The Effect of Educational Board Games Training Programme on the Social Skill Development of the Fourth Graders

Eğitsel Kutu Oyunları Eğitim Programının Dördüncü Sınıf Öğrencilerinin Sosyal Beceri Gelişimleri Üzerindeki Etkisi

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Abstract: This research was conducted to explore the effect of Educational Board Games Training Programme (EBGTP) on the social skill development of the fourth graders. EBGTP is a training programme that is based on educational board games that aim to improve the social skills of the children. The pre-test/post-test model with control group was used for the research since it is a real experimental model. A total of 80 children (40 experimental subjects, 40 control subjects) were included in the research. A General Information Form and the Social Skill Evaluation Scale 7–12 (SSES 7–12) were used as data collection tool. EBGTP was formulated by the investigator, in a regular and controlled manner an hour a day, two days a week, for a period of 10 weeks, corresponding to a total of 20 hours. During the data analysis, dependent group t-tests were conducted for intra-group comparisons and independent group t-tests were used for inter-group comparisons. In conclusion, EBGTP which was provided to 40 fourth graders in primary school was detected to have a significantly positive effect on the social skill development of children.

Keywords: Social skill development, educational board games, primary school education.

Öz: Bu araştırma, Eğitsel Kutu Oyunları Eğitim Programı'nın (EKOEP) dördüncü sınıf öğrencilerinin sosyal beceri gelişimine etkisini araştırmak amacıyla yapılmıştır. EKOEP, çocukların sosyal becerilerini geliştirmeyi amaçlayan eğitsel kutu oyunları temeline dayanan bir eğitim programıdır. Araştırmada gerçek deneme modellerinden olan ön test/son test kontrol gruplu model kullanılmıştır. Çalışma grubunda toplam 80 çocuk (40 deneme, 40 kontrol grubu) yer almıştır. Araştırmada veri toplama aracı olarak Genel Bilgi Formu ve "Sosyal Becerileri Değerlendirme Ölçeği 7-12 (SBDÖ 7-12)" kullanılmıştır. EKOEP, araştırmacı tarafından 10 hafta boyunca, haftada 2 gün ve günlük 1 saat olmak üzere toplam 20 saat "düzenli ve kontrollü" olarak uygulanmıştır. Veriler analiz edilirken grup içi karşılaştırmalarda bağımlı gruplar t testi kullanılırken, gruplar arası karşılaştırmalarda bağımsız gruplar t testi kullanılmıştır. Sonuç olarak, ilkokuldaki 40 dördüncü sınıf öğrencisine uygulanan "EKOEP"in çocukların sosyal beceri gelişimi üzerinde pozitif yönde anlamlı bir etkisinin olduğu tespit edilmiştir.

Anahtar Sözcükler: Sosyal beceri gelişimi, eğitsel kutu oyunları, ilkokul eğitimi.

INTRODUCTION

Socialising is a process of making an individual a part of the community by conveying the system of social values and ideals to the individual, preparing him/her for the adult world and making him/her adapt adult behavioural patterns to his/her life (Güney, 2000; Handel, Cahill, & Elkin, 2007; LeVine, 2003; Lutfey & Mortimer, 2006; Shaver, 1981; Strayer & Santos, 1996). It involves the life-long development of an individual's behaviours towards the people around them. Social development is a child's ability to develop sensitivity against the pressure and challenges of social stimuli, especially group life, to get along with the other people in his/her group or culture or to act like them (Yavuzer, 1994). Children's social development affects their ability to establish good relations with others and follow social roles. It also determines whether they are accepted by the community and the immediate social environment to which they belong (Akman et al., 2011; Bacanlı, 2012; Çağdaş & Seçer, 2002).

Social skills are learned behaviours which are formed as a result of social interactions, which form a fundamental part of human life. Social skills help individuals to initiate, maintain and conclude positive communication with other individuals in the social environment; facilitate social acceptance by ensuring impartialness, effective communication and inclusion in a group; and are explained as acting for the occasion to carry out the roles given by the community (Avcıoğlu, 2009; Dowrick, 1986; Putallaz & Gottman, 1981; Westwood, 1993). Calderalla and Merrell (1997) categorised social skills in five sub-dimensions: peer-related skills, self-control skills, adaptive skills, academic skills and assertiveness skills. The development of social skills in these sub-dimensions enables the formation of various attitude and behaviours; this formation, in turn, supports social development (Çubukçu & Gültekin, 2006).

An individual's social development appears to be as important as other developmental areas within the education process; therefore, educational institutions are the most important institutions in which the necessary knowledge, skill, attitude and behaviours for all individuals in a community are taught and reinforced. Educational institutions are places in which children socialise beyond the family environment, become a member of the community, carry out their social responsibilities and gain the necessary social skills (Bellis, 2002; Bender, 2012). The main aim of the efforts towards skills development—including self-expression, gaining self-confidence, communication with and being accepted by those around and social independence—is being able to teach social behaviours to children, improve these behaviours and help them develop appropriate behaviours. Therefore, gaining, improving and reinforcing social skills should be the main goals in each educational stage, starting from preschool (Akkök, 1999; Çetin, Bilbay, & Kaymak, 2003; Çubukçu & Gültekin, 2006; Gülay & Akman, 2009).

Children develop their cognitive, social, emotional, psychomotor and self-care skills by playing (Erbay & Durmuşoğlu Saltalı, 2012). In this sense, playing is the best way to ensure that children socialise and improve their social skills. When playing, children naturally imbibe knowledge and learn skills, attitudes and behaviours which are required in life. They learn to wait for their turn; share; cooperate; avoid self-centredness; control hostility; solve social problems via appropriate ways; develop empathy; belong to a group; respect the rights and freedoms of others; protect their own rights and freedoms; comprehend their gender role in social life; understand limitations; form habits of tidiness and cleanliness; communicate, listen and express themselves; make an effort; finish what they started; enjoy; help each other; share, collaborate and work together; become a leader or a member; win and lose; conduct themselves with propriety; determine what is right via trial and error; make conscientious evaluations; protect the objects and living creatures around and not harm them; learn moral concepts; love nature, human and their country; and understand concepts such as patriotism and social rules. Therefore, playing helps with socialisation, thereby preparing children for their future role as an adult. In conclusion, playing is the most effective tool for social skill development (Aral, Gürsoy, & Köksal, 2000; Catron & Allen, 2003; Çoban & Nacar, 2006; Darwish, Esquivel, Houtz, & Alfonso, 2001; Driscoll & Nagel, 2008; Ellialtıoğlu, 2005; Esen, 2008; Güngör, 2004; Mangır & Aktaş, 1993; Pehlivan, 2005; Seyrek & Sun, 2010; Swindells & Stagnitti, 2006; Şahin, 2006).

By playing, children learn the social rules and necessities in the easiest and least harmful way (Koçyiğit, Tuğluk, & Kök, 2007). Playing provides generous opportunities for children to learn the social behaviours expected of them and allows them to gain social skills; from this aspect, playing is the most important factor for children's socialisation (Lillard et al., 2013; Singer, Singer, DíAgostino, & Delong, 2009). By playing, children learn what life is and the meaning of the relationship between objects, and they become prepared about their future roles by imitating the adults around them. Adults affect the exploratory and social skills of children by playing with them. Playing is an important social aspect of the growing process; it presents a small world in which rules are learned, a competitive spirit is gained and life is introduced. Therefore, it has a highly important role in helping children mature and adapt to social life in their early stages (Çoban & Nacar, 2006; Esen 2008; Kılıçoğlu, 2006; Köroğlu, 2005; Mangır & Aktaş, 1993; Mengütoy, 1999; Ramazan, 2013; Rubin, Fein, & Vandenberg, 1983).

