasizing the details of the subject. For instance, the following section shows the observation of a student in the experimental group concerning the change of his shadow length within the day as data using the table mode (Figure 4). And then the student made a description with a diagram by using the data in this table. He reached a conclusion and expressed that by interpreting this table and diagram.

**U2 general evaluation of the alternative modes:** The representation modes used by the students in their writing activities were respectively determined as texts \((f=122)\), pictures \((f=103)\), lists \((f=18)\), tables \((f=16)\), graphics \((f=13)\) and mathematical expressions \((f=2)\) from the most frequent to the
least. Graph 2 showing the number of the modes from the point of both groups is given below. When Graph 2 was analysed, it was determined that the modes used by the students in the control group in their writing activities were texts \((f=54)\), pictures \((f=28)\) and lists \((f=4)\) but the mathematical expressions, graphics and tables were not used at all. As for the experimental group, the modes used by the students in their writing activities were determined as pictures \((f=75)\), texts \((f=68)\), tables \((f=16)\), lists \((f=14)\), graphics \((f=13)\) and mathematical expressions \((f=2)\). Similar to U1, it was determined that the students in the control group included the inappropriate / unnecessary modes more in their writing activities.

Graph 2. Alternative modes used for Unit 2

**Relation between the writing activities and CTT**

The relationship between students’ scores of learning-oriented writing and CTT posttest for U1 and U2 was examined with Pearson’s correlation. The correlation coefficient signifies a high relation when it is between 0.700-1.000; a moderate relation when it is between 0.700-0.300; and a low relation when it is between 0.300-0.000 (Büyüköztürk et al., 2013). The results are given in Table 4.

**Table 4. Correlation coefficient between the writing scores for U1 and the CTT score**

<table>
<thead>
<tr>
<th></th>
<th>U1WTS</th>
<th>CTTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>.633**</td>
</tr>
<tr>
<td>Sig.  (2-tailed)</td>
<td>N=32</td>
<td>N=32</td>
</tr>
<tr>
<td>U1WTS</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Sig.  (2-tailed)</td>
<td>N=32</td>
<td>N=32</td>
</tr>
<tr>
<td>CTTS</td>
<td>Pearson Correlation</td>
<td>.633**</td>
</tr>
<tr>
<td>Sig.  (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

* p<.05 , ** p<.01

U1WTS: Unit 1 Writing total Score

CTTS: Critical thinking test score
It was determined that there was a moderately positive and significant relationship between the total score of U1 writing activity and the score of Critical Thinking Test ($r = 0.633$, $p < .01$). Considering the determination coefficient ($r^2 = 0.40$); it could be suggested that 40% of the total score obtained from the Critical Thinking posttest is related with the score obtained by students from writing activities.

**Table 5.** Correlation coefficient between the writing scores for U2 and the CTT score

<table>
<thead>
<tr>
<th></th>
<th>U2WTS Pearson Correlation</th>
<th>U2WTS Sig. (2-tailed)</th>
<th>U2WTS N</th>
<th>CTTS Pearson Correlation</th>
<th>CTTS Sig. (2-tailed)</th>
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<tbody>
<tr>
<td>U2WTS</td>
<td>1</td>
<td>.641**</td>
<td>32</td>
<td>.641**</td>
<td>1</td>
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* $p < .05$, ** $p < .01$

U2WTS: Unit 2 Writing total Score

CTTS: Critical thinking test score

It was determined that there was a moderately positive and significant relationship between the total score of U2 writing activity and the score of Critical Thinking Test ($r = 0.641$, $p < .01$). Considering the determination coefficient ($r^2 = 0.41$); it could be suggested that 41% of the total score obtained from the CTT posttest is related with the score obtained by students from writing activities.

**Discussion and Conclusion**

Within the scope of this study, it was aimed to investigate the effect of the use of modal representations by fifth grade students within writing activities upon their critical thinking skills. According to that purpose, students in the experimental group were given applications enabling the use of modal representations in their writing activities, whereas students in the control group were given only writing activities. After completing the applications in two units, the critical thinking skill test that was applied in the beginning was reapplied. Data analyses showed that the use of modal descriptions had positive effects upon the critical thinking skills of students and while 40% of scores obtained from the posttest was derived from the first writing homework; 41% was derived from the second writing homework.

