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Table of Contents

<i>Creating a Sense of Community in Distance Education</i> Simon Stephenson	1-8
<i>Assessing the Friendship Quality of Children between the Ages of 9 and 12 Based on Certain Variables</i> Nilgün Öztürk	9-24
<i>The Turkish History of Special Education from the Ottoman Period to the Present Day</i> Mehmet Emin Öztürk	25-30
<i>Fathers and Their Young Children's Self-Perception, Levels of Being Liked by Their Peers and Prosocial Behaviours</i> Hülya Gülay Ogelman, Ahmet Erol, Nimet Kardeşahin, Mehmet Akyol	31-42
<i>Using Kahoot! as a Gamified Formative Assessment Tool: A case study</i> Süleyman Nihat Şad, Niyazi Özer	43-57

Creating a Sense of Community for Distance Education

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Abstract

This study used a qualitative analysis approach to review and organize thematically the findings of 29 studies related to sense of community in online learning. The purpose of this paper was to identify what the main themes were in the literature and to develop some practical applications as a result of the study as well as suggest areas for future research. The main themes identified were the importance of early establishment of behaviours and activities that facilitate community, the role that the instructor should play, the importance of developing social presence and social cohesion amongst learners.

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INTRODUCTION

Distance education can be defined as planned teaching and learning where teaching and learning occur at different locations and require certain technologies to enable communication (Moore & Kearsley, 2012). It has become a more and more prevalent form of education throughout the world, with more than six million students and growing in the US alone taking distance education courses (Wellesley, 2017).

Sense of community is the feeling of belonging, involvement and value amongst a group (McMillan & Chavis, 1986). It is especially important for distance education as both learners and teachers may feel a sense of isolation, and a strong sense of community overcomes this and leads to a more successful learning experience (McElrath & McDowell, 2008). A sense of community has been shown to both “enhance student engagement and improve learning outcomes in online courses,” (Gallagher-Lepak, Reilly & Killion, 2009, p. 133). In fact, students with a lower sense of community often perceive that they are learning less, even if this is not the case (Moore, 2014). Unfortunately, the sense of community that develops in regular face to face classes is often noticeably absent in distance education courses (Sadera, Robertson, Song, & Midon, 2009).

There is a noticeable absence of clear, detailed approaches supported by peer reviewed studies that educators and institutions might follow in order to promote a sense of online community (Sun & Chen, 2016). Therefore, in this paper a systematic review of the literature is presented which was designed to review, collect and organize what findings are currently available into the key components and practices for creating a sense of community in distance education. This was done in order to provide practical implications and to suggest areas for further research. As stated by McElrath and McDowell, “distance education instructors, administrators, and students need strategies that build community in online courses,” (2008, p. 125).

Purpose of the study

The study aims to contribute to the literature by addressing the following research question: How can a sense of community best be created in distance education courses?

METHOD

Data Source Search Criteria and Methodology

For this review, a systematic methodology was employed to select literature sources in order to identify how a sense of community can be created in distance education. The search was confined to papers published from 2008 onwards to the present day. The databases used were Google Scholar, and Education Resources Information Center (ERIC), as the two combined include a wide range of papers related to the topic. The key words and terms used in the search function were “create / establish / sense of community,” and “online / distance education / learning.” In this study distance education and online education will be used interchangeably.

All articles found based on these criteria and deemed relevant to the research topic were examined and a database was created. At the end of this process the database contained more than 60 articles. The database summarized the research questions, participants, data collection methods, data analysis and study results of each article. It also contained comments about the relevance and usefulness of each study to the research question. From this database 29 articles were selected. Only those which were scientific, peer reviewed, empirical studies from journals in related fields and published in English were chosen. The chosen articles were those which most clearly contain concepts, theories and data related to online learning communities, from all the articles reviewed.

Data Analysis

As the literature was reviewed, themes in the development of sense of community began to emerge and were noted. These themes were organized into four distinct areas which were found to be the most significant for the establishment of a sense of community in online learning, due to the frequency of their being mentioned in the 29 reviewed studies (although there is some degree of overlap between them). They are partially based on the community of inquiry framework which divides the educational experience into social presence, cognitive presence and teaching presence (Garrison, Anderson & Archer, 2000). The organized themes that have emerged from the literature are early establishment, social presence, social cohesion, and the role of the instructor. Both collaboration and communication were initially considered as potential options for their own categories due to the frequency of their being mentioned in the literature. However, each were mentioned so often in all findings in the literature that it was impossible to separate them from the other four induced themes.

FINDINGS

Early Establishment

Of the studies reviewed, many found that one of the most essential parts of establishing a sense of community in online learning is starting and setting the tone for the course (Byrd, 2016; Johnstone-Dodge, Bowen, Calley & Peterson, 2014; Menchaca & Bekele, 2008; Moore, 2014; Shackelford & Maxwell, 2012). The initial atmosphere is very important and should be open and feel safe for the students, allowing them to express themselves and feel free to communicate. This atmosphere will allow for the development of social presence (discussed in detail in the next section of the review) and help connect students to each other and help the instructor to establish a community (Johnstone-Dodge et al., 2014).

There are several practical methods suggested by the literature for establishing and developing a sense of community from the onset of the course. Shackelford and Maxwell found in their 2012 study on sense of community that introductions and the students having the opportunity to share personal experiences was an important part of this. As well as introductions, Moore (2014) found in his study that "introductory activities such as discussion forum ice-breakers, orientation videos, and testimonials from past successful students are all ways to help set the foundation for a classroom community," (p. 24). Another finding of several studies is that face to face interaction at the start of the course can have a positive impact on sense of community (Byrd, 2016; Menchaca & Bekele, 2008). This could be an orientation course or team building activities. Menchaca and Bekele especially found that both students and course teachers strongly supported face to face interaction at the start of online courses.

Social Presence

One of the three key aspects of the Community of Inquiry framework is social presence and according to Boston, Diaz, Gibson, Ice, Richardson and Swan (2009), it is the foundation for collaborative learning in the online environment. Social presence is the feeling an online learner has of being with other real people and being able to project themselves and feel that they are recognized, according to Boston et al., who found that "feelings of community and social presence may be considered to be strongly connected to each other," (p. 76). The technology used often is the main focal point for studies of online education, but it is the people who make online education work. When learners in these online environments cultivate an online social presence they "achieve meaningful interactions, establish and maintain relations, and create productive social systems in these environments," (Kehrwald, 2008, p. 99). In online learning "a web of relationships between individuals" is an important part of developing learning communities (Drouin & Vartanian, 2010, p. 148). However, students who have a poor grasp of the required technology may have a lower sense of social presence (Bolliger & Halupa, 2012).

While the idea that social presence is an important aspect for a sense of community online is clearly supported by the literature (Ke, 2010), there are far fewer studies that provide conclusive data on how to go about establishing or facilitating that social presence. Gray and Tobin (2010) suggest that encouraging students to interact, communicate and collaborate asynchronously is of central importance. Young and

Bruce suggested as a result of their 2011 study that “embedding the use of technology designed for connecting, such as Facebook, twittering and blogging, might increase the social presence of all students,” (p. 226). Social presence can also be developed through activities where students have the opportunity to get to know each other and find commonalities (Gallagher-Lepak, Reilly & Killion, 2009; Robinson & Hullinger, 2008), especially through game like activities which can further develop social presence and sense of community (Shackelford & Maxwell, 2012).

Social Cohesion

Another theme identified in the review as an essential element of online learning communities was sense of cohesion. As stated in their 2009 study, “group cohesion refers to the development of a group identity and the ability of participants in the learning community to collaborate meaningfully,” (Boston et al., p. 68). On the factors which underlie a sense of community, Abedin, Daneshgar & D’Ambra (2010) concluded that social presence and social cohesion were the two most important.

One of the aspects of distance education that can be detrimental to community is the feelings students can have of isolation, as a result of geographical distance and sense of psychological distance (Lee & Choi, 2011; Pigliapoco & Bogliolo, 2008). According to the findings of Rakes & Dunn (2010), this geographical distance which is present in distance learning can be overcome primarily by participation, open communication and collaboration. Relating back to the findings grouped into the theme of early establishment, it is important to foster these ideas early on and the course should be designed in such a way as to promote these elements. The design and organization of the course, as well as the learning technology used, can lead to students having a stronger sense of each other, more frequent communication and a resulting feeling of cohesion (Abedin et al, 2010; Johnstone-Dodge et al., 2014). Aykol and Garrison also found that “collaborative activities increased students’ sense of belongingness to the group which led them from an individual perspective to a group perspective,” (2008, p. 16). Another study, by Cox and Cox (2008) suggested that discussion boards could be used to help facilitate this kind of collaborative learning environment, while at the same time encouraging students to get to know each other. The research of Wise, Saghafian and Padmanabhan (2012) added to this with their findings that if learners were given roles to play then their participation in discussion boards would be higher.

Social cohesion is also affected by group size in online learning (Moore, 2014; Robinson & Hullinger, 2008; Shaw, 2013). Unsurprisingly, it was found that smaller group sizes lead to a greater sense of cohesion and community (Moore, 2014). In her 2013 study on group sizes in online learning, Shaw found that group sizes did not actually affect performance, but it did significantly impact participation. The research of Robinson and Hullinger (2008) presented that smaller groups provided more opportunity for communication and synthesis of ideas for meaningful learning, which aids in building learning communities.

Other factors that affect social cohesion are learner characteristics like age, gender and marital status (Abedin et al, 2010), and shared religious beliefs (Bottom, Ferrari, Matteo & Todd, 2013).

Role of the Instructor

Perhaps the most important part of all for developing an online community is the role the instructor plays. It was one the most frequently cited facilitators of community development in the literature and many studies supported the findings of Correia and Davis that “the teacher may be viewed as the keystone species of the classroom ecology,” (2008, p. 290). In a study of online teaching for adults, Ke stated that “teaching presence should be the catalyst that initiates the community development process” (2010, p.818). Sher further supported this with his 2010 study which found that the instructor had a significant role in fostering positive interaction and community development between students.

Several studies presented findings on the attributes of teachers that aided the development of a sense of community (Yang, Yu, Chen & Huang, 2014). Johnstone-Dodge et al. (2014) indicated from their research that “well-educated and enthusiastic faculty members are central to facilitating development of an online learning community,” (p. 1320). Menchaca et al., on the other hand, found that it was the competence of

the instructors that was the most critical factor, especially regarding their knowledge of the educational technology used in the online lessons (2008). It is also clear from the literature that training, support and professional development is an important component for faculty to be able to create a sense of community for distance classes (Boling, Krinsky, Saleem & Stevens, 2012; Young & Bruce, 2011). This is something which may be overlooked, as illustrated by Johnstone-Dodge et al.'s findings in their study that 43% of the teachers in their sample had not received any prior training for online lessons (2014).

Implications from the literature about what teachers might actually do to facilitate a sense of community amongst learners include maintaining a visible presence and providing structure and modelling for online behavior (Kerwald, 2008; Lear, Isernhagen, LaCost, & King 2009). According to Boston et al. (2009), instructors might also comment on posts on the discussion board, intervene during discussions to keep them moving in the right direction, and try to engage students who are inactive. Brindley, Blaschke and Walti (2009) found that instructors could cultivate a positive community by allowing students to choose their own groups or partners and topics. Referring to communicative and collaborative behaviour, Brindley et al. also found that teachers can "model, discuss, and reinforce these elements in the main conference, helping students to prepare for smaller, more intense group learning experiences. If students develop relationships with their peers early, they can build on these relationships in group work," (p. 13).

DISCUSSION & CONCLUSION

Summary

There have been an abundance of studies that have supported the connection between student success in online learning, social presence, social cohesion, the role of the instructor and early establishment of classroom practices that promote community. These factors play an important role in overcoming the sense of aloneness that can arise as a result of the geographic distance between students and the disconnect found from interacting through a computer interface. With the right course setup in place and establishment of a communicative and collaborative atmosphere and behaviours, learners can develop the necessary sense of being with others and being part of the cohesive community that is conducive of a successful online learning environment.

Study Limitations and Further Research

One recent review of the literature on effective practices in online education found that while many studies emphasize the importance of establishing a community, most did not elaborate with any significant detail or with much supporting research on an "effective and detailed means, approaches, and technologies that could be used to achieve that objective," (Sun & Chen, 2016, p. 171). Several studies and literature reviews provide suggested guidelines for creating a sense of community in online learning (Brindley et al., 2009; Yuan & Kim, 2014), but further research needs to be conducted to collect data on the efficacy of those guidelines and indeed the findings in this study. Future research could also be done connecting the Community of Inquiry framework with online learning, with a specific focus on developing sense of community amongst learners. There is also seemingly a lack of studies done on the cognitive aspect of the Community of Inquiry structure in relationship to sense of community. Further research could be conducted on the cultural background of the instructor and the effect that has on community, also suggested by Baturay in her study on sense of community and perceived learning (2011).

There is an abundance of research on what practices produce effective results, but somewhat of a gap on practices to create community. As stated by Gallagher-Lepak et al. (2009), it is "essential to build the body of knowledge around strategies to enhance sense of community," (p. 143).

Implications and Recommendations

The following recommendations can be applied by instructors in online educational settings as a result of the findings in this study.

1. Early Establishment: if possible a face to face meeting for students should be arranged at the start of the course. An atmosphere of open communication and collaboration should be fostered and students should get a chance to get to know each other and share personal details through ice breakers and warm up activities.
2. Social Presence: students should always be encouraged and motivated to participate and make their voices heard. Activities should be designed that encourage students to learn about each other's ideas and beliefs, especially game like activities. Technology like Facebook or Twitter can be embedded into the course design to facilitate social presence.
3. Social Cohesion: group sizes should be kept small and class sizes too if it is feasible. The course should be designed in a way to encourage frequent communication amongst learners and discussion boards are one effective way of doing this, especially if students are assigned roles.
4. Role of the Instructor: it is essential for institutions to support instructors with training and development for online teaching. If possible, teachers who are enthusiastic, energetic and competent users of teaching technology should be selected to teach online courses. Instructors must take an active role in facilitating a sense of community by modelling desired behaviour, encouraging participation and communication and setting up collaborative tasks for learners.