A board game is an activity that involves the placing, removing or moving pieces or counters on a board, according to a set of rules (Bruni & Silverman, 1975; Byrne, 1995; Merriam-

Webster Dictionary, 2018; Vij, 2011). The origins of board games date back to ancient times, that's, ancient Egypt, Greece and Rome, through Europe and to the colonies of the New World (Madjidzadeh, 2003). Board games generally have a goal that a player aims to achieve. Some of them are based on pure strategy like Chess, but many contain an element of luck like Monopoly; and some are purely luck, with no element of skill like Snakes and Ladders (Vij, 2011). There are many different types and styles of board games. The themes of board games change, such as games that simulates aspects of real life and games that do not imitate reality. While Monopoly and Risky are the examples of aspects of real life, Scrabble and Chess are the examples of abstract strategy games. The rules of board games can range from simple, such as in Tic-tac-toe to complex, such as in Dungeons & Dragons. The time required to learn to play a game varies greatly from game to game. It is not related with the number or complexity of rules. For example some board games like Go and Chess have simple rules but great strategic depth while some board games like Taboo include a timer, timing is also a factor (Vij, 2011).

An educational game is a game designed to teach students about a specific subject and to teach them a skill. Educational games give children the basic needs of learning through enjoyment, structure, motivation, creativity and ego gratification (Keesee, 2012). The board games provide many educational and teaching benefits and they have possibility to stimulate students to be actively involved in the teaching and learning process (Liu & Chu, 2010; Prensky, 2001; Treher, 2011). There is a natural tendency in every child to play (Amr, 2012). When they are designed for learning, they incorporate heads-on and hands-on learning; summarize and reinforce important knowledge in an easy-to-grasp format; reduce the time needed to learn, remember, and apply new information; promote discussion, collaboration, and build communication (Treher, 2011). Playing board games develops cognitive skills, gives the child the opportunity to solve problems without depending on the teacher, provides active learning which is very essential as it makes children responsible for their own learning, motivate children and engage them in acquiring important skills. Besides chidren overcome the boredom and fatigue they feel after engaging in a long series of learning or studying (Aldrich, 2004; Brawerman et al., 2013; Ekukinam, 2014; Foreman et al., 2004; Prensky, 2001; Prince, 2004; Quinn, 2005). Board games are included in classrooms and used as learning tools to stimulate creativity, improve the cognitive performance (Hromek & Roffey, 2009). In the study carried out by Mackey, Hill, Stone and Bunge (2011) children from 7 to 9 years old were trained with board and computer games during 8 weeks, one hour a day, two days each week. They demonstrated that games improved their performance IQ by 13 points on average. In another study carried out by Türkoğlu and Uslu (2016) children from 60-72 months old children were trained with board games during 12 weeks, 2 days a week and 1 hour per day. At the end of the study, game-based cognitive development programme improved the children's performance IQ by 14 points on average.

Board games are also an efficient tool to develop social skills. Because these games provide life-like situations. Children can practice social skills like how to interact with peers, how to follow game rules, and how to apprehended others' perspectives; develop strategies to build relationships and learn efficient communication. So some skills like interacting with each other, taking turns, handling defeat can be achieved easily (Bruni & Silverman, 1975; Collins, Griess, Carithers, & Michaelis Castillo, 2011). Especially team-based board games inspire learning; support players' abilities; encourage communication, collaboration and risk taking; empower players by helping to build self-confidence (Treher, 2011). Because of the increasing prevalence of board games among primary school children, many researchers have made to determine the effects of these games on these children. In Turkey, there are few and limited studies on the effects of board games on primary school children. Considering the increasing rate of board games among primary school children, the present study was conducted to investigate the effects of board games on social skills of these children.

Herein, the following research question is posed: 'What is the effect of Educational Board Games Training Programme (EBGTP) on the social skill development (basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills,

group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills, direction skills, cognitive skills) of the fourth graders?'

The following hypotheses are presented:

1. There is no significant difference between the mean pre-test scores on social skill development of the experimental and control subjects.

2. There is a significant difference between the mean post-test scores on social skill development of the experimental and control subjects.

3. There is no significant difference between the mean pre-test/post-test scores on social skill development of the control subjects.

4. The mean post-test scores on social skill development of the experimental subjects are significantly higher than the mean pre-test scores.

METHOD

Research Model

Since the pre-test/post-test model with control group is a real experimental model, it was used to reveal the difference between the social skill development levels between the children participating in the EBGTP and those not participating in it. The dependent variable in the design is the 'social skills development' (basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills, direction skills, cognitive skills) of the primary school children studied. The independent variable is 'Educational Board Games Training Programme', and its effect on the social skill development of the children studied was explored. The EBGTP is based on educational board games and is intended to improve the social skills of the children chosen as experimental subjects. The children in the experimental and control group were attending the fourth grades of the state school, affiliated to the Ministry of National Education. This school serves students in two different shifts as morning and afternoon. While the children in the experimental group go to school in the morning shift, the children in the control group go to school in the afternoon shift. The children in the experimental group participated in the EBGTP, which was formulated by the investigator, in a 'regular and controlled manner' an hour a day, two days a week, for a period of 10 weeks, corresponding to a total of 20 hours, in addition to their life in their living environment. The training programme was conducted in the game and physical activities course by the children's class teacher on the investigator's instructions, and individual, group works were performed in the class. The children in the control group did not participate in the EBGTP. Their daily curriculum was continued by their teachers, that's, they continued their practices in the game and physical activities course.

Study Population

The study population comprised fourth graders of the primary schools affiliated with Konya Provincial Directorate of National Education in the academic year 2016–2017. The study group of this research was selected by using the proportionate cluster sampling method from the primary schools that were affiliated with Konya Provincial Directorate of National Education, provided dual education and were appropriate for an educational board game training classroom. The experimental and control groups were selected from two different shifts of a school to prevent the interaction between children. During the selection of the mentioned school, parameters such as the school's physical conditions and cooperation within the school board were considered.

Firstly, general information forms were simultaneously distributed to 200 fourth graders (100 each from the classes selected as experimental and control groups). The children's families filled these forms. The study group comprised 80 children from the school. The experimental group had 40 fourth graders attending the school in the morning shift in the academic year 2016–2017 and the control group had 40 fourth graders attending the school in the afternoon

shift in the academic year 2016–2017. All these children had normal development and had never taken educational board games trainings before. A total of 12 class teachers (6 for experimental group, 6 for control group) participated in the study. As the dependent variable of the research was the children's social skills development, the experimental and the control groups were formed according to the results of the Social Skill Evaluation Scale 7–12 (SSES 7–12) and the general information form before starting the training program.

Data Collection Tools

A general information form for children and parents was used as the data collection tool, and the SSES 7–12 was used for statistically testing the efficacy of the EBGTP in developing the social skills of the fourth graders.

General Information Form

To obtain information on the children and their families, the investigator prepared a general information form that included questions on the children's gender, age and sibling count; the age, educational status, employment status and occupation of their parents; the economic status of the family; and whether they had previously participated in educational board games trainings and played educational board games.

The Social Skill Evaluation Scale 7–12 (SSES 7–12)

To collect data on the social skill levels of the children, the SSES 7–12, which was developed by Akçamete and Avcıoğlu (2005), was used. This scale aims to assess the social skills which children aged between 7 and 12 years old should possess. The scale consists of 12 social skill groups: basic skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills, direction skills and cognitive skills. The SSES 7–12 is a five-point scale scored as follows: always does (5), mostly does (4), usually does (3), sometimes does (2) and never does (1) The blank items are scored as (0). The highest and lowest scores in the scale are 345 and 69, respectively. Being one of the sub-dimensions of the scale, basic skills comprise 13 sub-skills, which are the primary skills important for the further development of mutual interaction. These skills should be present to learn more complex skills. Basic verbal skills comprise four sub-skills, including the skills for initiating and maintaining inter-individual interaction. Advanced verbal skills comprise five sub-skills, including the skills for initiating and maintaining inter-individual interaction. Relationship initiation skills comprise five sub-skills, which are important for the initiation of inter-individual mutual interaction. Relationship-maintaining skills comprise six sub-skills, which are important for maintaining inter-individual mutual interaction. Group work skills comprise seven sub-skills, which help individuals carry out their responsibilities by following the work sharing within the group. Emotional skills comprise six sub-skills, which help individuals to understand the effect of their emotions and thoughts on their social behaviours. Self-control skills comprise six sub-skills, which help individuals to control themselves about their social behaviours. Coping skills against hostile behaviours comprise four sub-skills, which help individuals to cope with hostile behaviours directed at them by others and their own hostile behaviours within the social interaction environment. Outcome recognition skills comprise three sub-skills, which help individuals to accept various possible results within the social interaction environment. Direction skills comprise four sub-skills, which help individuals to give mutual directions and follow the given directions within the interaction environment. Cognitive skills comprise six sub-skills, which ensure that individuals are involved in more productive social interactions (Akçamete & Avcıoğlu, 2005).