Students may use writing in solving a problem, explaining their opinions, thinking about possible alternative goals and explanations, and making preliminary observations (Yeşildağ, 2009). In this study, students tried to learn science subjects or show what they had learned by performing learning-oriented writing activities. Thus, it could be suggested that students actively participated in writing. Opinions and thoughts of students will allow them to transit from a mentally passive state to an active state, describe and discuss the problem, have reasoning and inference and express themselves better (Doğanay, Akbulut-Taş & Erden, 2007). It is known that students realize learning when they actively participate in writing applications and they may get tired of the process if they consider it a passive study (Prain ve Hand, 1999). Learning-oriented writing not only makes subjects more entertaining for both teachers and students, but also allows students to develop critical thinking skills. (Duron, Limbach & Waugh, 2006).

In this study, both the experimental and the control group performed learning-oriented writing activities and the experimental group was particularly demanded to use multiple modal representations in these writing activities, which caused the experimental group to use a higher number of multiple representations.
modal representations in both writing activities and prefer using different types of multiple modal representations, compared to the control group. Experimental group used a higher number of modes and less unnecessary modes, which shows that they had adopted the modes and used them more consciously. In both writing activities, it was determined that students in the experimental group gave place to a higher number of concepts, compared to students in the control group. Thus, it could be suggested that multiple modal representations enable learning scientific concepts. As a result of his study; Kabataş Memiş (2015) determined that knowing and systematically using modal representations allowed students to learn. Moreover, studies suggest that students who study modal representations have higher science successes, argumentation skills and writing skills, compared to students in the comparison group. (Demirbağ & Günel, 2014). The result of this study shows a parallelism with studies in literature.

As a result of applications that were conducted in line with the study objective; it was determined that there was a difference between the critical thinking skills of students in the experimental and the control group in terms of using multiple modal representations in learning-oriented writing activities. Besides, examining the pretest-posttest averages of critical thinking; it was seen that there was no change in the control group, whereas the experimental group had increased averages. Writing activities explained almost half of the score obtained from the critical thinking posttest, which is also an important finding. Thus, using multiple modal representations in learning-oriented writing activities affects critical thinking skills of students. This study is important as one of the main goals of education is to “raise students as individuals with critical thinking skills (MNE, 2013)”. Ennis (1987), defines critical thinking as the ability of debating and reflective thinking. It could be suggested that obliging students to use modes will allow them to debate and develop reflective thinking.

Educational applications may guide students in two different ways: Firstly, they may allow students to learn the subjects and concepts in the course content and find an answer to what to think/learn; secondly, they may allow students to know how to think concerning the accurate comprehension and evaluation of the subjects (Schafersman, 1991). Students’ ability of reviewing or evaluating what they learn is related with their ability of writing, depicting/describing what they learn, in other words expressing their thoughts. In this respect, it is recommended for students to practice multiple modal representations in classes, reinforce multiple modal representations with easy activities like learning-oriented writing activities, question their thoughts by using evidences and express this with logical justifications. Students will be able to comprehend and solve problems in their lives through using representations efficiently.

Writing practises provide to reveal students’ ideas and reflections at the same time peer feedback can gain a different point of view (Xie, Ke & Sharma, 2008). Students construct written works as a learning experiences for to be a scientific literate person that may affect and develop their critical thinking even they’re grade 6 (Vieira & Tenreiro- Vieira, 2016). Critical thinking is related reasoning (Kong, 2014; Heijltjes et al., 2014; Whiley et al., 2017). Analogical reasoning is accessible for younger children, if domains are familiar and the children have understood the task by their teacher (May, Hummer & Roy, 2006; Haglund, Jeppsson & Andersson, 2012). Different from traditional writing, such as in this study the task of writing to learn activities is explicit and visible. Tolppanen and his colleagues (2013) found a link between students writing skills and use of multi modal representations. The effective use of multi modal representations can provide resource in thinking and learning process, also it can enable to cognitive diverstity (Günel & Yeşildağ-Hasançebi, 2016). Young children are able to generate representations and they realised representations’ symbolic functioning (Danish & Enyedy, 2007). Even though all advantages, students may not always get to full benefits of using multiple representations for their learning (Won, Yoon & Treagust, 2014). However classroom environment has been designed by teachers to support students efficiently generate multi modal representations and construct deeper understanding (Cook, 2006). Accordingly, a further research may be about how teachers can best support students to use of representations within writing (Ainsworth, Prain & Tytler, 2011). Thus, it is recommended to allow students to recognize and use representations.
Further research exploring the role of learning with multi modal representations and critical thinking is needed.

References


Sampson, V., Enderle, P., Grooms, J., & Witte, S. (2013). Writing to learn by learning to write during the school science laboratory: Helping middle and high school students develop argumentative writing skills as they learn core ideas. Science Education, 97(5), 643-670.


Miscellany

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