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Assessing the Friendship Quality of Children between the Ages of 9 and 12 Based on Certain Variables

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Abstract

The purpose of this study is to investigate whether the friendship qualities of 9-12 years old students differ according to socio-demographic variables. The study group consisted of 667 students attending the 3rd, 4th, 5th and 6th grades of the schools in the Battalgazi district of Malatya in the 2018-2019 academic year. A personal information form prepared by the researcher to collect demographic data and the Friendship Quality Scale were used to measure friendship quality levels. In the data analysis, mean, independent sample t test, oneway analysis of variance (ANOVA) were used. According to the findings, it was found out that the dimensions of friendship quality, which students attach the most importance to, were trust, validation and support, self-disclosure, conflict, companionship and recreation; the least important the dimension of friendship quality is the help and guidance. According to the of gender, grade level, academic achievement and economic status, there is a significant difference in of the students' friendship quality. According to gender, female students' friendship quality was found to be higher levels than male students. As the grade level progresses, the friendship quality of the students increases. It has been found that the increase in academic achievement of students positively affects the quality of friendship. It was observed that the increase in the economic status of the students positively reflects the friendship quality.

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INTRODUCTION

Close peer relations begin to form in childhood and constitute a significant milestone in the developmental process (Collins & Russell, 1991). Since peer relations comprise the foundation of social life, individuals exert great endeavors to create and maintain friendships (Brannan, Biswas-Diener, Mohr, Mortazavi & Stein, 2013). Friendship, which includes different levels of accompaniment, intimacy, sympathizing with another individual and mutual assistance, is defined as a qualitative relationship that expresses voluntarily commitment between two individuals with the intention to meet individual socio-emotional objectives (Hays, 1988). Peer relation is significant for emotional health and development (Wiltz, 2005) and serves various emotional needs (La Greca, Bearman & Moore, 2002). Friends contribute to coping with stress (Berndt & Keefe, 1995), increased psychological well-being and harmony (Bukowski, Laursen & Hoza 2010), increased levels of happiness (Demir, Özdemir & Weitekamp, 2007) and decreased levels of loneliness and depression (Burk & Laursen 2005). Hence, friendship plays an important role in the social life and harmony of all children (Bayhan & Işitan, 2010; Ladd, Konchenderfer & Coleman, 1996; Piehler & Dishion, 2007). Children first establish contact with their parents, afterwards with other adults and children. Peer relations for children is a continuation of the bond they initially established with their mothers. Individuals need to connect another individual who is loved and is special for them, hence convey these needs to peer relations (Thompson, Grace and Cohen, 2002). Pre-adolescent period (9-12) brings many biological and psycho-social changes (Petersen, 1987). During this period, children become sincere with their friends and establishing emotional closeness manifests itself as a significant need (Berndt, 1981; Chow, 2008; Erdley, Nagle, Newman, & Carpenter, 2001; Furman & Biermen, 1984; Geçtan, 2003; Sullivan 1953). Furthermore, Sullivan (1953) argues that establishing a close peer relation during pre-adolescence is an important developmental task and that the need to be accepted is satisfied through peer relations.

Friendship quality, on the other hand, is defined as the degree of success on the account of both positive (intimacy, cooperation, loyalty, safety, support, prosocial behaviors) and negative aspects (conflict, supremacy, competition) (Berndt, 2002; Ladd, 1999; Piehler & Dishion, 2007). Therefore, positive characteristics are considered to be more in a high-quality friendship and the negative aspects are less experienced (Phebe, 2007). There are research findings indicating in literature that having a high friendship quality contributes to children's lives both academically and socially (Berndt, Hawkins & Jiao, 1999; Ladd et al., 1996). Studies on friendship demonstrated that friends were capable of influencing students' attitudes and beliefs about school as much as their academic achievement (Agnor, 2009; Cauce, 1986; Ide, Parkerson, Haertel & Walberg, 1981). Cevik's (2007) study in high school students sample shows that being successful is preferred characteristics in the relationship of friendship. Saçar (2007) says that academically successful children attracts more attention than their friends. Flashman, (2012) says that academic achievement may be an important mechanism for friendships. Therefore, the findings obtained from the researches suggest that children who are academically successful can establish more successful friendship relationships.

Another factor that affects the friendship quality and development of children is age (Bayhan & Işitan, 2010; Mitchell, 2005; Newcomb & Bagwell, 1995) and grade level (Berndt & Perry, 1986). Hallinan (1979) states that grade levels is effective on friendship structure of children. With increasing age, the expectations of children from their friends change (Mitchell, 2005), thus both the friendship quality and the friendship quantity change (Bayhan & Işitan, 2010). In order to comprehend childhood friendship, it is essential to take into consideration that children in different ages have different skills regarding friendship (Thompson, Grace & Cohen, 2002). It is noteworthy that, during the developmental process, the choice of friends in preschool and kindergarten is based on cognitive development, and concrete

events and features are not considered as significant criteria due to the cognitive development period. Such criteria are being in the same class, being in the same school bus, and enjoying the same activities. The friendships developed during the elementary school is based on agreement (Mitchell, 2005). During this period, it is observed that children tend to participate more in group games, thus become less selfish and aggressive, attain a stronger group consciousness and become more helpful (Yavuzer, 1998). Yet, in adolescence, agreement (Legerski, 2010), self-disclosure (McFarland, 2008), loyalty (Weiss & Smith, 2002) and emotional support (Furman & Buhrmester 1985) become more important. It is considered significant that peer relations and the quality of these relations change based on age and grade level.

Furthermore, there exist differences in friendship quality based on gender (Brendgen, Markiewicz, Doyle & Bukowski, 2001; Rose & Asher, 1999; Weiss & Smith, 2002), given that gender is an important social structure that shapes the perceptions towards peer relations and interactions (Berndt & Perry, 1986; Feiring & Lewis, 1989). Young females are highly interested in self-disclosure in peer relations and they are more successful in approval, support and conflict resolution (Parker & Asher 1993), intimacy and cooperation (Bukowski, Hoza & Boivin 1994). However, young males were more interested in participating similar activities with their peers (Chow, 2008), and being in large groups for peer relations (Maccoby, 1990). The studies of Lansford and Parker (1999) indicated that young females exhibited less aggressive behaviors when compared to young males (3rd, 4th and 5th grades) in peer relations. According to Parker and Asher (1993), young males encountered more difficulty in conflict resolution in peer relations when compared to young females and it was observed that they were more likely to compete with their peers (Berndt, 1981).

Besides the emphasis that above-mentioned factors could lead to friendship quality differences (Maccoby, 1990), peer relations could be affected by factors such as inadequate economic level of the family or job loss, and a child who is subject to such factors could withdraw from their peers (Elder, Van Nguyen & Capsi, 1985; McLoyd, 1989). It is acknowledged that economic problems are related to various physical and psychological health problems in children, adolescents and adults (Aldwin & Revenson, 1986). Such economic problems encountered in families could result with more depressed and alone children (Lempers, Clark-Lempers & Simons, 1989). Therefore, it is considered that economic situation affects peer relations.

Parallel to the above-mentioned scope, there exist studies on socio-demographic structures (gender, age/grade level, academic achievement, socio-economic levels) that affect friendship quality in international literature. A review on Turkey's literature, on the other hand, revealed that there existed no studies on socio-demographic structures that affect friendship quality, hence the subject area was overlooked. In addition, it is stated that social relations are influenced by cultural differences (Hartup, 1984; Kito, 2005; Verkuyten ve Steenhuis, 2005). Since cultural factors affect social relations, it is considered that it is important to investigate sociodemographic variables. In Turkish scientific literature, there exist studies that focus on the factors related to friendship with some particular findings, yet these studies commonly targeted adults and adolescents. Self-esteem (Çevik, 2007), parents' attitudes (Dinçer, 2008), development of friendship in adolescence (Çok, 1993), factors affecting couples in marriage and peer relations (Yılmazçoban, 2011), the relationship between friendship environment and job satisfaction (Erdil, Keskin, Imamoglu & Erat, 2011) were some of the studied variables.

Peer relations and the quality of these relations are considered significant due to the importance of social, emotional and behavioral development of children and adolescents (Newcomb & Bagwell, 1995; Parker & Asher, 1993). However, it is remarkable that studies conducted on friendship in Turkey, mostly focused on adults or adolescents and there exists no research focusing on children. However, childhood experiences are capable of affecting the experiences of an individual in adulthood (Asher & Parker, 1988; Schneider, 2000; Wanless & Prinz, 1982). Therefore, it is considered important that the individual factors

that affect the friendship quality of the relationship, which is important in the life and social development of pre-adolescent children (9-12) are addressed and investigated.

Purpose of the study

The main purpose of the present study is to examine friendship qualities of children between the ages of 9 to 12 based on certain variables. Therefore, the present study was intended to seek the answers to the following questions: Does the friendship quality level of students exhibit a significant difference based on,

1. Gender,
2. Grade level,
3. Academic achievement,
4. Socio-economic levels.

METHOD

Research Design

The present study, which was conducted to determine the effect of the gender, grade level, academic achievement and socioeconomic level variables on the friendship quality of students between the age of 9 and 12, was designed as a causal comparison research. Causal comparative research is a research method that aims to determine the causes of an existing situation or event and the variables affecting these causes or the results of an effect (Büyükoztürk, Çakmak, Akgün, Karadeniz & Demirel, 2010).

Participants

The universe of the present study comprised the 5th and 6th grade students in secondary schools and the 3rd and 4th grade students in the elementary schools in Malatya Province, Turkey. The sample was composed of 677 students attending elementary and secondary schools in Malatya city center during the 2018-2019 academic year. Convenience sampling method (Fraenkel, Wallen & Hyun, 2012) was used in determination of the sample. Convenience sampling refers to the easy accessibility and applicability in working with samples (Fraenkel et al., 2012). The age average of students constituting the sample is 10.50 and the range is between the ages of 9 and 12. Table 1 presents the frequency and percentage distributions based on the demographic characteristics of students.

Table 1. Frequency and Percentage Distributions Based on the Demographic Characteristics of Students

	Categories	f	%
Gender	Female	378	55,8
	Male	299	44,2
Grade level	3 rd grade	123	18,2
	4 th grade	134	19,8
	5 th grade	175	25,8
	6 th grade	245	36,2
Academic achievement	Low	24	3,5
	Moderate	108	16,0
	Good	195	28,8
	Very good	350	51,7
Economic Level of Their Families	Low	68	10,0
	Medium	169	25,0
	Good	244	36,0
	Very good	196	29,0
Total		677	100

Table 1 presents the distributions based on the demographic characteristics of students. The distribution by gender indicated that 378 (55,8%) students were female and 299 (44,2%) were male. Based on grade level, 123 (18.2%) students were in the 3rd grade, 134 (19.8%) were in the 4th grade, 175 (25.8%) were in the 5th grade and 245 (36.2%) were in the 6th grade. The distribution by academic achievement indicated that 24 (3.5%) students perceived their academic achievement as low, 108 (16.0%) as moderate, 195 (28.8%) as good and 350 (51.7%) perceived their academic achievement as very good. The distribution by socio-economic level indicated that 68 (10.0%) students perceived their families economic level as low, 169 (25.0%) as medium, 244 (36.0%) as good and 196 (29.0%) of the students perceived their economic level as very good.

Data Collection Tools

The data of the present study were collected during the Fall Semester of the 2018-2019 academic year. Personal information form, prepared by the researcher, was utilized to collect the data regarding the gender, grade level, academic achievement, and socioeconomic level of the students. The Friendship Quality Scale (FQS) was used to determine the friendship quality of the students.

The Friendship Quality Scale (FQS): The scale was developed by Asher and Parker (1993) to identify the friendship quality of children and was adapted in Turkish language by Öztürk (2016), after completing the validity and reliability studies. In the scale, children mark their responses for each item on a 5-point scale. These 5-points are (0) not true at all, (1) true to a degree, (2) true, (3) quite true and (4) completely true. Friendship quality scale is composed of six dimensions, which are self-disclosure (sample item = I recall a lot of secrets we told each other with my friend), conflict (sample item = We discuss a lot with my friend), approval and support (sample item = My friend makes me feel good about my ideas), friendship and accompaniment (sample item = We always select each other -in games, events- as a partner), trust (sample item = I always trust my friend in keeping his/her promises), help and guidance (sample item = My friend and I help each other in daily errands and various other things). The highest score that can be obtained from the scale is 132 and the lowest is 0. A high score obtained from the friendship quality scale indicates a high-quality friendship. In terms of the reliability of the inventory, Cronbach's alpha internal consistency coefficient was determined as .89, and test-retest reliability was as .92 for the whole scale. Exploratory and confirmatory factor analysis studies were conducted for the structure validity study of the inventory. The total variance explained by six factors was 51%. Item factor loads were found to be

between .42 and .87. Once the fit indices of the model were examined, it was found that RMSEA= .042, GFI= .92, AGFI= .90, CFI= .92, NNFI= .91, SRMR= .04, RMR= .069, PGFI= .78, PNFI= .78 (Öztürk, 2016).

Data Analysis

Subsequent to retrieving the data through the data collection tools utilized in the present research, the data were prepared for analysis. The present study preliminarily reached 950 students. During the application, control items (*sample control item = check the correct choice*) were inserted within the measurement instrument. The main purpose in using control items stemmed from the approach to check whether the students completed the scale items through reading them. In creating the data set, the students who filled the control items incorrectly were excluded. As a result of this process, the data set consisted of 690 students.

Variance analysis assumptions were reviewed before commencing with the analysis of research data. Extreme values were examined during the preparation stage of the data. Standardized Z scores were used for the examination of extreme values. Z score range should be between -3 and +3 points (Çokluk, Şekercioğlu & Büyüköztürk, 2010). Data outside the -3 to +3 range for the standardized Z scores were excluded from the data set. Furthermore, Skewness and kurtosis coefficients were examined to achieve the normality criterion, the range of +1 to -1 was taken into consideration. Levene test was also used to test the homogeneity. With respect to these examinations, 677 students remained in the data set due to the removal of extreme values to ensure normality. Based on the examination of the fundamental assumptions of variance analysis, it was concluded that the assumptions were met.

In the present study, t-test was used in binary groups and One-Way Variance Analysis (ANOVA) technique was used for more than two independent groups with the aim to determine the relationship between the friendship quality scale scores of the children and certain demographic variables. In groups, which exhibited significant difference based on the ANOVA test, "Tukey" test was used to determine in which group, or between which groups the difference was (Çokluk et al., 2010).

FINDINGS

Findings on the Gender of the Children

The results of the t-test conducted to determine whether the friendship quality of the children differed based on gender are presented in Table 2.