The validity of the SSES 7–12 was tested in two ways: (1) expert opinion and (2) factor analysis to understand the number of factors of the test related with the scope and general features of the scale. The structural validity of the scale was tested via factor analysis. Principal component analysis was used for factor analysis. To obtain the most possible independent factors by separating the factors observed by the analysis, the factor analysis was continued using Varimax. As a result of the repeated rotation, the items in the scale were collected in 12 factors. While the number of questions in the scale before the factor analysis was 80, it was reduced to 69 items after the factor analysis. By checking the values in this matrix, items with .40 or more were selected. The questions items which were included in more than one group and triple groups were not included in the scale. The safety coefficient of the scale (found to be 0.97) was tested by calculating the Cronbach's alpha coefficient. Out of the sub-scales, basic social skills were detected to be 0.95, basic verbal skills to be 0.92, advanced verbal skills to be 0.89, relationship initiation skills to be 0.84, relationship-maintaining skills to be 0.86, group work skills to be 0.92, emotional skills to be 0.88, self-control skills to be 0.88, coping skills against hostile behaviours to be 0.77, outcome recognition skills to be 0.83, direction skills to be 0.70 and cognitive skills to be 0.87 (Akçamete & Avcıoğlu, 2005).

Development of Educational Board Games Training Programme

The EBGTP was formulated on the basis of literature research. Both domestic and international studies conducted using the play-based training approach and which reported a difference in cognitive development were reviewed. The current research was based on the Game-Based Cognitive Development Programme (GBCDP), which was previously prepared by the researcher by selecting games that contribute to the cognitive development of children between 60 and 72 months old (Türkoğlu & Uslu, 2016). The EBGTP comprises a total of 5 different educational board games. The EBGTP has five sub-dimensions. They are linguistic skill, object-spatial skill, reasoning skill, distinguishing skill and numerical skill. The educational board games were chosen according to these sub-dimensions and "Dixit", "Brick by Brick", "Kakuzu", "Q-bitz Extreme" and "Mathdice 8-99" were used for the training programme. The instructions of all board games are given below.

Dixit

One player is the storyteller for the turn and looks at the images on the 6 cards in her hand. From one of these, s/he makes up a sentence and says it out loud (without showing the card to the other players). Each other player selects the card in their hands which best matches the sentence and gives the selected card to the storyteller, without showing it to the others. The storyteller shuffles her card with all the received cards. All pictures are shown face up and every player has to bet upon which picture was the storyteller's. If nobody or everybody finds the correct card, the storyteller scores 0, and each of the other players scores 2. Otherwise the storyteller and whoever found the correct answer score 3. Players score 1 point for every vote for their own card. The game ends when the deck is empty or if a player scores 30 points. In either case, the player with the most points wins the game (Uskov, Howlett, & Jain, 2015).

Brick by Brick

The goal of the game is to combine the pieces to match the image on the challenge card. Players spill out the five pieces on a table. They select a challenge card from the deck. They assemble the pieces to match the image on the card. In another way to play, players use the five pieces to build walls that are symmetrical (the same shape on left and right sides) (Thinkfun, 2018).

Kakuzu

In the Multi Sudoku, Kakuzu, players face the other players on the same Sudoku grid. There is only one example of each number per line, per column and per square. At the start all the numbers are cleverly hidden with stones. The player draws a number from the pouch to see which number s/he must find on the tray by removing one of the 81 stones. If s/he is lucky, s/he

can keep the stone and have another go. If s/he is not, s/he gives the stone to the next player and it's her/his turn to find the number. Players try and collect the most stones by the end of the game (FoxMind, 2018).

Q-bitz Extreme

Players puzzle over how to recreate the patterns on the game cards using their set of 16 cubes, featuring both abstract and geometric shapes. Each round is a race. The game is played in four eye-bending rounds. In the first round, players race to recreate the pattern shown on the card using your set of cubes, rotating the cubes in any way. In the second round, players roll all of the cubes on the table like dice and use as many cubes as possible to recreate the pattern shown on the card. They race to re-roll all remaining cubes to complete the pattern. In the third round, players study the card, then race to see who can recreate the pattern from memory. If a player has her/his cubes in the correct pattern, or the most cubes in the correct place, s/he wins the card. And in the fourth round, players race to recreate the pattern shown on the card in its reverse from (MindWare, 2018).

Mathdice 8-99

A player rolls the two 12-sided target dice and multiplies them to get a target number. Later s/he rolls the three scoring dice and combines these numbers using addition, subtraction, multiplication, division, or even powers to build an equation that is closest, or equal to, the target (Thinkfun, 2018).

Procedures

The EBGTP was implemented in a state school, which is an official educational institution affiliated with the Ministry of Education. The morning shift of the school was the experimental group and the afternoon shift was the control group. Before starting the training programme, all class teachers underwent training for the educational board games training programme by the researcher for two weeks (30 hours) and the training programme was conducted by the children's class teachers. The reasons for this include the following: the children can easily adapt to the training programme given their familiarity with their class teacher; the class teachers can fill the SSES 7–12 to detect the social skill development of the children as the pre-test and post-test; the class teachers can observe and notice the changes and differences in the children. All fourth graders in the morning shift in the school received training for two days a week and one class period a day for 10 weeks, amounting to a total of 20 hours. The training was conducted on different days of the same week to make the children understand the continuity of the training and prevent them from getting disconnected from the training programme.

The training programmes were initiated on 27 March 2017 and implemented in the "Game and Physical Activities Course". Five different educational board games which aimed for distinct sub-dimensions that do change on the basis of each class were used for fourth graders. First of all, educational board games for the training programme were supplied. In individual and group games each child had his/her own game materials, so all of them actively participated in the training programme. Each board game in the fourth grades was introduced in the first lesson of the week by the class teacher. The children worked on the games individually or in groups in another lesson. The children also worked on the play activities either as individuals or in groups in the first lesson, and inter-class tournaments were organised in the last lesson of the second week. The following week, the teacher started to introduce a new board game. Thus, the introduction of one board game was completed in two weeks and the introduction of five board games in 10 weeks. The SSES 7–12 was conducted for the children selected by random sampling method both in the experimental group and the control group as the pre-test before the training by the class teachers. The SSES 7–12 was simultaneously applied to 200 fourth graders who were selected from the different shifts as the experimental and control groups. The families of these children filled the general information forms prepared by the researcher. For the comparability of the SSES 7-12 results, the demographic characteristics of the children and their families were considered and the experimental and control groups were created by including

comparable characteristics in both groups. The obtained pre-test data were assessed, the difference between the mean scores of the test results of the groups was tested and when the groups were found to be comparable, the training programme was initiated in the experimental group. To ensure the children learned a considerable amount of new information and also had fun doing it, the board games were selected on the basis of the children's level. Children in each class underwent training for one board game in two weeks, meaning a total of five games aimed at social skills development for the duration of the training, i.e. 10 weeks. At the end of each class, mutual sharing was done with children regarding the process. The challenges they encountered during the board games, the solutions they found, the contributions of these games on their social development and skills, and their emotions and thoughts during the games were evaluated in detail. The aim of the group activities was helping the children strengthen their skills of supporting each other, getting help and cooperation. In contrast, the aim of the individual activities was helping the children develop the skill of learning by experience, by being more active and improving performance, analysis and synthesis on their own. The training programme, which lasted for a total of 20 hours over 10 weeks was completed on 02 June 2017. After the completion of the EBGTP, the SSES 7–12 was applied again as post-test for the children in the study group.

Data Analysis

In this research, the effect of the EBGTP on the scores of social skill development scores of fourth graders were examined. Data analysis was performed by the Statistical Packet for the Social Sciences (SPSS) 16.0 software. Independent sample t-tests were conducted for the comparison of the pre-test scores of the children in the experimental and control groups and that of the post-test scores of the children in the experimental and the control groups, whereas a dependent sample t-test was conducted for the comparisons of intra-group pre-test/post-test scores.

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RESULTS

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In this section, on the basis of the research hypotheses formulated to investigate whether the EBGTP effectively influences the social skill development of the fourth graders, the results regarding the following sub-dimensions of the SSES 7–12 are presented.

Findings on the Difference of the Pre-test Mean Scores of the Social Skill Development of the Fourth Graders in the Experimental and Control Groups

To test whether the experimental and control groups were selected from the same population before the implementation of the EBGTP, i.e. to determine whether the pre-test mean scores of social skill development are statistically comparable, the pre-test mean scores of the social skill development of both the groups were compared using independent sample t-tests. The results are shown in Table 1.

Table 1. *N, $\overline{x}$, SD, t and p values of the pre-test mean scores of the social skill development of the fourth graders in the experimental and control groups*

Social Skill Development Sub-dimension	Groups	n	$\overline{x}$	SD	t	p
Basic Social Skills	Experimental	40	43.63	1,920	1,948	0,055
	Control	40	48.45	1,564		
Basic Verbal Skills	Experimental	40	12.75	4,791	1,409	0,163
	Control	40	14.08	3,525		
Advanced Verbal Skills	Experimental	40	15.28	4,728	1,234	0,221
	Control	40	16.40	3,295		
Relationship Initiation Skills	Experimental	40	14.45	4,945	1,593	0,115
	Control	40	15.98	3,489		
Relationship-Maintaining Skills	Experimental	40	19.60	6,352	1,559	0,123
	Control	40	21.60	5,047		
Group Work Skills	Experimental	40	22.10	7,344	1,505	0,136
	Control	40	24.35	5,950		
Emotional Skills	Experimental	40	18.35	6,002	1,467	0,146
	Control	40	20.18	5,088		
Self-Control Skills	Experimental	40	18.68	5,703	1,340	0,184
	Control	40	20.35	5,475		
Coping Skills against Hostile Behaviours	Experimental	40	12.20	2,775	1,342	0,183
	Control	40	13.08	3,049		
Outcome Recognition Skills	Experimental	40	9.55	3,296	1,615	0,110
	Control	40	10.63	2,618		
Direction Skills	Experimental	40	12.95	4,551	0,686	0,495
	Control	40	13.58	3,529		
Cognitive Skills	Experimental	40	18.55	5,415	1,182	0,241
	Control	40	19.88	4,575		

Independent t-tests were conducted to determine whether there is a significant difference between the pre-test mean scores of fourth graders in the Experimental and control groups. According to Table 1, the t-values of the following social skill development sub-dimensions were not found to be statistically significant: basic social skills (t = 1.948; p > 0.05); basic verbal skills (t = 1.409; p > 0.05); advanced verbal skills (t = 1.234; p > 0.05); relationship initiation skills (t = 1.593; p > 0.05); relationship initiation skills (t = 1.559; p > 0.05); group work skills (t = 1.505; p > 0.05); emotional skills (t = 1.467; p > 0.05); self-control skills (t = 1.340; p > 0.05); coping skills against hostile behaviours (t = 1.342; p > 0.05); outcome recognition skills (t = 1.615; p > 0.05); direction skills sub-dimension (t = 0.686; p > 0.05); and cognitive skills (t = 1.182; p > 0.05).

Findings on the Difference of the Post-test Mean Scores of the Social Skill Development of the Fourth Graders in the Experimental and Control Groups

After the EBGTP was conducted for the experimental group, independent sample t-tests were used to test whether there is a significant difference between the post-test mean scores of the social skill development of the children in the experimental and control groups. The results of the comparison are shown in Table 2.

Table 2. *N, $\overline{x}$, SD, t and p values of the post-test mean scores of the social skill development of the fourth graders in the experimental and control groups*

Social Skill Development Sub-dimension	Groups	n	$\overline{x}$	SD	t	p
Basic Social Skills	Experimental	40	53.53	8,578	2,142	0,035
	Control	40	48.95	10,436		
Basic Verbal Skills	Experimental	40	16.08	3,452	2,362	0,021
	Control	40	14.15	3,826		
Advanced Verbal Skills	Experimental	40	19.08	4,053	2,760	0,007
	Control	40	16.73	3,544		
Relationship Initiation Skills	Experimental	40	18.78	4,370	2,785	0,007
	Control	40	16.23	3,799		
Relationship-Maintaining Skills	Experimental	40	22.43	4,760	2,209	0,030
	Control	40	22.03	4,953		
Group Work Skills	Experimental	40	27.90	6,037	2,480	0,015
	Control	40	24.55	6,046		
Emotional Skills	Experimental	40	22.80	4,501	2,245	0,028
	Control	40	20.38	5,137		
Self-Control Skills	Experimental	40	22.93	4,681	2,101	0,039
	Control	40	20.53	5,500		
Coping Skills against Hostile Behaviours	Experimental	40	14.95	2,809	2,560	0,012
	Control	40	13.28	3,038		
Outcome Recognition Skills	Experimental	40	12.18	2,274	2,102	0,039
	Control	40	11.03	2,606		
Direction Skills	Experimental	40	15.80	3,708	2,158	0,034
	Control	40	14.08	3,437		
Cognitive Skills	Experimental	40	22.68	5,009	2,389	0,019
	Control	40	20.08	4,719		

Independent t-tests were conducted to determine whether there is a significant difference between the post-test mean scores of the fourth graders in the experimental group. According to Table 2, the t-values of the following social skill development sub-dimensions of the experimental group were found to be significantly higher than the scores of the control group: basic social skills (t = 2.142; p < 0.05); basic verbal skills (t = 2.362; p < 0.05); advanced verbal skills (t = 2.760; p < 0.05); relationship initiation skills (t = 2.785; p < 0.05); relationship initiation skills (t = 2.209; p < 0.05); group work skills (t = 2.480; p < 0.05); emotional skills (t = 2.245; p < 0.05); self-control skills (t = 2.101; p < 0.05); coping skills against hostile behaviours (t = 2.560; p < 0.05); outcome recognition skills (t = 2.102; p < 0.05); direction skills (t = 2.158; p < 0.05); cognitive skills (t = 2.389; p < 0.05).

Findings on the Difference of the Pre-test/Post-test Mean Scores of the Social Skill Development of the Fourth Graders in the Control Group

Dependent sample t-tests were conducted to determine whether there is a significant difference between the pre-test/post-test mean scores of the social skill development of the

fourth graders in the control group who did not participate in the EBGTP. The results are shown in Table 3.