Table 2. The t-test results on friendship quality based on gender

	Gender	\bar{x}	Ss	t	p
Friendship Quality	Female	94.25	22.99	3.62	.010
	Male	87.43	25.80		

$p < .05$

As seen in Table 2, the mean friendship quality scale scores of the females was $\bar{x} = 94.25$ (Sd = 22.99), while the mean friendship quality scale scores of the males was $\bar{x} = 87.43$ (Sd = 25.80). As a result of the independent groups t test, it was determined that the difference between the arithmetic mean of the groups was statistically significant ($t = 3.62$; $p < .05$). This finding demonstrated that the friendship quality of the females was higher and the gender variable affected the friendship quality of children.

Findings on the Grade Level of Children Variable

The results of the one-way analysis of variance (ANOVA) conducted to investigate whether the children's friendship quality varied based on the grade level are presented in Table 3.

Table 3. One-way analysis of variance (ANOVA) results for friendship quality based on grade level variable

	Grade level	\bar{x}	Ss		Sum of Squares	df	Mean Square	F	p	Meaningful difference
Friendship Quality	3 rd Grade	86.10	22.32	Between Groups	14715.299	3	4905.100			3 rd - 4 th *
	4 th Grade	97.56	24.01	Within Groups	390915.997	673	580.856	8.445	.000	3 rd - 5 th *
	5 th Grade	95.20	25.08	Total	405631.297	676				4 th - 6 th *
	6 th Grade	91.24	24.49							5 th - 6 th *

$p < .005$

As seen in Table 3, the mean friendship quality scale score of 3rd grade students was $\bar{x} = 86.10$, (Sd = 22.32), the mean friendship quality scale score of 4th grade students was $\bar{x} = 97.56$, (Sd = 24.01), the mean friendship quality scale score of 5th grade students was $\bar{x} = 95.20$, (Sd = 25.08), and the mean friendship quality scale score of 6th grade students was $\bar{x} = 91.24$ (Sd = 24.49). It was found that the difference between the arithmetic means of the friendship quality scale based on grade level was statistically significant ($F_{(3-673)} = 8.445$, $p < .05$). To determine the presence of a significant difference among the groups, the Tukey Test was conducted, and it was observed that there was a difference between 3rd grade and 4th grade, 3rd grade and 5th grade, 4th grade and 6th grade, and 5th grade and 6th grade. These findings indicated that the grade level variable affected the friendship quality of children.

Findings on the Academic Achievement Level of the Children

The results of one-way analysis of variance (ANOVA) conducted to determine whether there was a difference between friendship quality of the children based on academic achievement levels are presented in Table 4.

Table 4. One-way analysis of variance (ANOVA) results for friendship quality based on academic achievement variable

	Academic achievement	\bar{x}	Ss		Sum of Squares	df	Mean Square	F	p	Meaningful difference
Friendship Quality	Weak	77.41	21.29	Between Groups	23225.760	3	7741.920			Low-very good*
	Middle	83.54	24.89	Within Groups	382405.537	673	568.210	13.625	.000	Moderate-very good*
	Good	87.71	24.13	Total	405631.297	676				Good-very good*
	Very good	96.53	23.49							

$p < .005$

As seen in Table 4, the mean friendship quality scale score of the students with low academic achievement was $\bar{x} = 77.41$, (Sd = 21.29), the mean friendship quality scale score of the students with moderate academic achievement was $\bar{x} = 83.54$, (Sd = 24.89), the mean friendship quality scale score of the students with good academic achievement was $\bar{x} = 87.71$, (Sd = 24.13), and the mean friendship quality scale score of the students with very good academic achievement was $\bar{x} = 96.53$, (Sd = 23.49). It

was found that the difference between the arithmetic mean of academic achievement variable was statistically significant [$F_{(3-673)}= 13.625$, $p<.05$] based on the one-way analysis of variance (ANOVA) analysis conducted to determine whether there was a difference between friendship quality of the children based on academic achievement. To determine the presence of a significant difference among the groups, the Tukey Test was conducted, and it was observed that there was a difference between low academic achievement and very good academic achievement, between moderate academic achievement and very good academic achievement, and between good academic achievement and very good academic achievement. These findings demonstrated that academic achievement affected the friendship quality of the children.

Findings on the Economic Status of the Children

The results of one-way analysis of variance (ANOVA) conducted to determine whether there was a difference between friendship quality of the children based on economic status are presented in Table 5.

Table 5. One-way analysis of variance (ANOVA) results for friendship quality based on socioeconomic status variable

	Economic status	\bar{x}	Ss		Sum of Squares	df	KO	F	p	Meaningful difference
Friendship	Low	82.57	25.68	Between	7502.150	3	2500.717			Low-good*
Quality	Middle	90.21	23.78	Within	398129.147	673	591.574	4.22	.006	Low- very good*
	Good	91.71	25.98	Groups				7		
	Very good	94.56	22.05	Total	405631.297	676				

$p<.005$

As seen in Table 6, the mean friendship quality scale score of the students with low economic status was $\bar{x}= 82.57$ ($Ss = 25.68$), the mean friendship quality scale score of the students with medium economic status was $\bar{x}= 90.21$, ($Sd = 23.78$), the mean friendship quality scale score of the students with good economic status was $\bar{x}= 91.71$, ($Ss = 25.98$), and the mean friendship quality scale score of the students with very good economic status was $\bar{x}= 94.56$, ($Sd = 22.05$). It was found that the difference between the arithmetic mean of the economic status variable was statistically significant [$F_{(3-673)}= 4.227$, $p<.05$]. To determine the presence of a significant difference among the groups, the Tukey Test was conducted, and it was observed that there was a difference between low economic status and good economic status and between low economic status and very good economic status. These findings demonstrated that economic status affected the friendship quality of the children.

DISCUSSION & CONCLUSION

The present study was intended to examine the friendship quality of the students between the ages of 9 and 12 based on certain variables. According to the results of the study, it was concluded that friendship quality of the students between the ages of 9 and 12 varied based on gender, grade level, academic achievement and socioeconomic level.

The findings of the present study included that friendship quality differed significantly based on gender and that the mean friendship quality of female students was higher than that of male students. Similar findings exist in literature indicating that friendship quality differs based on gender in the pre-adolescence period (Berndt, 1982; Berndt & Keefe, 1995; Buhrmester & Furman, 1987; Furman &

Buhrmester, 1992; Laird, Pettit, Dodge & Bates, 1999). Other studies supporting the findings of the present study demonstrated that friendship qualities of young females were higher when compared to young males (Brendgen et al., 2001; Rose & Asher, 1999). Furthermore, research findings, indicating that friendship quality differed based on the gender variable and friendships among females were closer to that of males in pre-adolescence (Berndt, 1982; Berndt & Perry, 1986; Weiss & Smith, 2002) and that there existed less disagreement in peer relations (Phillipsen, 1999), stood out. In the studies of Bukowski et al. (1994), it was established that females were more likely to exhibit intimacy, help, approval, trust, friendship and companionship compared to males. Parker and Asher (1993) emphasized in their study that conflict resolution, approval and intimacy levels were lower in males than that of females, and females indicated more pro-social behaviors compared to males. Another study exhibited that females attached more importance to their friendships than males and they could be more sensitive when encountering problems (Gore, Aseltine & Colten, 1993). According to Maccoby (1990), differences in communication methods and playing preferences explained the gender related differences in peer relations. Maccoby (1990) stated that females preferred to communicate more politely in pre-adolescent friendships, while males preferred the forms of order and request more. According to Benenson and Christakos (2003), while females were inclined to spend more time in bilateral relations, males preferred more to be together in groups. During this period, males were more inclined to playing sports together (Weiss & Smith, 2002). Higher level of intimacy, help, approval, trust and companionship and higher importance attached to peer relations in females explain the higher levels of friendship quality in females.

Once the friendship quality of the students were examined based on grade level, it was observed that there was a significant difference between the students in 3rd and 4th grades, 3rd and 5th grades, 4th and 6th grades and 5th and 6th grades. Therefore, it could be argued that students with lower grade levels had lower friendship quality compared to upper grade students. It is possible to assert that level of friendship quality commonly increased due to the progress in age. A relevant study by Jones and Dembo (1989) indicated that intimacy increased with the progressing ages of children. Once the friendship of children between the ages of 9 and 10 and 11 and 12 were compared, it was found that the children expressed more intimacy between the ages of 11 and 12. Another study conducted on adolescents evaluated the peer relations of the 7th and 10th grade students and concluded that self-disclosure level increased in upper grade levels. Increasing the level of self-disclosure in adolescence was considered to be a sign of deepening in peer relations (McFarland, 2008). Weiss and Smith (2002) stated that close friendship and intimacy were more important for the adolescent age group between 14 and 18 and it was also more important to spend time and conduct activities together for the athlete age group between 10 and 13. According to Bigelow (1977) children in 2rd and 3th grade levels were in the phase of punishment and reward. The expectation of something in return is quite strong for children at these levels. Children in 4rd and 5th grade levels are at the level of normative expectations. During this period, affectionate children influence their friends. Therefore, values and rules of the affectionate are taken into consideration in peer relations. Children in 6rd and 7th grade levels are more powerfully inclined to self-disclosure and intimacy. Bigelow (1977) stated that the higher the grade level, the lower the expectation of mutual activation and intimacy in friendship becomes more important. Such changes explain the low level of friendship quality of the students with lower grade levels.

Once the friendship quality of the students was examined based on academic achievement, it was observed that there was a significant difference between the students with low and very good academic achievement, with moderate and very good academic achievement and with good and very good academic achievement. It is possible to state that the increase in academic achievement positively reflects the friendship quality of the students. There exist studies in literature that exhibited similar findings with the present study, indicating that the quality of friendship was related to academic achievement (Agnor, 2009; Baker, 2009; Nelson & DeBacker, 2008). Furthermore, Berndt and Keefe (1995) stated that high level of academic achievement and high-quality friendship were related. Flashman

(2012) examined the impact of academic achievement on friendship between 7-12 year-old students. In this study, it was seen that academic success affects friendship relationship. According to Yun Lee (2008), low friendship quality reduces school attendance rate. According to Baker (2009), the positive components of friendship quality, such as approval, favorably supported children's attitude towards school. Children with a high-quality friendship level were likely to be approved at school and received greater intimacy and guidance in encountering problems or difficulties regarding academic achievement. According to Ladd (1990), children who were rejected by their peers were more likely to develop negative thoughts towards the school, to reject school and experience academic under achievement throughout the year. Therefore, friendship quality is considered as an important factor that positively affects academic achievement and attachment to school (Cook, Deng & Morgano, 2007). It is considered that several attitudes, such as accepting approval and help, delivering help when necessary, developing positive attitudes towards school and being capable of cooperation, were considered to affect the academic achievement of the students with high-quality friendship levels.

Once the friendship quality of the students was examined based on their economic situation, it was observed that there was a significant difference between the students with a low and good economic level and with a low and very good economic level. Commonly, it became possible to assert that level of friendship quality increased with respect to the increasing economic levels of the students. Dinçer (2008), who examined the effect of economic level on friendship relationship, concluded that the increasing socio-economic level in adolescents resulted with increased friendship scores. Fong and Isajiw (2000) conducted a study focusing on immigrants and established that socio-economic levels of individuals significantly affected the friendship among ethnic groups. It was observed that individuals with low income level had a poor chance of developing friendship bonds. Fong and Isajiw (2000) also predicted that the social relations of immigrants could develop, and they could be integrated within the society due to increasing individual income levels. Furthermore, Hurtado, Engberg, Ponjuan and Landreman (2002) stated that economic level was important for participating social relations. McLoyd (1989) pointed out that encountered economic problems could affect the socialization of a child and decrease the intimate peer relations. Additionally, Duyan, Duyan, Çifti, Sevin, Erbay ve İkizoğlu (2008) examined the variables that affected the loneliness levels of high school students and concluded that loneliness decreased as the level of income increased. Dodge, Petit and Bates (1994) in their study of how socioeconomic disadvantage affects the socialization of children found that socioeconomic level partially affects the socialization of the individual. It was emphasized that socioeconomic problems could cause changes in life style and daily life of a child and in return cause changes in peer relations. Economic level constitutes a background that affects all life areas and has a significant impact on the cognitive, social and socialization processes of students (Balkar, 2008). It is considered that the social activities, traveling, entertainment, good life and working environment opportunities for students with a good economic level positively affect their peer relations. According to Çakır (2002), it becomes increasingly difficult for an individual and his/her family to participate in social life once their basic needs (food, beverage, housing, health, education) are not met. A continuity in not being able to meet the needs could result in losing the ties with the society. Therefore, it is considered that students who have low socio-economic levels lack various opportunities such as education, social activities, traveling, entertainment, good life and working environment and such inadequacies could create a sense of inhibition in children (Şahin, Batıgün and Uğurtaş, 2002). Such condition explains the low level of friendship quality for the students with lower economic levels.

In conclusion, it was observed that friendship qualities of the students between the ages of 9 and 12 varied based on the variables of gender, grade level, academic achievement and economic status. It is possible to provide certain suggestions with respect to the findings of the present research. First, it was

observed that male students had lower friendship quality levels compared to female students. Such finding suggests that making necessary planning intended to develop the peer relations of students and attach priority to male students in these planning are essential considerations. Second, although the literature suggests an increase in intimacy (Jones & Dembo, 1989) due to progressing age, low level of friendship quality among lower grade students could be improved through psychoeducation activities initiated from lower grade level students and such activities could contribute to further development of relations. Third, given the fact that friendship quality has a positive effect on both academic achievement and attachment to school, psychoeducation activities conducted via the psychological counselors working in school guidance services are recommended to target the establishment, development and continued maintenance of peer relations among students. Fourth, it is recommended that children who live in families with low socioeconomic levels should be trained to provide the skills to develop friendship relations.

Similar to all scientific studies, the present study also has several limitations. The main limitation of the study is the sample group. Since the study group consists of children who are in the pre-adolescence period between the age of 9 and 12, the obtained findings cannot be generalized for other age groups. Another limitation of the present study is to facilitate student perception for the determination of economic level as a demographic variable.

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The Turkish History of Special Education from the Ottoman Period to the Present Day

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Abstract

Special education has a long history in Western and developing countries. However, literature rarely mentions special education in Turkey, therefore, there are questions about the historical milestones in the Turkish history of special education. The purpose of this paper is to educate the reader about how the treatment and education of people with disabilities in Turkey has evolved throughout history. This literature review will show that Turkey has a long history of providing adaptive education to people with disabilities and gifted and talented students. Innovative practices such as music therapy, herbal medicine, hospitals and Enderun Schools for gifted students were employed in Turkey. This paper specifically focuses on the history of special education in Turkey from the Ottoman period to the present day.

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INTRODUCTION

Turkey is a unitary, parliamentary, constitutional, republic located at the intersection of Asia and Europe, a meeting point of European, Asian and Middle Eastern cultures. The total population of Turkey is 82,003,882 and the annual population growth rate is 1.2% (TUIK, 2018). The population of people with disabilities is 12.29% of the whole population (Ministry of Family and Social Policies, 2018). The disability population of females (57.2%) is currently more than males (42.8%). In 2019, government spending for education was 11.84% of the total government annual spending (TUIK, 2019).

Turkey adopted the United Nations (UN) Convention on the Rights of Persons with Disabilities in May 2009. Problems related to people with disabilities in Turkey are regulated by the Ministry of Family and Social Policies. The education of people with disabilities is provided by the Ministry of National Education. In Turkey, special education is considered necessary for children up to the age of 18 who show some differences in their physical, mental, psychological, emotional or social characteristics and cannot benefit from the general education services alone (Eres, 2010).

Understanding the history of special education in Turkey will help us to understand the current situation of special education, therefore this review of the literature fills the gap about how history shapes the laws of special education in Turkey. More specifically, the purpose of this literature review is to investigate, synthesize and interpret the history of special education in Turkey. This review of the literature on the history of special education in Turkey and Ottoman Empire explores the following research question:

In what ways does the research literature describe and characterize the history of special education in Turkey and the Ottoman Empire?

Inclusion and Search Criteria

The search criteria employed for the review attended to: (a) types of publication, (b) years of publication (1997-2019) and (c) peer reviewed articles published in scholarly journals. I chose articles published between 1997 and 2019 because there were some important changes in the special education law in 1997. All sources were peer-reviewed articles published in scholarly journals and books. A total 28 references were originally retrieved to which the following inclusion criteria were applied: (a) the study sample included history of special education; (b) special education laws in Turkey; (c) articles were research studies and published in peer-reviewed journals or books; and (d) the studies were published between 1997 and 2019. I reduced references to 14 using the preceding inclusion and exclusion criteria. Scrutiny of these papers' reference sections led to a further seven papers being identified, giving a total of 21. I eliminated a number of these studies which were not related to special education. As a result, I found a total of 15 journal articles and 3 books and 1 dissertation related to my topic.

History of Special Education in the Ottoman Era

The Republic of Turkey was established in October 29, 1923. Before the establishment of modern Turkey, it was part of the Ottoman Empire (1299-1923). There were some important milestones related to the history of special education in Turkey during the Ottoman years. One of them was the founding of the Enderun School for gifted and talented students. The school of Enderun was founded in 1455 for gifted and talented students (Corlu, Burlbaw, Capraro, Corlu, & Han 2010; Melekoglu, Cakiroglu, & Malmgren, 2009; Sabancı, Bulut & Daglioglu, 2017, Eris, Seyfi, & Hanoz, 2008; Senel, 1998; Sirin, Kulaksizoglu, & Bilgili, 2004).

In the Enderun School, people were educated based on their skills and talents and graduates of the Enderun school took an important role in the governance of the country. Senel (1998) asserts "the purpose of the Enderun School system had been to educate young, gifted people to become administrators, scientists and artists" (p. 255). These people enrolled in the school could be promoted to a

position which is equal to vice president of the country, based on their success throughout the program. Khervat Mahmud Pasha, Lutfi Pasha, Ibrahim Pasha, Soqullu Muhammad Pasha, Koprulu Muhammad Pasha, Damad Ibrahim Pasha are examples of people who were educated in this school (Tuzder, 2019). In addition, Corlu, Burlbaw, Capraro, Corlu, and Han (2010) argue “Enderun School was an institution that contributed to the rise and staying power of the Ottoman Empire, and a factor in the staying power of the Empire, which survived for more than four centuries after the conquest of Constantinople in 1453” (p. 20). Therefore, they insisted on an investigation of how the system used in that particular school and how it may help the contemporary education system for people who are gifted and talented (Corlu, Burlbaw, Capraro, Corlu, & Han 2010; Melekoglu, Cakiroglu, & Malmgren, 2009).

There were many criteria to be eligible for receiving education in Enderun School. The criteria for determining a gifted status included a well-built body, beauty, practical intelligent skills, a strong family bond, etc. These criteria have some similarities with the features of gifted people in recent studies (Sirin, Kulaksizoglu, & Bilgili, 2004). Nowadays, although these features are not being used as criteria, they are common in people who are gifted. Moreover, individualized education programs (IEP) were used due to the philosophy which states each individual is different (Sirin, Kulaksizoglu, & Bilgili, 2004). Enderun School was the first school in which gifted students received systematic education in the history of gifted education. Monitoring students and continuity of their personal development based on their skills were essential in this systematic education (Tuzder, 2019).

While providing high quality education in Enderun school for students who were gifted in the Ottoman Empire, people with disabilities were not forgotten. Hospitals were built for treatment of people with disabilities, such as Nureddin Hastahanesi, Fatih Darüçşifası, Edirne Darüçşifası (II. Bayezid Külliyesi), and Gevher Nesibe Şifahanesi. In these hospitals, “music has been used in order to soothe and treat people besides making them relax, feel different emotions, entertain and melancholy” (Sengul, 2008. p. iii or 4). Turkish scholars, Ibni Sina and Farabi claimed that the music is the best way to increase the emotional state of people while treating them (Sengul, 2008; Sezer, 2011; Erer & Atici, 2010). Using music for treating people with disabilities was such an innovative way in the 15th century.

For implementing the music treatment, sound therapy was used in many hospitals included Edirne Sultan II Beyazit Darussifasi. One of the famous explorers Evliya Celebi (1611-1682) who traveled all of the Ottoman Empire, visited these hospitals. In the Evliya Celebi’s notes, using the sound therapy explained as, there was a group of ten young boys who played special instruments, such as violin, panpipe, ceng, lute, flute, and dulcimer, for the patients (Sengul, 2008; Erer & Atici, 2010). According to Sengul (2008), the hospital provided the pinnacle for treatment of people with disabilities; in addition to music, water-sound was introduced to increase the effectiveness of treatment. Furthermore, the notes stated that not only music was used for people with any kind illness and/or disabilities, but also fragrance was used (Erer & Atici, 2010). They believed aromatherapy had an impact on people's health and emotions. Daffodil, swan neck, jasmine, gillyflower, caryophyllids, basil, tulips, and liliun were used in the therapy. In the most of the Ottomans’ hospitals, music and fragrance treatments for people with disabilities were continued until the end of the 19th century.

For the first time in Turkish history, special education became formalized with the opening of a school in Istanbul by the Director of Commerce in 1889 (Akçamete, 1998). This school was established for deaf students and later for blind students. However, the school was closed in 1919 due to the Ottoman Empire losing World War I therefore funds for education could not be provided (Akçamete, 1998). Another major milestone for special education was the establishment of the school for children with hearing impairments by an Austrian named Monsieur Grati (Grati Efendi). He applied to the Ministry of Education for consent to open a special school. The ministry sanctioned his request; the school opened during the 1891-1892 academic school year (Gok, 1954 as cited in Girgin, 2006).

In addition, during the Ottoman era, people with special needs were taken care of in the nursing homes along with elderly people. Moreover, some of them were employed in the areas where they could be useful (Sahbaz, 2018).

In the early 20th century major changes happened in the Ottoman Empire. Therefore, nothing really happened related to special education in those years. The Ottoman Empire joined World War I, siding with Germany and Austria-Hungary. After this war, most of the lands of the Ottoman Empire were occupied, and the empire almost collapsed. In order to regain the lands, the Turkish War of Independence (1919-1923) was fought and won.

History of Special Education in the Republic of Turkey

The Republic of Turkey was established in October 29, 1923. Due to tumultuous times, the only important event about special education during wartime was the opening of the private Izmir Deaf-Blind School in 1921. Between the years of 1924-1950, the school was under the management of the Ministry of Health and Social Aid. After 1950, this school came under the management of the Ministry of National Education. This was an important development for Turkey because it showed that the government accepted that special education was not only related to health, but it also should be part of the formal education (Melekoglu, Cakiroglu & Malmgren, 2009).

Furthermore, Altinokta Korler Dernegi (The Association Six Points for the Blind), the first blind union in Turkey, was established in 1950. The aim of the organization was "...to develop solutions to economic, social, educational, cultural and occupational problems of people who are visually impaired" (Subasioglu, 2001, p. 367). Also, in the same year, the Mitat Enc Basic Educational School for Children with Visual Impairments was founded, which was the first school for people with visual impairments (Subasioglu, 2001). Shortly thereafter, in 1951, special education came under the supervision of the Department of Elementary Education in the Ministry of National Education.

When the Ministry of National Education took over special education in 1951, they realized that there were no professionally trained personnel to teach the students with special needs. Therefore, the first special education department and teacher training program was created in Gazi University, Ankara in 1952. However, the program ended after two years but was reestablished thirty-five years later in 1987 (Melekoglu et al., 2009). Even though it was initially unsuccessful, it was still a significant step in the history of Turkish special education (Girgin, 2006). In 1965, Ankara University also established special education as a 4-year degree program. They opened masters and doctorate programs during the following years.

"*Rehberlik ve Araştırma Merkezi*" (RAM) or, in English, the Guidance and Research Center was established as a part of Turkish educational policy in 1955. The Guidance and Research Centers (RAM) are institutions which are affiliated with the Ministry of National Education and can give free support for families of children with special needs in terms of guidance and psychological counseling. The Guidance and Research Center is an indirect and supportive institution that helps schools with guiding and managing behaviours of children. One of the purposes of this center is to diagnose children with disabilities (Melekoglu et al., 2009).

From 1951 to 1980 special education was under the Elementary Education department, but in 1980 the General Directorate of Special Education was established. Finally, in 1983, special education had its own department called Department of Special Education, Guidance and Counseling Services under the Ministry of National Education (Akçamete, 1998).

Special Education Laws in Turkey

Special Education was mentioned in the constitution for the first time in 1962 in the Primary Instruction and Education Law in Article 12 (No. 222). This law guaranteed that students should have a

right to education based on their educational needs (Senel, 1998). However, this law did not exactly talk about students with special needs.

In 1971, employment opportunities were guaranteed to people with disabilities for the first time by law in Article 50 number 1475. According to this law, employers who have 50 or more workers have to hire minimum 3% of their employees from people with disabilities (Melekoglu et al., 2009).

Moreover, the most significant laws in the Constitution of Republic of Turkey related to special education were established in October 9, 1982. These articles are Articles 42, 50, 61 and 70 (Senel, 1998). Translated into English they read as follows:

Article 42 states that: 'for persons who need special education because of their situation, the state undertakes measures in order to make them useful for the society.' Article 50 of the Constitution states that the young, women and individuals with mental and physical disabilities must be protected within work environments. Article 61 of the Constitution requires that the state takes measures in relation to the protection and adaptation of those individuals with disabilities in the society. Article 70 of the Constitution further requires that each citizen of the country has an equal chance to become a public employee (p. 256).

For the first time, teacher training for special education in Turkey was offered in 1983 at Anadolu University (Cavkaytar, 2006). Initially, it started as a graduate program but later it transformed to a four-year undergraduate program.

The 1990s was a foremost decade for special education because of the reauthorization of laws related to special education. The year 1997 was a key year for special education because a new decree having force of law (No. 573) was adopted from United States and England, with new terms such as inclusion, parent involvement in the educational provisions, early intervention, and Individualized Education Programs (IEP). (Akçamete, 2016). Akkok (2010) stated "With this act, bureaucracy, rules, and regulations for special education in Turkey seemed to be at very similar levels when compared to other countries with well-developed special education services" (p. 274). In 2005, Law 5385 emphasized the importance of not only education, but also the social and daily life of special needs students. In 2006, Special Education Services Regulation was reorganized and private special education institutions were taken from Ministry of Family and Social Policies and connected to the Ministry of National Education (Akçamete, 2016). Finally, in 2009 and in 2012 the law 5378 made improvements on special education. New born baby, early childhood and every period of childhood were located constitution for the first time. Moreover, this law mentioned monitoring of physical, auditory, sensory, social, spiritual, and mental development. Ministry of health became responsible for early detection of genetic diseases.

CONCLUSION

The development of education for exceptional students has a long history in Turkey. In the days of the Ottoman Empire, people with disabilities were considered, but specifically, gifted students because of their unique characteristics. Many hospitals such as Darussifahane were opened to provide what people with disabilities need such as food and treatments for people with disabilities. As Ottomans' Sultans were educated in terms of the Islamic thought, which stressed helping people is important, they came to realize that their weak, poor, and ill people were their responsibility. On the other hand, Enderun School was opened for a specific purpose, to educate gifted people to ensure the existence of Turkey. The development of special education took approximately four hundred years.

In modern Turkey, there were many attempts to provide special education services for children with disabilities. Some were successful while others were not. This was especially true in 2000s when there were significant attempts to improve special education. Such efforts were opening new special education schools, implementing inclusive education, and developing special education programs to develop special educators in the universities. Today, twenty-five state universities and seven private universities have special education programs as they prepare pre-service special education teachers.

Two major problems remain in Turkey in terms of special education implementation. The first issue is the shortage of special education teachers to educate students with special needs. Even though

there are 25 universities to prepare teachers for special education, these are short term certification programs for teachers outside of special education field (Ozyurek, 2008). These short-term certificate programs could not adequately create well equipped teachers. The second problem is the inclusion of students with special needs in the basic education classroom. There are major shortcomings in teachers' applications about integration and inclusive education (Sarı, 2003) which still need to be addressed. Perhaps as the history continues to unfold, universities can partner with schools to explore the best ways to implement these ideas.

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Fathers and Their Young Children's Self-Perception, Levels of Being Liked by Their Peers and Prosocial Behaviours

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Abstract

The aim of the study is to investigate the predictive effect of fathers' supporting development tasks of their children on their self-perception, level of being liked by their peers and their prosocial behaviours. The sample group of this study conducted by the correlational survey model consisted of 127 father and 127 children in the age group of 5-6 years attending preschool education in Denizli province, Turkey. In the study, the data were collected with the help of Scale of Supporting Development Tasks, Ladd and Profilet Child Behaviour Scale-Prosocial Behaviour Subscale, Peer Rating based Sociometric Technique, and Self-Perception Profile for Young Children. According to the results of the study, fathers' supporting development tasks of their children predicted the children's self-perception, the level of being liked by their peers, and their prosocial behaviour levels in a statistically significant way ($p < 0.05$).