Table 3. *N, $\overline{x}$, SD, t and p values of the pre-test/post-test mean scores of the social skill development of the fourth graders in the control group*

Social Skill Development Sub-dimension	Groups	n	$\overline{x}$	SD	t	p
Basic Social Skills	Pre-test	40	48.45	9,891	0,832	0,411
	Post-test	40	48.95	10,436		
Basic Verbal Skills	Pre-test	40	14.08	3,525	0,240	0,812
	Post-test	40	14.15	3,826		
Advanced Verbal Skills	Pre-test	40	16.40	3,295	1,484	0,146
	Post-test	40	16.73	3,544		
Relationship Initiation Skills	Pre-test	40	15.98	3,489	1,759	0,086
	Post-test	40	16.23	3,799		
Relationship-Maintaining Skills	Pre-test	40	21.60	5,047	1,390	0,172
	Post-test	40	22.03	4,953		
Group Work Skills	Pre-test	40	24.35	5,950	0,628	0,534
	Post-test	40	24.55	6,046		
Emotional Skills	Pre-test	40	20.18	5,088	0,697	0,490
	Post-test	40	20.38	5,137		
Self-Control Skills	Pre-test	40	20.35	5,475	0,714	0,480
	Post-test	40	20.53	5,500		
Coping Skills against Hostile Behaviours	Pre-test	40	13.08	3,049	0,916	0,365
	Post-test	40	13.28	3,038		
Outcome Recognition Skills	Pre-test	40	10.63	2,618	1,842	0,073
	Post-test	40	11.03	2,606		
Direction Skills	Pre-test	40	13.58	3,529	2,059	0,046
	Post-test	40	14.08	3,437		
Cognitive Skills	Pre-test	40	19.88	4,575	1,433	0,160
	Post-test	40	20.08	4,719		

According to the results of the dependent t-tests, there was no significant difference between the mean post-test and pre-test scores for the following social skill development sub-dimensions: basic social skills (t = 0.832; p > 0.05); basic verbal skills (t = 0.240; p > 0.05); advanced verbal skills (t = 1.484; p > 0.05); relationship initiation skills (t = 1.759; p > 0.05); relationship-maintaining skills (t = 1.390; p > 0.05); group work skills (t = 0.628; p > 0.05); emotional skills (t = 0.697; p > 0.05); self-control skills (t = 0.714; p > 0.05); coping skills against hostile behaviours (t = 0.916; p > 0.05); outcome recognition skills (t = 1.842; p > 0.05); and cognitive skills (t = 1.433; p > 0.05). However, there was a significant difference between the mean post-test and pre-test scores for direction skills (t = 2.059; p < 0.05) for the children in the control group, as presented in Table 3.

Findings on the Difference of the Pre-test/Post-test Mean Scores of the Social Skill Development of the Fourth Graders in the Experimental Group

Dependent sample t-tests were conducted to determine whether there is a significant difference between the mean scores of the social skill development before and after the implementation of the training programme of the fourth graders in the experimental group who participated in the EBGTP. The results are shown in Table 4.

Table 4. *N, $\overline{x}$, SD, t and p values of the pre-test/post-test mean scores of the social skill development of the fourth graders in the experimental group*

Social Skill Development Sub-dimension	Groups	n	$\overline{x}$	SD	t	p
Basic Social Skills	Pre-test	40	43.63	12,143	7,628	0,001
	Post-test	40	53.53	8,578		
Basic Verbal Skills	Pre-test	40	12.75	4,791	7,523	0,001
	Post-test	40	16.08	3,452		
Advanced Verbal Skills	Pre-test	40	15.28	4,728	6,876	0,001
	Post-test	40	19.08	4,053		
Relationship Initiation Skills	Pre-test	40	14.45	4,945	8,288	0,001
	Post-test	40	18.78	4,370		
Relationship-Maintaining Skills	Pre-test	40	19.60	6,352	7,643	0,001
	Post-test	40	24.43	4,760		
Group Work Skills	Pre-test	40	22.10	7,344	8,352	0,001
	Post-test	40	27.90	6,037		
Emotional Skills	Pre-test	40	18.35	6,002	7,362	0,001
	Post-test	40	22.80	4,501		
Self-Control Skills	Pre-test	40	18.68	5,703	7,451	0,001
	Post-test	40	22.93	4,681		
Coping Skills against Hostile Behaviours	Pre-test	40	12.20	2,775	7,018	0,001
	Post-test	40	14.95	2,809		
Outcome Recognition Skills	Pre-test	40	9.55	3,296	6,012	0,001
	Post-test	40	12.18	2,274		
Direction Skills	Pre-test	40	12.95	4,551	6,812	0,001
	Post-test	40	15.80	3,708		
Cognitive Skills	Pre-test	40	18.55	5,415	7,101	0,001
	Post-test	40	22.68	5,009		

According to the results of the dependent t-test results (Table 4), there was a significant difference between the mean post-test and pre-test scores of the children in the experimental group for the following social skill development sub-dimensions: basic social skills (t = 7.628; p < 0.05); basic verbal skills (t = 7.523; p > 0.0, p < 0.05); advanced verbal skills (t = 6.876; p < 0.05); relationship initiation skills (t = 8.288; p < 0.05); relationship-maintaining skills (t = 7.643; p < 0.05); group work skills (t = 8.352; p < 0.05); emotional skills (t = 7.362; p < 0.05); self-control skills (t = 7.451; p < 0.05); coping skills against hostile behaviours (t = 7.018; p < 0.05); outcome recognition skills (t = 6.012; p < 0.05); direction skills (t = 6.812; p < 0.05); and cognitive skills (t = 7.101; p < 0.05).

DISCUSSION

According to the research findings, the statistical analysis performed to determine whether there is a significant difference between the pre-test scores of the experimental and control groups comprising fourth graders showed that the groups were comparable, i.e. selected from the same population. Accordingly, it may be interpreted that the children included in the experimental and control groups were comparable with respect to their social skill development levels and demographic characteristics, such as family structure and socio-cultural and economic levels, before the training programme.

To determine the effect of the training programme on the social skill development of the children compared with that of the ongoing education programme, a comparison was drawn between the experimental and control groups of fourth graders in terms of divergences in mean post-test scores of basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills, direction skills and cognitive skills. The difference between the mean post-test scores of social skill development of the experimental and control groups was found to be significant at the level of 0.05. According to this result, it can be said that the difference in the scores is because of the EBGTP rather than the ongoing education programme in schools. This finding shows that the educational board games in the EBGTP positively affect the social skill development of children. In other words, EBGTP significantly improves the social skill development of children. Gül (2006) has investigated the effect of symbolic play training on the general development status of children between the ages of 61 to 72 months. A total of 24 children, 12 experimental subjects and 12 control subjects were included in Gül's study, and the children in the experimental group underwent symbolic play training for a total of 24 sessions for eight weeks, three times a week. The results on the social-emotional development domains of the children in the experimental group were significantly different in the post-test compared with those in the pre-test. It has been suggested that incorporating symbolic play activities in preschool training programmes improves children's social skills. Durualp and Aral (2010) explored the effect of the Play-Based Social Skill Training Programme on the social skills of six-year-old children attending preschool. Forty-eight children in the experimental group were included in this programme for eight weeks, three times a week. During the periods in which the training programme was not applied, the children in the experimental and control groups continued their current preschool education. As a result of the research, it was observed that there was a significant difference between the social skill scores of the children in the experimental and control groups, and this effect of the training programme continued even after the study. Glover-Gagnon and Nagle (2004) investigated the relationship between the interactive play activities children engage in with their peers in preschool and children's social skills. As a result of the research, the important role of play activities and peer communication in the development of children's social skills was revealed, and the importance of play behaviours and the social-emotional development oriented with success at school was emphasised. The necessity for the development of play-based interventions for the children with inadequate social skill development was noted. Research propose that board games are interactive for individuals and teams and they facilitate children's friendship development, parent-child interaction, social skills, social development and social learning (Burgess, Wojslawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006; Chen, Liao, Cheng, Yeh, & Chan, 2012; Hinebaugh, 2009; Kalles & Kanellopoulos, 2008; Kırıkkaya, İseri, & Vurkaya, 2010; Prensky, 2001; Rubin, Bukowski, & Laursen, 2011; Türkoğlu, Çeliköz, & Uslu, 2013; Yen, Chou, Chen, Wu, & Kao, 2015). The findings of these studies are consistent with the findings of the present research.

As no additional training programme was applied to the fourth graders in the control group in addition to their life in primary school, no significant improvements were achieved in their levels of basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills and cognitive skills.