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INTRODUCTION

Parenting is a cultural product on the one hand; and forms the culture on the other hand; therefore, it is the most basic tool of human-culture relationship (Kağıtçıbaşı, 2012). In this regard, culture has characteristics of being the determinant of fatherhood perception in some cases (Gander & Gardiner, 2001). Related studies also support the subject. White (1994) determined that fathers followed a path according to the fatherhood roles of their own fathers when they created fatherhood role perception. The results of the study conducted by Telli and Özkan (2016) also showed that fathers' education, working condition, occupation, income status perception, family type, requesting the child receiving education currently, age of becoming a father for the first time, the number of children and state of receiving information about fatherhood affected the fatherhood role perception. In line with the father to be seen as the main authority figure at home in the traditional structure of Turkish society; this result was interpreted as the fathers used less affection terms to their children with the anxiety of losing authority. According to Harris and Morgan (1991), fathers involve more in the boys' lives. Fathers feel responsible for the boys' gender development. They perform joint activities with the boys. Therefore, they spend more time with the boys compared to the girls. When Yablonsky (1991) explains the relationships between fathers and sons, he mentions that father is also as important as mother. In addition, he also stated that sons take their fathers as a model for learning how to establish a relationship with their own kids.

With the changing social life, value judgments and women's entrance into business life, the importance of the father in the child's life becomes more comprehensible (Cabrera et al., 2000; Crespi & Ruspini, 2015). Recent studies on fatherhood and fatherhood perception made important contributions in presenting fathers' importance in development of children more clearly (Dermott, 2008; Lawhon, 1997; Maridaki Kassotaki, 2000; Marissa & Ishaq, 2012; Miller, 2011; Nugent, 1991; Paschal, Lewis Moss & Hsiao, 2011; Rossini, & Loiacono, 2013). In this context, fathers' involvement in development and education of their children influence their children's development positively in various aspects. Children of fathers who are involved in their education develop better (Ishii-Kuntz, 1995; McBride, 1989; McBride & Mill, 1993) and show more positive adult-child relationships and less behavioural problems (as cited in Kimmel, 2003) than the children of fathers who are not effectively involved in terms of basic intellectual, academic and language skills as well as psycho-social adaptation and skills of independently acting.

Father has an important role in the child's social - emotional development (Barnett & Baruch, 2015; Marsiglio, Day & Lamb, 2008). In this context, children who are connected to their parents with confidence can be more social. In addition to the contribution of father factor in the family to the child to learn social skills quicker, it is a determinative factor for children to establish friendship relations in social life (Lieberman, Doyle & Markiewicz, 1999). In McDonald's study (1988), it was determined that the children who did not receive much attention from their peers aged between three and five years demonstrated less love to their fathers compared to the other children. This result shows that the stimuli provided by the fathers to the children are quite valuable (Kandır & Alpan, 2008). Lamb (2000) stated that depending on the increase of the time fathers spend with their children, roles they were exhibiting in a social relation are diversified, which enriched the father-child relationship (as cited in Gürşimşek, Kefi & Girgin, 2007). In addition, it is known that fathers' involving in development of their children supports children's cognitive development and reduces the behavioural problems that may arise (Amato & Rivera, 1999; Nugent, 1991). According to Güngörmüş-Özkardeş (2015) relation form of father with the child being different than mother's and difference in the roles they have in the society and family cause father to affect the child in a different way from the mother. In other words, parents' roles in child's education

support and complete each other; therefore, participation of both into the educational process must be ensured (Gürşimşek, Kefi & Girgin, 2007).

Children learn social behaviours largely by taking their parents as a model. Interactions that took place between child, mother and father are known to affect also the child's self-perception. According to Coopersmith, self-concept is a structure developed on the person's interests, abilities, and objectives. This structure is shown with "I" symbol. To put it another way, it means the person's thoughts about, against himself (as cited in İnanç, 1997). According to Franzoi, self can be defined as a social entity having characteristics like establishing symbolic communication and self-awareness acquired through socialization and maturation. Since human cannot grow detached from the society and exist only in a social asset, self is also a social entity (as cited in Sümer, 1999). Self-concept draws a framework for the perception and organization of our own life experiences. At the same time, this concept is a large and systematic structure we use to understand others' feelings, thoughts and behaviours (Markus, Moreland & Smith, 1985).

In the study conducted by Albukrek (2002); as long as the family members have negative perception regarding father's behaviours towards the child, child's self-concept is determined to be negatively affected by this. In their approach developed for strengthening the self, Kwan, Kenny, John, Bond and Robins (2004) stated that self-perception has also an interpersonal dimension. In the detailed analyses carried out about them, it was observed that in case that the child perceives father's attitude negatively, self-concept is directly affected. In the case that the children perceive their relation with their fathers positively, self-perception is observed to develop positively (Ünüvar & Senemoğlu, 2010). In addition, fathers' involvement to the children's education and care improve children's emotion regulation skills (Downer & Mendez, 2005).

Social-emotional development, child's self-expression, and being able to control his/her emotions is to be in piece and in harmony with himself/herself and environment (Kandır & Alpan, 2008). According to Kimmet (2003), positive relationship between parents' child-rearing attitudes and values affects the child's social and emotional development positively. In their study, Rubin et al. (1995) found that emotional disorder in preschool children results in social maladjustment (as cited in Kandır & Alphan, 2008). According to Sailor (2004) child gains most of his/her social and emotional characteristics in the family. For a child to gain social competence is realized through imitation of adults and his/her peer models. Mothers and fathers indirectly affect peer group, where they don't take part directly, owing to child-rearing attitudes, communication forms they establish with their children and the family structure. Similarly, children can affect the family relations by their behaviour and attitudes formed by the peer interactions. Peer group and parents have various indirect effects on each other through children (Gülay-Ogelman, 2018). In family relations where fathers are also effective, children's cognitive structure, self-perception, social competence, and emotional maturity develop (Santrock, 2011).

According to Ladd, Kochenderfer and Coleman (1996), preschool peer relationships are determinant for peer relationships during preschool period and in the following years, social and emotional adjustment. Rejection by peers in preschool period, and experiencing peer's violence are determined to be related with depression, loneliness, anxiety and rejection by peers in the coming years (Boulton & Underwood, 1992). Social status, one of the basic concepts related to peer relationships, indicates the degree of acceptance and being liked of the child by the peer group (Gülay-Ogelman, 2018). According to Kaya (2004), social status, sociometric status, social acceptances, and peer acceptance in the peer group in which the child is in are also called as peer status. Sociometric status is the child's social status or social acceptance condition in the peer group. Social acceptance includes two different dimensions as social popularity (for the child to be liked by his/her peers) and social rejection (not being liked by peers) (Kaya, 2004). According to Beyazkürk, Anlak and Dinçer (2007) and Gülay-Ogelman (2018), peer acceptance and rejection show the children's social status and thus peer relationships are evaluated.

While defining social liking degree the child see in social interaction as popularity, Hartup (1989) states that concept of status or social position is a general concept containing popularity.

Social status in preschool period is a concept that should be addressed in terms of developing the children's social skills and contributing their cognitive, emotional and social development. Therefore, parents and teachers should be in cooperation to improve the child's social status (Gülay, 2009).

In brief, fathers' supporting development of their children is observed to have numerous positive effects on their children. It is seen that they can affect particularly the children's self-perception, peer relationships, and prosocial behaviours. When the studies conducted in Turkey are examined, studies on mothers about preschool children are more common than those studying fathers. Studies examining the fathers' effects on preschool children have increased especially in the last decade (Evans, 1997; Kaya, 2016; Kuruçırak, 2010; Şahin, 2012; Telli, 2014; Türkoğlu, 2013; Ünlü, 2010; Ünüvar, 2008, Yalçınöz, 2011). However, these studies are not at sufficient level. The fact that there is only one Turkish assessment instrument measuring fathers' development tasks on their children has a part in the reason behind why the number of related studies is limited. In developing countries such as Turkey, as a result of more active participation of women in business life, fatherhood identity and fathers' importance as a role model in child rearing have increased. Number of the related studies should be increased in terms of especially the developing countries having a patriarchal family structure like Turkey. From this point of view, the study is thought to provide contribution to the literature in terms of revealing the profile in a developing country.

Purpose of the study

The aim of the study is to investigate the predictive effect of fathers' supporting development tasks of their children on their self-perception, being liked by their peers and prosocial behaviours. Research questions of the study are as follows:

- Is there any predictive effect of fathers' supporting development tasks of their children on children's self-perception?
- Is there any predictive effect of fathers' supporting development tasks of their children on children's prosocial behaviours?
- Is there any predictive effect of fathers' supporting development tasks of their children on children's being liked by their peers?

METHOD

Study design

This study was conducted by using relational descriptive model to examine the predictive effect of fathers' involvement in development of their children's on self-perception, prosocial behaviour, and preschool children's level of being liked by their peers. Descriptive design allows quantitative or numerical description of tendency, attitudes and opinions throughout a population through the studies conducted on sample group selected in the population (Creswell, 2013). Studies investigating the relationships and connections between different variables are expressed as correlational research (Büyüköztürk et al., 2014). Studies aiming to describe a situation related to a past or current subject or event in terms of characteristics such as interest, skills, abilities, attitudes, behaviours etc. in accordance with the participants' opinions are called as survey study (Büyüköztürk et al., 2014; Karasar, 2011).

Participants

The sample group of the study consisted of 127 fathers and 127 children in the age group of 5-6 years attending preschool education in 2016-2017 academic year in Pamukkale and Merkezefendi districts of Denizli in Turkey. 70 children (55.1%) were girl and 57 (44.9%) were boy. 66 (52.0%) of the children were 5 years old and 61 (48.0%) were 6 years old. All the children lived with their parents and showed normal development characteristics. 2 (1.6%) of the fathers were illiterate, 4 (3.1%) were literate, 25 (19.7%) were primary school graduates, 20 (15.7%) were secondary school graduate, 35 (27.6%) were high school graduate, and 41 (32.3%) were university graduate. In terms of the employment, 1 (0.8%) of the fathers were unemployed, 20 (15.7%) were civil servant, 67 (52.8%) were workers, 35 (27.6%) were self-employed, and 4 (3.1%) were retired.

Data Collection Tools

Development Tasks Supporting Scale (DTSS): was developed by Ünüvar and Şahin (2011) for fathers with children aged between 3-6 years attending kindergarten. Validity and reliability studies were conducted on the 36-item trial form of the scale. For the validity study, expert opinions, explanatory and confirmatory factor analysis, bottom and top 27% group discrimination and item total correlation coefficients were calculated. At the end of explanatory factor analysis, a structure with 17 items and five dimensions was obtained. Five dimensions explain 64.46% of the total variance. As a result of confirmatory factor analysis (CFA), it was determined that compatibility statistics of the scale were [RMSEA (0.03), RMR (0.07) and SRMR (0.05), GFI (0.93), AGFI (0.89), NNFI (0.98), CFI (0.98)] near perfection. Cronbach's alpha value of the reliability study of the scale was calculated as 0.84 and re-tests' reliability was 0.86. High score obtained from the total scale indicates that the child is supported in development fields whereas low score indicates that the child is not supported in development fields. Minimum 17 scores and maximum 119 scores can be obtained from the scale. Example from the items on the scale can be given as: "I answer his/her questions by making explanations that he/she can understand" (Ünüvar & Şahin, 2011). Internal consistency coefficient of DTSS was determined as .83 in this study.

Ladd and Profilet Child Behaviour Scale-Prosocial Behaviour Subscale: The scale developed by Ladd and Profilet in 1996 in order to evaluate preschool children's relations with their peers at school and in their lives in accordance with opinions of preschool teachers (cited in Gülay, 2008) was adapted to Turkish by Gülay (2008) by performing language equivalency. Items are evaluated by the teachers as "Not Proper", "Sometimes Proper", "Absolutely Proper". *Ladd and Profilet Child Behaviour Scale* consists of six subscales and 44 items. In this study, Prosocial Behaviour Subscale (10 items) was used. The internal consistency coefficient of the scale during its Turkish adaptation studies is .92. Total item correlations in prosocial behaviour subscale had a value between .60 and .70 (Gülay, 2008). Internal consistency coefficient of the subscale within the scope of this study was determined as .87.

Sociometry Technique Based on Peer Rating: In this technique, each child evaluates his/her classmates in terms of a requested criterion. This technique was developed by Smith, Cowie and Blades (2005). Thus, each member of the group can be evaluated by his/her peers (Smith, Cowie & Blades, 2005). In this study, the questions of "How much do you like to play with your friend in the picture?", "How much do you like to do activities with your friend in the picture?", "How much do you like to go on a trip with your friend in the picture?", "How much do you like to sit side by side with your friend in the picture?" were asked to the children and they were requested to choose one of the options as "I love it.", "I like a little.", "I don't like.". The opinions "I love it.", "I like a little.", and "I don't like." are scored as 3, 2, and 1, respectively. Thus, children evaluated all their peers based on a certain criterion. With three-point Likert type evaluation, level of each child to be liked by their peers was determined. The children's responses were recorded in the sociometric scoring list prepared before in accordance with the class list.

Scores of the children for being liked by their peers according to peer's opinions were standardized in their own groups (Converted to Z score). It was adapted to Turkish by Gülay (2008).

Self-Perception Profile for Young Children: In order to determine the children's self-perception, "Self-Perception Profile for Young Children" developed by Harter and Pike (1984) and adapted to Turkish by Önder (1997) was used. Assessment instrument is composed of four subscales (24 items) as cognitive competence perception, physical competence perception, perception of acceptance by peers, perception of acceptance by mother. Each item is scored on an ordinal type scale ranging from 4 (highest level of perceived self-competence) to 1 (lowest level of perceived self-competence). Each item consists of two juxtaposed pictures. Each picture couple depicts an activity (running or playing outside with friends) involving the opposite levels of competence and social acceptance perception. The scale has two different forms for girls and boys. When assessment instrument was adapted into Turkish culture, it was evaluated by 5 preschool teachers and 2 school psychologists. Then, the measurements regarding the validity and reliability of the assessment instrument were performed. In line with this, Cronbach Alpha coefficient of the scale was calculated as .89. In addition, Cronbach Alpha coefficients are calculated as .87 for the age of 4 years, .91.6 for the age of 5 years, and .88 for the age of 6 years. The reliability coefficients measured by using the same technique for the subscales vary from .64 and .78 when all age groups are evaluated together. The internal consistency coefficients are calculated as .73 for cognitive competence perception, .64 for physical competence perception, .78 for perception of acceptance by peers, and .75 for perception of acceptance by mother. Internal consistency coefficients of the scale showed similarities with those of the English form, for example Cronbach Alpha coefficient of English form was calculated as .88 for all tests, .86 for the age group of 4 years, and .89 for the age group of 5 years. The scale consisting of twenty-four pictorial items is applied to the children individually and it took approximately 15 minutes to complete the profile (Önder, 1997). The internal consistency coefficient of overall scale was determined as .82 in this study.

Data Collection Process and Data Analysis

Development Tasks Supporting Scale was filled by Children's fathers. Prosocial Behaviour Sub-scale was filled separately for each child by their preschool teachers. Sociometry Technique Based on Child Rating was administered by the researchers conducting individual interviews with children in a quiet room other than the class environment. Each child of the group can be evaluated by his/her. In this study, the questions of "How much do you like to play with your friend in the picture?", "How much do you like to do activities with your friend in the picture?", "How much do you like to go on a trip with your friend in the picture?", "How much do you like to sit side by side with your friend in the picture?" were asked to the children and they were requested to choose one of the options as "I love it.", "I like a little.", "I don't like.". Self-Perception Profile for Young Children is conducted by interviewing with the children individually in a quiet room other than the class environment. It lasted for approximately 15-20 minutes.

In data analysis, Simple Linear Regression Analysis Technique was applied. The Simple Linear Regression analysis was performed to determine the predictive effect of fathers' supporting development tasks of their children on preschool children's being liked by their peers, self-perception and *prosocial behaviour levels*.

FINDINGS

Table 1. *Result of Simple Linear Regression Analysis concerning the predictive effect of fathers' supporting development tasks of their children on preschool children's level of being liked by their peers.*

	R	R ²	F	Std. E.	β	t	p
Fathers' supporting development tasks of their children	.234	.055	7.247	.005	.234	2.692	.008*
Children's level of being liked by their peers							

* $p < 0.05$

When Table 1 was examined, a statistically significant positive correlation was observed between scores of fathers' supporting development tasks of their children and being liked by their peers level scores of preschool children ($R = .234$, $R^2 = .055$, $F = 7.247$, $p < 0.05$). Besides, fathers' supporting development tasks of their children predicted the preschool children's level of being liked by their peers in a statistically significant manner and fathers' supporting development tasks of their children explained 0.55% of total variance of children's level of being liked by their peers.

Table 2. *Result of Simple Linear Regression Analysis concerning the predictive effect of fathers' supporting development tasks of their children on preschool children's self-perception levels.*

	R	R ²	F	Std. E.	β	t	p
Fathers' supporting development tasks of their children	.270	.073	9.866	.050	.270	3.141	.002*
Children's self-perception							

* $p < 0.05$

When Table 2 was examined, a statistically significant positive correlation was observed between scores of fathers' supporting development tasks of their children and preschool children's self-perception ($R = .270$, $R^2 = .073$, $F = 9.866$, $p < 0.05$). Accordingly, fathers' supporting development tasks of their children explained 0.73% of total variance of preschool children's self-perception level. Fathers' supporting development tasks of their children could be asserted to predict the preschool children's self-perception level in a statistically significant manner.

Table 3. *Result of Simple Linear Regression Analysis concerning the predictive effect fathers' supporting development tasks of their children on preschool children's prosocial behaviour levels.*

	R	R ²	F	Std. E.	β	t	p
Fathers' supporting development tasks of their children	.237	.056	7.440	.028	.237	2.728	.007*
Children's Prosocial Behaviours							

* $p < 0.05$

When Table 3 was examined, a statistically significant positive correlation was observed between scores of fathers' supporting development tasks of their children and preschool children's prosocial behaviour scores ($R = .237$, $R^2 = .056$, $F = 7.440$, $p < 0.05$). Accordingly, fathers' supporting development tasks of their children explained 0.56% of total variance of the children's prosocial behaviour level. Fathers' supporting development tasks of their children could be asserted to predict the preschool children's prosocial behaviour levels in a statistically significant manner.

DISCUSSION & CONCLUSION

When the results of the study were examined, it was seen that, fathers' supporting development tasks of their children significantly predicted children's level of being liked by their peers. In this context, a statistically significant positive correlation was determined between fathers' supporting development tasks of their children and preschool children's level of being liked by their peers. In this regard, fathers' supporting development tasks of their children can be accepted as a variable to be effective on levels of being liked by their peers. When the results of the studies conducted in the literature were examined, fathers' approach to their children and their involvement levels to their children's lives are seen to be effective on children's social status. In a study (Çabuk, 2013), a positive significant correlation was determined between children's social status levels and the levels of fathers' affection terms. In the same study (Çabuk, 2013), a negative significant correlation was determined between children's social status levels and fathers' total acceptance-rejection scores. As the fathers' total rejection level increased, a decrease was observed in level of children's rejection by their peers. When the total acceptance level increased, an increase was observed in children's acceptance level (Çabuk, 2013). In the study conducted by Decovic and Janssens (1992) to examine the correlation between parents' child rearing attitudes and social status of 6-11 year old children, they stated that while popular children's families had an authoritative/democratic attitude, rejected children's parents had authoritarian/ restrictive attitude.

In the study investigating the effects of communication forms in the family on children's social status (Black & Logan, 1995), 24-60 month-old 43 children, their parents and peers participated. In the study, it was stated that the communication styles of popular and rejected children in family and peer environment were different. A difference was also observed between the communication styles of controversial and rejected children. It was stated that parent-child communication is positively or negatively reflected on the child's relationships with his/her peers, similarities can be seen between parent-child communication and peer-child communication. It was determined that while the rejected children's families respond their children's requests late, popular children's families approach it more sensitively. Additionally, the parents of the rejected children imposed the condition of fulfilling their children's wishes in return for fulfilling their own wishes.

Another result of the current study was that fathers' supporting development tasks of their children predicted the preschool children's self-perception levels in a statistically significant way. In this regard, fathers' supporting development tasks of their children increased the level of the children's self-perception significantly. In this regard, when the studies conducted on fathers and children's self-perception were examined, this result could be asserted to coincide with the literature. In fact, in their study, McGuire and McGuire (1982) stated that young children's self-perceptions were shaped by their parents and the other members of the family more compared to elder children. Sulzer, Azdroff and Mayer (1977) expressed that fathers' negative approach could be harmful to children's self-concept (as cited in Gander and Gardiner, 2001, p.302). Fathers' attitudes and behaviours towards children can affect the children's self-concept. Jogawars (1982) stated that self-concept of the children whose fathers accept their children could be higher compared to the children rejected by their fathers.

There was a significant correlation between the children's self-perception and their perceived father behaviours concerning the care provided to them, helping them to achieve their objectives, providing consistency for them, and clarity of discipline standards (Kehale, 2002). In a study conducted by Albukrek (2002), as the family members had negative perception regarding fathers' perceptions towards their children, child's self-concept was determined to be also affected by this.

In the study, fathers' supporting development tasks of their children predicted the children's prosocial behaviour levels in a statistically significant way. Children mostly gain their social and emotional characteristics in the family (Sailor, 2004). Fathers' establishment of a warm relationship with their children supports children's prosocial behaviours and helps them to develop a self-control personality; whereas, hostile relationship tends to support aggression (Gander, & Gardiner, 2001). Children encountering with parents' prosocial behaviours can reflect this condition to their social environment (Derman & Başal, 2013). Accordingly, it can be asserted that results of the studies in the literature coincided with the results of this study.

In the study, the fathers were observed to be effective in young children's personal and social developments. It is also expressed in related studies (Black, Dubowitz & Starr, 1999; Harris, Fustenberg & Marmer, 1998) that the nature of negative father-child relationship may be associated with behavioural problems, more psychological distress, risky or antisocial behaviours.

When the study results were examined, fathers' supporting development tasks of their children predicted preschool children's social status levels, self-perception and prosocial behaviours in a statistically significant way. In this context, a positive correlation was determined between fathers' supporting development tasks of their children and the related variables. According to the results of the study, following suggestions can be involved for parents, educators and the future studies:

Parents having preschool children may participate in necessary seminars and trainings in terms of supporting the children's development. In addition, through these seminars/trainings, they can have information about establishing correct communication with the children and developing the children's social adaptation and skills. Parents can spend quality time by having knowledge about activities appropriate to child development with the help of educational materials such as magazine, book prepared for children. They can prepare environments for the children to spend time with their peers. Studies on evaluating and supporting the children's social status can be conducted. Activities intended for families can be sent in order to ensure maintenance of social adaptation and skills at home. In order to support children's social development, activities where the children will be interacting with one another can be selected during in-class/out-of-class activities. In this study examining fathers' supporting development tasks of their children, the other factors like mother, teacher instead of father can be examined. In addition to sociometry, studies in which the data from different sources like observation and teacher's view are collected can be conducted. Furthermore, experimental and longitudinal related studies can be performed. Trainings about parent education especially about the father can be developed.

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Using Kahoot! as a Gamified Formative Assessment Tool: A Case Study

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Abstract

Digital assessment tools, or electronic classroom response systems, can be used effectively for formative assessment purposes. They can provide teachers with regular and instant feedback about learners' progress to detect and fix the learners' mistakes and misconceptions sustainably in an entertaining way. This case study intended to report researchers' experiences and evaluations about using a popular gamified digital exam platform (Kahoot!) used for formative purposes in a limited context of prospective teacher education program. Both qualitative and quantitative data were collected from 88 prospective teachers from a variety of programs/departments attending a 25-credit two-semester teacher training certificate program in Turkey. Results of the study suggested that participants were highly positive about using the digital exam platform as a gamified formative assessment tool from attitudinal and pedagogical aspects. It was concluded that Kahoot! is quite promising in providing an effective formative assessment platform producing favorable practical, pedagogical, and affective outcomes.

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INTRODUCTION

While formative assessment collects data during instruction to monitor how well learner progress, summative assessment collects data after instruction to make judgments about grading, certification, and evaluation of progress (Bloom, Hastings, and Madaus, 1971). Formative assessment aims at detecting and fixing the learning deficiencies and needs of students throughout the learning process. Formative assessment uses traditional paper and pencil quizzes, revision tests, exercises, question-answer sessions etc. However, as the learning approaches have become digitalized (e.g. e-learning, mobile learning, flipped learning, ubiquitous learning etc.), it has become inevitable for the measurement and assessment instruments to become digitalized, too. The extensive availability of internet has introduced innovative assessment systems like electronic exams (e-exam), web-based exam or online tests (Başol, Kocadağ Ünver, & Çiğdem, 2017), which are commonly referred as classroom response systems. With this transformation, such Web 2.0 tools as Socrative, Kahoot!, Plickers, Google Forms, Quizizz etc. have become widely used in education.

Considering the formative assessment value of electronic exams, it can be said that thanks to regular and instant feedback facility learners' progress can be monitored sustainably and their mistakes and misconceptions can be detected and fixed duly. Due to the funny and competitive nature of these platforms, they are also commonly referred to as gamification tools (Ucar & Kumtepe, 2017). In higher education using gamification has increased considerably over the last decades (Varannai, Sasvári, & Urbanovics, 2017). One of the most popular game-based learning platform used in education is Kahoot! (Ismail & Mohammad, 2017). Kahoot! is also preferred as a common formative gamification tool for formative assessment purposes (Alsancak Sırakaya, 2017; Taşkın & Kılıç Çakmak, 2017). However, there is limited research conducted both in Turkey and abroad about gamification particularly through popular digital response systems in education (Özkan & Samur, 2017; Varannai, Sasvári, & Urbanovics, 2017). Thus in this study, it was intended to report researchers' experiences and evaluations about using Kahoot! as a gamified formative assessment tool in a limited context of prospective teacher education program.

Literature Review

Formative and Summative Assessment

Traditionally there are two approaches in educational assessment: formative and summative. Formative assessment is an integral part of teaching, intends to promote learning, and takes into account the progress of each individual, while summative assessment involves quality assurance procedures and takes place at certain intervals when achievement has to be reported (Harlen & James, 1997). Formative assessment collects data during instruction to monitor how well learner progress, however summative assessment collects data after instruction to make judgments about "grading, certification, evaluation of progress, or research on effectiveness" (Bloom, Hastings, and Madaus, 1971, p. 117).

The process-based approach adopted by the classical formative assessment is comparable to the contemporary alternative or complementary assessment approaches. This is because formative assessment aims at detecting and fixing the learning deficiencies and needs of students throughout the learning process. As the main focus is learners pace of development, rather than the product, grading is not a priority as in summative assessment. Through formative assessment, teachers not only monitor how learners progress, but also they reflect on the excellence of instruction they provide finding ways to improve it. A variety of traditional measurement tools and methods are used for formative assessment purposes including paper and pencil quizzes, revision tests, exercises, question-answer sessions etc.

However, as the learning approaches have recently become more and more technology-based and digitalized (e.g. e-learning, mobile learning, flipped learning, ubiquitous learning etc.), it has become inevitable for the measurement and assessment instruments to become digitalized, too.

The rise of digital assessment tools

Enhancing learner interaction, motivation and active participation has been facilitated by internet assisted instructional applications, which provide the teachers with the opportunity to make instant assessment and get instant feedback about learners' performance. The extensive availability of internet has introduced innovative assessment systems like electronic exams (e-exam), web-based exam or online tests (Başol et al., 2017). These systems are commonly referred as classroom response systems. Classroom response systems use "wireless handheld devices like smart phones and tablets to collect and aggregate student responses instantly then display the aggregated results in the class and gather immediate feedback in response to questions posed by instructors" (Chaiyo & Nokham, 2017, p. 178). With this transformation, such Web 2.0 tools as Socrative, Kahoot!, Plickers, Google Forms, Quizizz etc. have become widely used in education.

These digital assessment tools allow students to respond promptly to questions via computers, smart phones or tablets, providing teachers with the opportunity to offer instant feedback for individual or group evaluation in a cheerful and competitive way (Yilmaz, 2017). Moreover, a large spectrum of item formats including true-false, multiple-choice, matching, ordering, cloze-test etc. can be developed and administered easily through online portals (Başol et al., 2017). While multiple-choice tests, for example, have been around for a long time, apps like Plickers, Google forms and Kahoot have made them more interactive and engaging in the classroom (Howell, Tseng, & Colorado-Resa, 2017).

Considering the formative assessment value of electronic exams, it can be said that thanks to regular and instant feedback facility learners' progress can be monitored sustainably and their mistakes and misconceptions can be detected and fixed duly, slow learners or underachievers can be supported better by the teachers (Başol et al., 2017). Moreover the instant feedback can allow instructors to tailor their instruction in line with students' understanding and surveys can allow learners to participate various decision making procedures anonymously (Plump & LaRosa, 2017).