However, their pre-test/post-test scores for direction skills were significantly improved. Accordingly, it can be said that this significant increase in the direction skills of these children who did not participate in the EBGTP is a result of formal education, wherein the objectives to be accomplished at the end of a scheduled and programmed training process are apparent beforehand. Being obtained through formal education in primary school, this learning is attributed to teacher–student and student–student interactions in school and especially in class, even though they did not attend a specialised training programme. Therefore, the improvement in the direction skills of the fourth graders may be a natural outcome of formal school education.

A significant improvement was observed at the level of 0.05 in the post-test scores of the children in the experimental group after they participated in the EBGTP as compared with their pre-test scores for social skills, including basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills, direction skills and cognitive skills. The applied training programme led to a significant increase in the social skill levels of the children. With reference to this information, it can be said that the educational board games in training programme have an important role in improving children's social skills. Kramer and Radey (1997) explored the effects of social skill training on sibling relationships. A total of 42 siblings -21 in the experimental group and 21 in the control group- were included in the investigation, and social skill training regarding matters such as playing with their sibling, appropriately refusing the play invitation, coping with anger and being able to solve problems was given to the siblings in the experimental group. The siblings in the control group did not take any social skill training programme. At the end of the investigation, it was determined that the skill acquired by the siblings in the experimental group in which the social skill training was applied was found to be higher than that by the siblings in the control group. İpek (1998) used the drama method in the training programme in which the skills to be acquired included playing games, sharing, taking responsibility, following the group play activities under the leadership of an adult, cooperating, helping, wanting help, appropriately expressing emotions, awaiting their turn and making a choice. The training programme was applied to 17 children between the ages of four and 11 years over 45 sessions during eight weeks. At the end of the programme, improvements in the specified social skills were detected in all age groups. Walsh et al. (2006) conducted a comparative investigation between the play-based enriched curriculum and the conventional curriculum in 70 preschools in Northern Ireland. It was observed that in the latter, almost no play breaks were taken, the children only dealt with activities regarding their homework and they only had a free play session at the end of the day. In the former, the day was started with a play activity, and a play break was taken in which the children freely played with their friends. They also participated in play activities that improved their gross motor skills in the garden and those in which mathematics was taught. The research results showed that play-based enriched classes are superior to conventional classes and that play-based activities are multifaceted and help in acquiring a high level of social and thinking skills. By playing board games, children can learn social skills like how to interact with peers, how to follow game rules, and how to apprehended others' perspectives (Brady, Newcomb, & Hartup, 1983; Garton & Pratt, 2001; Guralnick, Hammond, Connor, & Neville, 2006; Huizinga, 1950; Licciardello, Harchik, & Luiselli, 2008; Nicolopoulou, 2004; Shapira & Madsen, 1974). The findings of the studies are consistent with the findings of the present research.

According to these findings, it can be said that the implementation of the EBGTP was successful, the educational board games of this training programme have an important effect in improving the social skills of children, and this improvement cannot be achieved with the standard curriculum in primary schools. The EBGTP reveals the real potentials of allowing children to spontaneously learn and enjoy through educational games without any forced activities or restrictions.

CONCLUSION AND SUGGESTIONS

In this section, the conclusions derived from the results of this research and the suggestions made on the basis of these conclusions are presented. This research was conducted to investigate the effect of the EBGTP on the social skill development (basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours, outcome recognition skills, direction skills and cognitive skills) of primary school children.

The study sample consisted of a total of 80 children (40 each in the experimental and control groups). A general information form for children and parents was used as the data collection tool, and the SSES 7–12 was used for the statistical testing of the efficacy of the EBGTP on the social skill development of fourth graders. This scale was applied to the experimental and control groups as the pre-test and post-test. For the statistical analysis of the obtained data, independent sample t-tests were used for the comparison of the pre-test score of the children in the experimental and control groups, independent sample t-tests for the comparison of post-test scores of the children in the experimental and control groups and dependent sample t-tests for the comparisons of intra-group pretests/posttests.

Conclusions

The following conclusions were drawn in the light of the obtained results:
- ✓ No significant difference was found in the mean pre-test scores on the SSES 7–12 of the fourth graders in the experimental and control groups before the implementation of the EBGTP.
- ✓ A significant difference in favour of the experimental group was found between the mean post-test scores on the SSES 7–12 sub-scales of the fourth graders in the experimental group who underwent the EBGTP and the fourth graders in the control group who did only took the ongoing education programme.
- ✓ No significant improvement was found between the pre-test and post-test scores of the fourth graders in the control group on the SSES 7–12 regarding the following social skill development sub-dimensions: basic social skills, basic verbal skills, advanced verbal skills, relationship initiation skills, relationship-maintaining skills, group work skills, emotional skills, self-control skills, coping skills against hostile behaviours and cognitive skills. However, their pre-test/post-test scores for direction skills were significantly improved.
- ✓ A significant difference in favour of the post-test scores was found between the mean pre-test/post-test scores of the fourth graders on the experimental group who underwent the EBGTP on the SSES 7–12 sub-scales.

This research investigated the effect of the EBGTP on the social skill development of fourth graders. Consequently, this programme was determined to be highly effective for the development of children's social skills.

Suggestions

The following suggestions are presented on the basis of the results of this research:

Suggestions Based on Study Findings

- ✓ Since it significantly improves children's social skill development, the EBGTP may be implemented at primary school education.
- ✓ In-service trainings and seminaries may be held regarding the EBGTP for teachers working in primary schools affiliated with the Ministry of Education.
- ✓ Optional courses in which programmes related with educational board games, which contribute to social skill development, are introduced and prepared may be implemented in the curriculum of universities that train teacher candidates at the undergraduate and graduate levels.
- ✓ Curriculum designers should pay close attention to the development of board games and these games should be used in the development of curricular content.

Suggestions for Future Research

✓ The EBGTP may be used within the early intervention programme or special education programme applications and the effect of the training programme on the children who are diagnosed with Autism Spectrum Disorder, Down Syndrome or Asperger Syndrome may be investigated.

✓ The EBGTP may be implemented in the schools in which gifted children are educated and the effect of the training programme on them may be investigated.

✓ The EBGTP may be implemented at all stages of education starting from preschool education and the results may be compared.

In conclusion, the data obtained from this research should help this training programme become more prevalent and applicable in other schools and also to be added to the primary school curriculum as a course, thereby contributing to the social skill development of all children.

REFERENCES

Akçamete, G., & Avcıoğlu, H. (2005). Sosyal becerileri değerlendirme ölçeğinin (7-12 yas) geçerlik ve güvenirlik çalışması. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 5* (2), 61-77.

Akman, B., Topçu, Z., Baydemir, G., Şahin, S., Şirin, E., & Arslan, Ç. A. (2011). 6 Yaş grubu çocukların sosyal becerilerinin oyun arkadaşı tercihleri üzerindeki etkisi. *E-Journal Of New World Sciences Academy Education Sciences, 6*(2), 1548-1560.

Aldrich, C. (2004). *Simulations and the future of learning: An innovative (and perhaps revolutionary) approach to elearning.* San Francisco: Pfeiffer.

Amr, K. (2012). Learning through games: Essential features of an educational game. *Instructional Design, Development and Evaluation - Dissertations.* Retrieved December 20, 2018, from https://surface.syr.edu/cgi/viewcontent.cgi?article=1055&context=idde_etd

Aral, N., Gürsoy, F., & Köksal, A. (2000). *Okul öncesi eğitimde oyun.* İstanbul: Ya-Pa Yayın Pazarlama.

Akkök, F. (1999). *İlköğretimde sosyal becerilerin gelişmesi.* Ankara: Meb Yayınları.

Avcıoğlu, H. (2009). *Etkinliklerle sosyal beceri öğretimi.* Ankara: Kök Yayıncılık.

Bacanlı, H. (2012). *Sosyal beceri eğitimi.* Ankara: Pegem Akademi.