Furthermore, such digital applications can be said to match with the needs and interest of the young learners, commonly called as digital natives (Başol et al., 2017). As a matter of fact, Digital natives can no longer be motivated with traditional instructional tools (Premarathne, 2017), and this new generation grows more familiar with the technology (Özdemir, 2017). This generation has been born to a digitalized world thus smart tools are inevitable parts of their daily life (Varannai, Sasvári, & Urbanovics, 2017).

Digital assessment tools and gamification

Digital games engage and motivate learners in meaningful and fun activities during the learning process (Dellos, 2015). Due to the funny and competitive nature of these platforms, they are also commonly referred to as gamification tools (Ucar & Kumtepe, 2017). Iaromenko (2017, p. 128) defines gamification "as the application of game elements into education which makes it more relaxed, fun and comfortable for students." In higher education using gamification has increased considerably over the last decades (Varannai, Sasvári, & Urbanovics, 2017). Main reason for the popularity of gamification in education can be attributed to its positive effects on motivation, on higher order cognitive skills including, e.g. problem solving and critical thinking, or on social skills like cooperative work skills (Özkan & Samur, 2017). Another reason for the popularity of gamification is because it is "one of the most effective strategies to break with routine and boredom and to encourage active learning." (Iaromenko, 2017, p. 131). It can be stated that gamification motivates people to learn more using these applications, however the bulk of research

on gamification and its impact on learning is very limited both in Turkey and abroad (Özkan & Samur, 2017; Varannai, Sasvári, & Urbanovics, 2017)

One of the most popular game-based learning platform used in education is Kahoot! (Ismail & Mohammad, 2017). Kahoot! is also preferred as a common formative gamification tool for formative assessment purposes (Alsancak Sırakaya, 2017; Taşkın & Kılıç Çakmak, 2017). In their studies with prospective preschool teachers Bicen & Kocakoyun (2017) found participants preferred Kahoot! the most (39%) from among the educational gamification tools like ClassDojo, Classcraft and Socrative. It can transform multiple-choice questions into exciting, interactive, game-based activities (Howell, Tseng, & Colorado-Resa, 2017).

Kahoot!

The idea for Kahoot! originally belongs to a Norwegian Computer Science and Game Technology professor Alf Inge Wang, and the technology is based on the master's degree research of Morten Versvik, who is the co-founder of Kahoot! and Wang's student for (Kahoot, 2018). Kahoot! is a free, online gamification tool and learning platform, where educators can develop and share interactive quizzes, surveys, discussion topics and jumble games in the classroom with unlimited number of participants (Atilano, 2017).

Kahoot! is a dynamic platform, gradually improving itself. One can open a Kahoot! account on <https://create.kahoot.it> web page for free. Using 'create' option, now you can develop four types of Kahoot games: quiz, discussion, jumble and survey. It allows the users to add pictures or YouTube videos to Kahoot! projects. It is also possible to make the project available for everyone or keep it for yourself only. You can duplicate and edit hundreds of ready Kahoot projects using the discover option. While preparing a Kahoot quiz you can set optional time limits (5, 10, 20, 30, 60, 90, 120, seconds) for students to answer the question or award more points to students who answer question correctly faster than other to make the game more competitive. Before starting to play a quiz in the classroom, teacher uses her free account on <https://create.kahoot.it> and click on 'play' option to start the game in either classic (player vs. player) or team (team vs. team) mode. The screen must be projected on a large screen. Next the students must connect to kahoot.it on their mobile devices to insert the unique pin code provided on the screen. Students are given four options at most, represented by four symbols: a triangle, a diamond, a circle and a square. All students are required to tick on the relevant symbol no later than the pre-set time limit ends. Following screen shows the distribution of answers across the options with a tick or ticks on the correct one(s).

Following is a list of combination of advantages attributed to Kahoot (Ismail & Mohammad, 2017, p.24; Plump & LaRosa, 2017, p.157): 1. Freely available for anyone to use, 2. Easy for instructors to learn and user-friendly, 3. Multiple types of Kahoot, i.e. Quizzes, discussion questions, or surveys, 4. Compatible with smartphones, tablets, or ordinary computers; 5. The response time for each question is flexible and adjustable according to students' needs, 6. Simple process for students (no account registration or downloading of application), 7. Music and colours add to students' excitement and energy, 8. Real-time results help instructors provide clarification when needed, 9. Instructors can download, review, and save student results, 10. Students can take quizzes multiple times

This free online learning platform has been popularized very fast around the world with more than 30 million users (Plump & LaRosa, 2017, p. 151). However, there is limited research about the strengths or limitations of this or similar popular digital response systems in education as compared to the traditional paper-pencil assessment tools or methods.

A comprehensive review of previous researches has revealed positive results about the impact of digital assessment tools in general and Kahoot! in particular, either based on students' views or experimental studies (Alsancak Sırakaya, 2017; Atilano, 2017; Barnes, 2017; Budiati, 2017; Başol, Kocadağ Ünver, & Çiğdem, 2017; Bolat, Şimşek, & Ülker, 2017; Chaiyo & Nokham, 2017; Iaremenco, 2017; Ismail & Mohammad, 2017; Küçük, 2017; Medina & Hurtado, 2017; Omar, 2017; Plump & LaRosa, 2017; Premarathne, 2017; Zengin, Bars, & Şimşek, 2017; Yılmaz, 2017; Yapıcı and Karakoyun, 2017; Walsh, 2017; Varannai, Sasvári, & Urbanovics, 2017; Ucar & Kumtepe, 2017; Taşkın & Kılıç Çakmak, 2017;). An overview of the reasons for this positive impact indicated that interactivity created by Kahoot makes quizzes more engaging, interesting, motivating (Omar, 2017). It creates a fun and competitive environment which promotes learning (Deloos, 2015). The competitive atmosphere created by Kahoot! enhances the learner engagement (Barnes, 2017). It serves best to the purposes of formative assessment during the lesson (Barnes, 2017; Zengin, Bars, & Şimşek, 2017). It is user friendly and benefits both educators and students (Deloos, 2015).

However, some research findings also reported criticisms against Kahoot. For example, Omar (2017) evaluated the effectiveness of Kahoot! activities in terms of feedback quality. As a result she found that performance ranking is not based on clear guidelines, which actually do not necessarily relate to critical thinking skills; it does not deliver high-quality information to students about their learning; and it does not encourage teacher and peer dialogue around learning, as answers are shown for a few seconds not sparing enough time to discuss the answers.

Purpose of the study

The main purpose of this case study is to describe and evaluate the researchers' experiences about using Kahoot! as a gamified formative assessment tool in a bounded context of prospective teacher education.

METHOD

Design

In this case study, the Kahoot! software has been used as a gamified formative assessment tool during the measurement and evaluation courses carried out within the scope of pedagogical formation education for five weeks. According to Yin (2014) "the case study can be on any topic, but it must have some empirical method and present some empirical (qualitative or quantitative) data" (p. 17). The context and participants of the investigated case are explained below.

Research Context & Participants

The study took place in four classes of pedagogical formation program held at Inonu University, Malatya, Turkey. Offering 25-credit theoretical and practical courses in two semesters to award the participants with a teaching pedagogy certificate, this program accepts students from different faculties including Turkish Language and Literature, History, Philosophy, Sociology, Business, Sports, Nursing, Music, Art etc. In this research, students in four classes were administered formative exams including multiple-choice items via Kahoot! about the content covered in the previous courses by the first author. Based on students' answers, the instructor (first author) identified the students' learning deficiencies and provided them with explanatory or corrective feedback. At the end of the sixth week all participants were given an online questionnaire form including both close- and open-ended questions (see Data collection below), to which only 88 students responded.

Data Collection

Data was gathered through an online questionnaire entitled «Evaluation form for Kahoot!». Of the 164 students, 88 responded the questionnaire. There were close- and open-ended items in the questionnaire such as demographic information about the participants (gender, department etc.) and questions about students' experiences and views about Kahoot (Have you ever used Kahoot! or a similar digital tool in any of your classes before?, How fun do you think Kahoot is?, How teaching do you think Kahoot is? Do you recommend Kahoot to teachers?). In addition, the following two open-ended questions were asked in order to collect richer data on students' opinions about the practice: Based on your classroom experience please write about your; 1. Positive opinions about the Kahoot? What are the strengths of Kahoot? 2. Negative opinions about the Kahoot? What are the weakness of Kahoot?

Though this was not an experimental study with a treatment vs. control group, all students' scores of the mid-term exams were used in order to compare the achievements of the two different student groups: students with whom Kahoot was used (classes from 18th to 21st) and students with whom Kahoot was not used (classes from 1st to 17th). For this purpose, the mid-term exam grades of students were compared with the grades of the other students studying at the other 18 classes.

Data Analysis

Students' responses on the closed-ended questions were analyzed with SPSS using descriptive statistics (frequency and percent). To compare the mid-term exam grades of the students according to the Kahoot usage independent samples t test was administered. Students' responses on the open-ended questions was analyzed with the NVivo 10 software. During each stage of the qualitative data analysis process, peer debriefing and consistency analysis was carried out.

FINDINGS

Before students were asked to write their views about the practice of Kahoot, they were asked to response a short questionnaire about their previous experience with Kahoot or similar digital tools, how fun and how teaching they find it, and whether they would recommend it to other teachers. The results are presented below in table 1.

Table 1.
Students' responses to survey

Statements	Response	f	%
Have you ever used Kahoot! or a similar digital tool in any of your classes before?	Yes	17	19,32
	No	71	80,68
	Total	88	100
How fun do you think Kahoot is?	Not fun at all	0	0,0%
	Not fun	3	3,4%
	Somewhat fun	5	5,7%
	Fun	12	13,6%
	Quite fun	68	77,3%
	Total	88	100
How teaching do you think Kahoot is?	Not teaching at all	0	0,0%
	Not teaching	0	0,0%
	Somewhat teaching	5	5,7%

Statements	Response	f	%
	Teaching	11	12,5%
	Quite teaching	72	81,8%
	Total	88	100
Do you recommend Kahoot to teachers?	Not Recommend to any teachers	0	0,0%
	Not recommend to most teachers	1	1,1%
	Recommend to some teachers	2	2,3%
	Recommend to most teachers	13	14,8%
	Recommend to all teachers	72	81,8%
	Total	88	100

As it is seen in table 1, most students (f=71; 80,68%) had experienced Kahoot! or a similar classroom response system in their classes for the first time. When asked about the entertainment nature of it, 77,3% (f=68) of the students stated Kahoot! was quite fun and 13,6% (f=12) said it was fun, while none of the students found it not fun at all. When asked about pedagogical value of Kahoot, 81,8% (f=72) stated it was quite teaching and 12,5% (f=11) said it was teaching, while none of the students said it was not teaching or not teaching at all. Finally, when asked for their intention to recommend it to other teachers 81,8% (f=72) stated they would recommend it to all teachers and 14,8% (f=13) said they would recommend it to most teachers, while no students said they would not recommend it to any teachers.

Next the students were asked two open-ended questions to reflect about their views about the positive (strengths) and negative (limitations) aspects of using Kahoot! based on their experiences during classes. All students reflected on these two questions, responses ranging from one word to a lengthy paragraph. Results of the content analysis revealed some major themes under two categories (i.e. strengths and limitations) as shown in table 2 below:

Table 2.
Students' views about the strengths and limitations of Kahoot!

Strengths	f	Sample statements
Learning retention	61	<p>"Using Kahoot, we review the subject taught in the previous lesson. The lecturer detects the unlearned points through questions in Kahoot. He makes a revision on those points. Thus, we revise what we have learned ensuring better retention. It is more useful." (Yasemin, candidate Turkish Language and Literature teacher, scored 57 in mid-term exam)</p> <p>"A perfect tool helping us keep our knowledge refreshed and not to forget." (Bilge, candidate History teacher, scored 40 in mid-term exam)</p>
Formative assessment	38	<p>"It is an effective tool, which enables the lecturer to see our wrong and correct answers instantly, to see our competences and incompetence about the subject, and to make a general revision," (Cemile, candidate Turkish Language and Literature teacher, scored 53 in mid-term exam)</p> <p>"Just like in an exam, we realize what we don't know, and decide on what to study more" (Rabia, candidate Accounting and Finance teacher, scored 80 in mid-term exam).</p>
Entertainment	21	"It makes the lesson entertaining" (Buket, candidate Justice teacher, scored 63 in mid-term exam)

Strengths	f	Sample statements
Competitiveness (motivating)	11	<p>“Moreover, the kind but firm competition is quite significant and effective.” (Ömer, <i>candidate Turkish Language and Literature teacher</i>, scored 70 in mid-term exam)</p> <p>“It motivates students to study before coming to class, leading them to some kind of competition, that is it encourages students for success (Hatice, <i>candidate Chemistry teacher</i>, scored, 83 in mid-term exam)</p>
Engagement	10	“Kahoot engages the students to lesson” (Şerif, <i>candidate History teacher</i> , scored 43 in mid-term exam)
Motivation	9	“Kahoot! motivates even the clock-watchers, who are used to do nothing but just come and sit during the lesson without any preparation” (Yunus, <i>candidate History teacher</i> , scored 63 in mid-term exam)
Instant response	7	“The strongest and the most positive aspect of Kahoot practice is instant disclosure of correct answers.” (Enes, <i>candidate Music teacher</i> , scored 27 in mid-term exam)
Usefulness	3	“It is practical.” (Akif, <i>candidate Turkish Language and Literature teacher</i> , scored 53 in mid-term exam)
Limitations		
Short span of time	28	<p>“Since there is limited time to answer, we can not find enough time to think on the answer.” (Gülşen_ <i>candidate Nursing teacher</i>, scored 57 in mid-term exam)</p> <p>“Since the response time is very short, the rush to answer the question in time causes mistaken markings on the phone screen. This is a kind of random error, which does not indicate that student does not actually know the correct answer.” (Sabiha_ <i>candidate Accounting and Finance teacher</i>, scored 67 in mid-term exam)</p>
Competitiveness (demotivating)	8	“I believe the only negative aspect is that it provokes competition” (Ayşe_ <i>candidate Turkish Language and Literature teacher</i> , scored 63 in mid-term exam)
Limited internet access	6	“Not everyone could play it, I mean those without mobile internet.” (Esra, <i>candidate History</i> , scored 42 in mid-term exam)
Inadequate number of questions	4	“More questions could have been asked covering a more comprehensive content.” (Cemile, <i>candidate Turkish Language and Literature teacher</i> , scored 53 in mid-term exam)
Small screen	1	“Students at the back rows may not see the screen and read the questions well.” (Eda, <i>candidate Turkish Language and Literature teacher</i> , scored 60 in mid-term exam)
Difficulty of questions	1	“The questions were difficult.” (Büşra, <i>candidate Turkish Language and Literature teacher</i> , scored 53 in mid-term exam)
Noise during the activity	1	“Since not everybody keeps silent, I could not use the response time well”

Strengths	f	Sample statements
		(Rabia, candidate Accounting and Finance teacher, scored 80 in mid-term exam).