Bellis, T. J. (2002). *When the brain can't hear: Unraveling the mystery of auditory processing disorder.* New York, NY, Atria.

Bender, W. N. (2012). *Öğrenme güçlüğü olan bireyler ve eğitimleri.* (H. Sarı, Çev.). Ankara: Nobel.

Board Game. (2018). In *Merriam-Webster.com.* Retrieved December 19, 2018, from https://www.merriam-webster.com/dictionary/board%20game

Brady, J. E., Newcomb, A. F., & Hartup, W. W. (1983). Context and companion's behavior as determinants of cooperation and competition in school-age children. *Journal of Experimental Child Psychology, 36*(3), 396-412. doi: 10.1016/0022-0965(83)90042-5

Brawerman, A., Bortoloti, C., Guimaraes, L. B., Granato, L. C., Aroldi, M. D., & de Sauza, V. M. (2013). ABC game-educating through mobile devices. In *International Conference on Interactive Computer Aided Blended Learning* (pp. 146-150).

Brick by Brick. (2018). In *Thinkfun.com.* Retrieved December 21, 2018, from https://www.thinkfun.com/wp-content/uploads/2015/09/Brick-5901-INCards02.pdf

Bruni, J., & Silverman, H. (1975). Using a pegboard to develop mathematical concepts. *The Arithmetic Teacher, 22*(6), 452-458.

Burgess, K. B., Wojslawowicz, J. C., Rubin, K. H., Rose-Krasnor, L., & Booth-LaForce, C. (2006). Social information processing and coping strategies of shy/withdrawn and aggressive children: Does friendship matter? *Child Development, 77*(2), 371-383. https://doi.org/10.1111/j.1467-8624.2006.00876.x

Byrne, D. (1995). *Games. Teaching oral English.* Harlow: Longman Group UK Limited.

Caldarella, P., & Merrell, K. W. (1997). Common dimensions of social skills of children and adolescents: A taxonomy of positive behaviors. *Social Psychology Review, 26*(2), 264-278.

Catron, C. E., & Allen, J. (2003). *Early childhood curriculum a creative play model.* (3. Edition). USA: Pearson Education.

Chen, Z. H., Liao, C. C., Cheng, H. N., Yeh, C. Y., & Chan, T. W. (2012). Influence of game quests on pupils' enjoyment and goal-pursuing in math learning. *Educational Technology & Society, 15*(2), 317-327.

Collins, K. M., Griess, C. J., Carithers, K., & Michaelis Castillo, D. (2011). It's all in the game designing and playing board games to foster communication and social skills. *YC Young Children*, *66*(2), 12-19.

Çağdaş, A., & Seçer, Z. (2002). *Çocuk ve ergende sosyal ve ahlak gelişimi.* İstanbul: Nobel Yayınevi.

Çetin, F., Bilbay A. A., & Kaymak D. A. (2003). *Çocuklarda sosyal beceriler.* İstanbul: Epsilon Yayıncılık.

Çoban, B., & Nacar, E. (2006). *Okul öncesi eğitimde eğitsel oyunlar.* Ankara: Nobel Yayın Dağıtım.

Çubukçu, Z., & Gültekin, M. (2006). İlköğretimde öğrencilere kazandırılması gereken sosyal beceriler. *Bilig: Türk Dünyası Sosyal Bilimler Dergisi, 37*, 154-174.

Darwish, D., Esquivel, G. B., Houtz, J. C., & Alfonso, V. C. (2001). Play and social skills in maltreated and non-maltreated preschoolers during peer ınteractions. *Child Abuse and Neglect, 25*, 13-31. https://doi.org/10.1016/S0145-2134(00)00228-3

Dowrick, P. W. (1986). *Social survival for children.* New York: Brunner/Mazel.

Driscoll, A., & Nagel, N. G. (2008). *Early childhood education, Birth-eight.* (4. Edition). USA: Pearson Education.

Durualp, E., & Aral, N. (2010). Altı yaşındaki çocukların sosyal becerilerine oyun temelli sosyal beceri eğitiminin etkisinin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *39*, 160-172.

Durualp, E., & Aral, N. (2015). *Oyun temelli sosyal beceri eğitimi.* (2. Baskı). Ankara: Vize Basın Yayın.

Ekukinam, T. U. (2014). Planning guided instructional activities for pupils' cognitive development through adaptation of collecting as a play. *Journal of Research and Development in Education, 5*(1), 50-58.

Ellialtıoğlu, M. F. (2005). *Okul öncesi dönemde oyun ve oyun örnekleri*. İstanbul: Ya-Pa Yayın Pazarlama.

Erbay, F., & Durmuşoğlu Saltalı, N. (2012). Altı yaş çocuklarının günlük yaşantılarında oyunun yeri ve annelerin oyun algısı. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 13*(2), 249- 264.

Esen, M. A. (2008). Geleneksel çocuk oyunlarının eğitimsel değeri ve unutulmaya yüz tutmuş ahıska oyunları. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi*, *21*(2), 357-367.

Foreman, J., Gee, J. P., Herz, J. C., Hinrichs, R., Prensky, M., & Sawyer, B. (2004). Game-based learning: How to delight and ınstruct in the 21st century. *EDUCAUSE Review, 39*(5), 50- 66.

Garton, A. F., & Pratt, C. (2001). Peer assistance in children's problem solving. *British Journal of Development Psychology, 19*, 307-318. https://doi.org/10.1348/026151001166092

Glover-Gagnon, S., & Nagle, R. J. (2004). Relationships between peer interactive play and social competence in at-risk preschool children. *Psychology in The Schools*, *41*(2), 173-189.

Guralnick, M. J., Hammond, M. A., Connor, R. T., & Neville, B. (2006). Stability, change, and correlates of the peer relationships of young children with mild developmental delays. *Child Development, 77*(2), 312-324. https://doi.org/10.1111/j.1467-8624.2006.00872.x

Gül, M. (2006). *Anasınıfına devam eden alt sosyo-ekonomik düzeydeki 61-72 ay arası çocuklara sembolik oyun eğitiminin genel gelişim durumlarına etkisi.* Yayımlanmamış Yüksek Lisans Tezi. Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

Gülay, H., & Akman, B. (2009). *Okul öncesi dönemde sosyal beceriler.* Ankara: Pegem Akademi.

Güney, S. (2000). *Davranış bilimleri.* Ankara: Nobel Yayın Dağıtım.

Güngör, A. (2004). Toplumsal ve duygusal gelişim. A. Ulusoy (Ed.), *Gelişim ve öğrenme* içinde (93-124). Ankara: Anı Yayıncılık.

Handel, G., Cahill, S., & Elkin, F. (2007). *Children and society: The sociology of children and childhood socialization.* New York: Oxford University Press.

Hinebaugh, J. P. (2009). *A board game education.* R&L Education.

Hromek, R., & Roffey, S. (2008). Promoting social and emotional learning with games. *Simulation and Gaming, 40*(5), 626-644. https://doi.org/10.1177/1046878109333793

Huizinga, J. (1950). *Homo Ludens: A study of the play element in culture*. Boston, MA: Beacon Press.

İpek, A. (1998). *Eğitimde dramanın zihinsel engelli çocukların sosyal gelişimleri üzerindeki etkisinin incelenmesi.* Yayımlanmamış Yüksek Lisans Tezi. Hacettepe Üniversitesi, Sosyal Bilimler Enstitüsü, Ankara.

Kakuzu. (2018). In *Foxmind.com.* Retrieved December 19, 2018, from http://eng.foxmind.co.il/game-90

Kalles, D., & Kanellopoulos, P. (2008). *A minimax tutor for learning to play a board game.* In 18th European Conference on Artificial Intelligence, Workshop on Artificial Intelligence in Games, Patras, Greece (pp. 10-14).