The analysis of the students' answers to open ended questions revealed that the most recited strength of Kahoot! was ensuring learning retention. Accordingly, using Kahoot! provided the students with opportunities to repeat, review and revise the previous subjects during the testing session and following revision by the lecturer. This ensures learning retention as the students regularly refresh and revise their prior knowledge. Secondly, students emphasized and praised the formative assessment function of Kahoot!, through which lecturer monitors students' progress and learning outcomes in order to improve the process. Thirdly, students frequently had mention of how entertaining and fun the practice of Kahoot! was. Next theme was rather controversial one since the nature of competitiveness was perceived and experienced in opposite directions. From the positive perspective, some students believed that gamification nature of Kahoot! created a rather constructively competitive atmosphere. This competitive atmosphere motivated them and others to study more in order to be successful. Either because of the entertaining or competitive nature, students also emphasized that students' motivation to study and active engagement to lessons increased thanks to Kahoot! practices. As related with formative assessment, the instant response function of Kahoot! was also mentioned as a splendid feature supporting the learning process of the students. Last but not the least, some students had mention of how useful and handy Kahoot! is as an assessment tool, since there is no need for traditional paper-pencil quizzes and time-consuming grading and feedback procedures.

Students' responses also included some criticisms about the limitations of formative assessment with Kahoot!, though less in number than strengths. When examined closer, it can be understood that most of the criticisms do not stem from Kahoot! itself, but from the way it was used by the instructor. For example, students mostly complained about the short span of time limit set for students to answer the questions since this supposedly caused an unnecessary hurry, possible carelessness and eventually some random errors. Since the countdown options for each question includes 5, 10, 20, 30, 60, 90, or 120 seconds, it is up to the lecturer to gauge it according to some contextual factors like difficulty of the question, age of the students, purpose of the activity (e.g. competition or giving feedback etc.). Secondly, some students perceived and experienced the nature of competitiveness in Kahoot! activities in a negative direction. Accordingly, some students complained about Kahoot!, since it created a rather destructively competitive atmosphere, which demotivated them. Another important limitation, both participants mentioned and the researchers observed during their lessons, was limited access to internet. Some students may fail to participate the Kahoot! activities simply because they do not have a mobile device or internet connection on their mobile. Several students complained about the inadequacy of the number of questions, which is concerned with the researcher rather than Kahoot! itself. The tests used during five weeks included 10 to 15 questions. Though there is no limit for the number of questions, the lecturer need to decide about the number of questions considering some contextual factors including lesson time, lesson content, content of the previous lessons etc. Last but not the least, some other important points, which should be taken into consideration while using Kahoot for formative purposes were quality of students' vision (screen should be large enough or students should be located so that everybody could read the questions easily), whether the difficulty of the questions are suitable for formative assessment purposes and noise during the Kahoot! activities, which should be removed through negotiated rules and polite instructions.

Though this was not an experimental study with a treatment vs. control group, it was decided to compare the midterm scores of students in classes 18th to 21st, where Kahoot! was used as a gamified formative

assessment tool, and others in classes 1st to 17th. Results of independent samples t test are presented in table 3.

Table 3.

Comparison of midterm scores of students in classes where Kahoot! was used with the scores of others

Classes	N	Mean	S	S _e	df	t	p	Cohen's d
Classes experiencing Kahoot! ^a	153	53,68	14,84	1,20	894	6,559	.000	.582 (Moderate)
Other classes ^b	743	45,21	14,49	0,53				

* p< .05;

^a Classes where Kahoot! was used as a formative assessment tool for five weeks (18th to 21st).

^b Other classes (1st to 17th) no similar practice was reported.

As it is seen in table 3, the mean midterm scores (mean=53,68) of classes experiencing Kahoot! (153 out of 164 registered students in 18th-21st classes got a valid score) was statistically significantly higher than that of 743 students in other classes (mean=45,21), $t(894)=6,559$, $p<.5$. Considering the moderate level of the estimated effect size (Cohen's $d=.582$), this difference is also significant in practical terms. Since all students in 21 classes were taught the same content and administered the same question in the midterm exam, this may be interpreted as a statistical evidence for the positive effect of gamified formative assessment activities via Kahoot! on learning. However, this difference cannot be necessarily attributed to Kahoot! activities as the compared groups were not either randomized or matched, nor were they taught by same instructors.

DISCUSSION

This rather limited case study intended to report researchers' experiences and evaluations about using Kahoot! as a gamified formative assessment tool in a bounded context of prospective teacher education program. Initial quantitative findings suggested that most of the participants have not experienced an in-class assessment practice via a digital response system before, it was quite entertaining and teaching for them, and it deserves to be recommended to all other teachers. Thus it can be concluded that participants were highly positive about using Kahoot! as a gamified formative assessment tool from attitudinal and pedagogical aspects. These results are highly consistent with the results of previous researches about electronic response systems in general and Kahoot! in particular. For example, Başol, Kocadağ Ünver, & Çiğdem (2017) reported that out of 127 preservice teachers who received e-exams on MOODLE, 96% found the e-exams useful, 94% believed they supported their learning, and 92% preferred e-exams to be used in other lessons. Premarathne (2017) reported that gamification via Kahoot! as a formative assessment tool resulted in better learner attendance, intrinsic motivation, and concentration. Moreover, among several digital response systems, Kahoot! seems to be the most popular one. Taşkın & Kılıç Çakmak (2017) found that especially Kahoot!, among other tools (e.g. ClassDojo, Facebook, Surveyey, Kahoot!, Padlet, Text2mindmap), increased students' cognitive, affective and behavioral engagement levels. Students prefer gamification activities via Kahoot! be used in other classes (Alsancak Sırakaya, 2017).

More detailed analysis based on students' answers to open ended questions revealed that Kahoot! was most appreciated for ensuring learning retention and its formative assessment function. Both of these major strengths prove that formative assessment via Kahoot! supports students' learning. Moreover, the relative superiority of the mid-term exam scores of students who were subjected to gamified formative

assessment for five weeks over the mid-term exam scores of other students can be attributed - to some extent - to the positive impact of formative assessment via Kahoot! on students' learning. Previous research findings also highlight this positive impact on academic achievement either based on students' self-reports or through experimental studies. For example, Plump & LaRosa (2017) found that 86,5% of the 139 university students thought Kahoot! helped them with their conceptual understanding. Similarly, Başol et al. (2017) reported that 74% of the participating 127 students thought e-exams helped them detect and make up their learning deficiencies. Medina & Hurtado (2017) also found 74% of students believed using Kahoot! helped them prepare for formal exam. In Borrell, Cosmas, Grymes, & Radunzel (2017), 75% of respondents admitted they studied more to get prepared for a pre-lesson Kahoot! quiz. Zengin, Bars, & Şimşek (2017) stressed that Kahoot! and Plickers make remarkable contribution to detection and elimination of unlearned topics through formative assessment. In their experimental research, on the other hand, Bolat, Şimşek, & Ülker (2017) found that beneficial to easy learning, increase retention, learning speed, Kahoot! helped candidate mathematics teachers to learn computer subjects better. In a single subject design, Pede (2017) found Kahoot improved the science vocabulary test scores of all six disabled students.

From attitudinal aspects, sense of entertainment was a major impact of formative assessment via Kahoot! This can be attributed to the gamification nature of Kahoot! especially as a result of the competitive atmosphere it creates. However, the nature of competitiveness was perceived and experienced in exactly two opposite directions. From the positive perspective, the competitive atmosphere created by Kahoot! was constructive motivating students to actively participate or study more in order to be successful. In line with the findings of the present study, the adjectives or attributes most commonly associated with Kahoot! included fun/funny or entertaining (Budiati, 2017; Bolat et al., 2017; Chaiyo & Nokham, 2017; Iaremenco, 2017; Ismail & Mohammad, 2017; Yapıcı & Karakoyun, 2017), joyful/enjoyable (Budiati, 2017; Chaiyo & Nokham, 2017; Ismail & Mohammad, 2017; Pede, 2017; Plump & LaRosa, 2017), interesting (Budiati, 2017; Chaiyo & Nokham, 2017), motivating or engaging (Atilano, 2017; Bolat et al., 2017; Chaiyo & Nokham, 2017; Ismail & Mohammad, 2017; Yapıcı & Karakoyun, 2017). Also there is good amount of recent research findings about the association between entertainment, competitiveness, motivation and engagement aspects of digital response systems and Kahoot! in particular. For example, Iaremenco (2017) suggested that funny and competitive atmosphere created via Kahoot! can provide learners with additional intrinsic motivation. Varannai, Sasvári, & Urbanovics (2017) pointed that gamification through Kahoot! sustainably motivates learners preventing absence in lectures and seminars. Zengin, Bars, & Şimşek (2017) reported Kahoot! and Plickers increased students interaction and participation. Alsancak Sırakaya (2017) reported that students' engagement increased as a result of competitive nature of Kahoot! based gamification activities. According to Borrell, Cosmas, Grymes, & Radunzel (2017) the competition provided via Kahoot! is friend in nature. Alsancak Sırakaya, (2017) also argue that gamification activities with Kahoot! help creating an interactive social learning environment .

Integral to formative assessment, instant response capability of Kahoot! was found to be a remarkably useful function supporting the learning process of the students. Plus, Kahoot! was found a much more handy and easy assessment tool compared to traditional paper-pencil quizzes and time-consuming grading and feedback procedures. This finding is also in agreement with the previous research findings. For example, Pede (2017) found even the disabled middle school students found Kahoot easy to use. Plump & LaRosa (2017) reported 92,9% of the students found Kahoot easy to use. This rate was 100 % in a study by Medina & Hurtado (2017). Ismail & Mohammad (2017) also found that Kahoot is a promising formative assessment tool as it is feasible and practical. Zengin, Bars, & Şimşek (2017) concluded in their study that Kahoot! and Plickers are practical formative evaluation tools providing detailed and instant analysis in a short time.

Though less in number than strengths, some criticisms about the limitations of formative assessment with Kahoot! was also highlighted by students'. However, it was concluded most of the criticisms was not

directed to Kahoot! itself, but to the way it was used by the instructor. The major complaint was the short span of time limit set for students to answer the questions since this supposedly caused an unnecessary hurry, possible carelessness and eventually some random errors. Similarly, Bolat, Şimşek, & Ülker (2017) found that students recommend the duration of the questions should be appropriate. Since the countdown options for each question includes 5, 10, 20, 30, 60, 90, or 120 seconds, it is up to the lecturer to gauge it according to some contextual factors like difficulty of the question, age of the students, purpose of the activity (e.g. competition or giving feedback etc.).

Unlike the its motivating value, competitive nature of Kahoot! activities was also found to be destructive as the winner and loser categorization demotivated the students. Similarly, Bolat et al. (2017) found that some students stated that the competitive environment had negative effects on the learning. Yapıcı & Karakoyun (2017) also emphasized that ranking the students according to their score can be demotivating for the students at the bottom of the list and inadequate technology literacy on the part of preservice teachers poses a limitation. Actually, competition is an inevitable part of gamification. However, competitive reward systems may degrade learners' motivation in the long run and can cause undesired outcomes especially with young learners (Özkan & Samur, 2017).

Another important limitation was lack of mobile devices or internet. Students' failure to participate the Kahoot! activities simply because they do not have a mobile device or internet connection was also a cause of students' demotivation. The relevant literature also points out that the most important limitation about electronic exams in general and Kahoot in particular is a failure to provide students with adequate ICT support and internet connection (Başol et al., 2017; Bolat et al., 2017; Budiati, 2017; Yılmaz, 2017; Zengin et al., 2017). To give a striking example, Yılmaz (2017) admits she had to quit using Kahoot! owing to shortage of internet connection and shifted to Plickers with 6th graders. From a different perspective, Yapıcı & Karakoyun (2017) also emphasized inadequate technology literacy on the part of preservice teachers posed them a problem. Technology adequacy in terms of both infrastructure and literacy should be considered seriously in order not to exclude some students from a collective activity just because they cannot afford or use mobile internet connection.

Several other complains by the participating students included the inadequacy of the number of questions, quality of students' vision (screen should be large enough or students should be located so that everybody could read the questions easily), maladjustment of the difficulty of the questions and noise during the Kahoot! activities. Similar complaints recited in previous researches included the limited number of characters one can use in questions and responses, and inapplicability of asking open-ended questions or receiving open-ended responses for now (Plump & LaRosa, 2017, p. 157). With regard to the quality and quantity of questions and presentation, the lecturer need to decide about the number and difficulty of questions considering some contextual factors including lesson time, lesson content, content of the previous lessons etc. Also for the presentation of the Kahoot activities, it should be ensure that all students can see the screen and rules to follow during the activity should be negotiated with polite instructions before the activity starts.

Conclusion and Implications

This small-scale case study demonstrated us that Kahoot and similar digital response systems are quite promising in providing an effective formative assessment platform producing favorable practical, pedagogical, and affective outcomes. When supported with principles of gamification, the sense of competition it creases motivates and engages learners into lesson. The repetitions through formative assessment activities support students' learning and ensure learning retention. While such digital response systems are gradually finding their ways into classrooms at all stages of education, main

challenge seems to be a failure on the part of instructors to possess the “opportunity, experience, or understanding to utilize digital games within their classrooms.” (Plump & LaRosa, 2017, p. 152). However, As teacher trainers, we should actively model in our lessons the most up-to-date educational technologies. Thus, the student teachers can be convinced about the importance and usefulness, if so, of these technologies. As a result they can directly observe and experience how these practical technologies can be used.

Considering the negative aspects of Kahoot or similar classroom response systems, it should be acknowledged that most limitations about such technologies do not stem from the application but they are caused by the practitioners’ ability to use them in pedagogical ways. As put by Özkan & Samur, (2017, p. 882) “when effective instructional design is not created, no game elements will be able to help learning or motivation for long-term.”

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