Keesee, G. (2012). *Educational games.* Retrieved December 22, 2018, from http://teachinglearningresources.pbworks.com/w/page/35130965/Educational%20Games

Kılıçoğlu, M. (2006). *Anasınıfı, hazırlık ve ilköğretim birinci sınıflarda okuyan görme engelli öğrencilerin oyunlarının değerlendirilmesi: Karşılaştırmalı bir araştırma*. Yayımlanmamış Yüksek Lisans Tezi. Selçuk Üniversitesi, Sosyal Bilimler Enstitüsü, Konya.

Kırıkkaya, E. B., İşeri, Ş., & Vurkaya, G. (2010). A board game about space and solar system for primary school students. *Turkish Online Journal of Education Technology, 9*(2) , 1-13.

Koçyiğit, S., Tuğluk, M. N., & Kök, M. (2007). Çocuğun gelişim sürecinde eğitsel bir etkinlik olarak oyun. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi, 16*, 325-42.

Kramer, L., & Radey, C. (1997). Improving sibling relationships among young children: A social skills training model. *Family Relations*, *46*(3), 237-247.

Köroğlu, E. (2005). *Oyun çocuğu*. (2. Basım). Ankara: HYB Yayıncılık.

LeVine, R. A. (2003). *Childhood socialization: Comparative studies of parenting, learning and educational change.* Hong Kong, China: University of Hong Kong.

Licciardello, C. C., Harchik, A. E., & Luiselli, J. K. (2008). Social skills intervention for children with autism during interactive play at a public elementary school. *Education and Treatment of Children, 31*(1), 27-37. https://doi.org/10.1353/etc.0.0010

Lillard, A. S., Lerner, M. D., Hopkins, E. J., Dore, R. A., Smith, E. D., & Palmquist, C. M. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin, 139*(1), 1–34. https://doi.org/10.1037/a0029321

Liu, T. Y., & Chu, Y. L. (2010). Using ubiquitous games in an English listening and speaking course: Impact on learning outcomes and motivation. *Computers & Education, 55*(2), 630-643. https://doi.org/10.1016/j.compedu.2010.02.023

Lutfey, K., & Mortimer, J. (2006). Development and socialization through the adult life course. In J. Delamater (Ed.), *Handbook of social psychology* (pp. 183-202). New York: Springer.

Mackey, A. P., Hill, S. S., Stone, S. I., & Bunge, S. A. (2011). Differential effects of reasoning and speed training in children. *Developmental Science, 14*(3), 582-590. https://doi.org/10.1111/j.1467-7687.2010.01005.x

Madjidzadeh, Y. (2003). Jiroft, The earliest oriental civilization. Organization of the Ministry of Culture and Islamic Guidance, Tehran.

Mangır, M., & Aktaş, Y. (1993). Çocuğun gelişiminde oyunun önemi. *Yaşadıkça Eğitim*, *26*, 14-18.

Mathdice 8-99. (2018). In *Thinkfun.com.* Retrieved December 21, 2018, from https://www.thinkfun.com/wp-content/uploads/2015/09/MathD-1510-IN.pdf

Mengütoy, S. (1999). *Okul öncesi ve ilkokullarda beden eğitimi ve spor.* İstanbul: Tekel Ambalaj Fabrikası Yayınları.

Nicolopoulou, A. (2004). *Oyun, bilişsel gelişim ve toplumsal dünya: Piaget, Vygotsky ve sonrası* (M. T. Bağlı, Çev.). Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, Vol. 37 (2), s.137-169.

Pehlivan, H. (2005). *Oyun ve öğrenme.* Ankara: Anı Yayıncılık.

Prensky, M. (2001). Fun, play and games: What makes games engaging, In *Digital game-based learning.* New York: McGraw-Hill.

Prince, M. (2004). Does active learning work? *A Review of the Research Journal of Engineering Education, 93*(3), 223-234. https://doi.org/10.1002/j.2168-9830.2004.tb00809.x

Putallaz, M., & Gottman, J. M. (1981). An interactional model of children's entry into peer groups. *Child Development, 52*, 986-994.

Q-bitz Extreme. (2018). In *Mindware.com.* Retrieved December 20, 2018, from https://www.mindware.orientaltrading.com/q-bitz-extreme-a2-56035.fltr

Quinn, C. N. (2005). *Engaging Learning: Designing e-learning simulation games.* San Francisco: Pfeiffer.

Ramazan, O. (2013). Oyun etkinlikleri II. *Çocuk ve Oyun.* R. Zembat (Ed.), Erzurum: Atatürk Üniversitesi Açık Öğretim Fakültesi Yayını. Retrieved July 21, 2015, from http://www.ataturkuni.net/ow_userfiles/plugins/forum/attachment_1312_544130ab2055e_544130a94c0d3_%C3%87OCUK-VE-OYUN-7.pdf

Rubin, K. H., Fein, G., & Vandenberg, B. (1983). Play. P. H. Musser (Ed.) In *Handbook of child psychology* (755-834) New York: Wiley.

Rubin, K. H., Bukowski, W. M., & Laursen, B. (2011). *Handbook of peer interactions, relationships, and groups.* New York: Guilford Press.

Shapira, A., & Madsen, M. (1974). Between and within group cooperation and competition among Kibbutz and Non-Kibbutz children. *Developmental Psychology, 10*, 140-145.

Shaver, K. G. (1981). *Principles of social psychology*, Cambridge: Winthrop Publishers.

Seyrek, H., & Sun, M. (2010). *Okul öncesi eğitiminde oyun*. İzmir: Müzik Eserleri Yayınları.

Singer, D. G., Singer, J. L., DíAgostino, H., & Delong, R. (2009). Children's pastimes and play in sixteen nations: Is free play declining? *American Journal of Play, 1*(3), 283–312.

Strayer, F. F., & Santos, A. J. (1996). Affiliative structures in preschool peer groups. *Social Development, 5*(2), 117-130. https://doi.org/10.1111/j.1467-9507.1996.tb00075.x

Swindells, D., & Stagnitti, K. (2006). Pretend play and parents' view of social competence: The construct validity of the child-initiated pretend play. *Australian Occupational Therapy Journal*, *53*, 314-324. https://doi.org/10.1111/j.1440-1630.2006.00592.x

Şahin, H. M. (2006). *Okul öncesi eğitimde eğitsel oyunlar*. Ankara: Nobel YayınDağıtım.

Treher, E. N. (2011). *Learning with board games. Play for performance. Tools for learning and retention.* The Learning Key Inc. Retrieved December 22, 2018, from http://www.thelearningkey.com

Türkoğlu, B., Çeliköz, N., & Uslu, M. (2013). 3-6 yaş aralığında çocuğu olan babaların nitelikli zaman algılarına dair görüşleri. *Eğitim ve Öğretim Araştırmaları Dergisi, 2*(2), 54-71.

Türkoğlu, B., & Uslu M. (2016). Oyun temelli bilişsel gelişim programının 60-72 aylık çocukların bilişsel gelişimine etkisi. *Uluslararası Eğitim Bilimleri Dergisi*, *3*(6), 50-68. Retrieved September 12, 2017, from http://dergipark.org.tr/inesj/issue/40018/475797

Uskov, V. L., Howlett, R. J., & Jain, L. C. (2015). *Smart education and smart e-learning.* New York: Springer

Vij, V. (2011). Party games for all occasions. New Delhi: Vij Books India Pvt. Ltd.

Walsh, G., Sproule, L., McGuinness, C., Trew, K., Rafferty, H., & Sheehy, N. (2006). An appropriate curriculum for 4-5-year-old children in Northern Ireland: Comparing play-based and formal approaches. *Early Years: An International Journal of Research and Development*, *26*(2), 201-221. https://doi.org/10.1080/09575140600760003

Westwood, P. (1993). *Commonsense methods for children with special needs.* London: Routledge.

Yavuzer, H. (2006). *Çocuk psikolojisi.* İstanbul: Remzi Kitabevi.

Yen, S. J., Chou, C. W., Chen, J. C., Wu, I. C., & Kao, K. Y. (2015). Design and implementation of Chinese dark chess programs. *Computational Intelligence and AI in Games, 7*(1), 66-74.