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Application and Evaluation of Peer Education Model in Chess Learning

Abstract

The teaching strategies that use peers are generically labeled peer-assisted learning (PAL). In the former, the instructional task for most students stays the same, whereas in the latter the task differs, often requiring each student to contribute a piece of the total task or to take on different roles. In physical education, PAL has been proposed as a best practice in pedagogy texts. The aim of the present study is to apply and evaluate the peer education model in chess learning. This study is a mixed model, including both qualitative and quantitative research models. Participants are composed of a total number of 25 students, including 20 peer trainees and 5 peer trainers in the chess application. This study, pre-test and post-test were applied in order to evaluate the chess knowledge levels of the students; students filled the peer evaluation form and parents filled the "Parent Participation Satisfaction" form after the application. In this study, descriptive statistics was used for the analysis of quantitative data and the results were tabulated as frequency and percentage values. In the study, a paired t-test was used in order to compare the chess knowledge levels of the students for 10 weeks in pre-test and post-test conditions. Content analysis method was used for the qualitative data analysis. And the data was categorized into 4 themes. As a result of this study, the improvement of the chess knowledge levels of the peer trainees was statistically significant increase at the end of 10 weeks. In addition, along with an increase in taking responsibility, sharing, helping each other and communication, students also had social and emotional achievements. Peer trainer group stated that they had difficulty in the beginning, they created solutions while teaching, communicated in a positive manner and improved themselves while teaching. When all the results obtained from the research were analyzed it could be concluded that teachers should aim by using peer education models for the motivation and participation of the students to different activities that contribute not only to psychomotor achievements but also cognitive and social achievements. It could be appropriate teaching model for this age school groups.

Keyword: Primary school students, chess, peer education model.

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INTRODUCTION

Peer education is a process in which students learn a specific concept, skill or knowledge by helping each other under the guidance of a teacher. With this method, students learn according to their own learning steps, perception levels and learning styles (Korner et al., 2015). Peer education is an education model that provides interaction between the students and it is a term that defines collective and cooperative education strategy (Gök, 2013). In this model, students have active and equal status and they guide each other, they share in the applications and they actively participate into the discussion and the feedback processes. The pedagogical roots of this education model are based on theorists such as Piaget and Perry (Secomb, 2007). As a general term, peer is used to describe people who are included in the same social group regarding age, sex, educational status etc. (Karadağ, 2003). Peer education is defined as individuals, who are in similar social groups and who are not professional teachers, helping each other to teach and learn, in which social and close relationships are formed between the students (Topping, 1996, NASPE 1995, Gözütok, 2007). Peer education is named as Peer Counseling, Peer Tutoring or Peer Assisted Learning in different resources. When the aim of all such education models is examined, it can be seen that the work being done is the same; i.e. it is an education model provided with the guidance of peers (Siedentop & Tannehill, 2000; Doğanay, 2007; Ünver et al., 2011). In the peer education model, the positive features of peer group, identification of peers with each other and their social interactions are benefited from. In order to perform peer education there has to be a difference of knowledge among the participants so that one group may approach the other as trainers (Özakba, 2005; Ayvazo & Ward, 2009); in case that the knowledge is equal, there would be not peer education but peer cooperation (Özakba, 2005).

Peer education model can be used for different ages, different groups with different aims and applications may be organized as same aged or different aged peer educations (Kate et al., 2014). Face to face communication is strong in the former and it provides the socialization of the child while providing opportunities for learning and applying different information, providing fun, teaching compliance to rules and having a good time (Tezcan, 1985; Iserbyt et al., 2011; Mirzeoğlu, 2017).

When the difference of peer education and traditional education methods is examined, it can be seen that the traditional methods include a hierarchical relation and create an imbalance of power and result in a unidirectional flow of information from the trainer to the student; in peer education however, the facts that peers do not have statuses of awarding or punishing among themselves, that they use similar communication language and they affect each other create an appropriate education environment (Topping, 1996). A relaxed, out-of-stress environment is an important factor in efficient teaching and learning (Field et al., 2004; Henning et al., 2006). The students being able to ask questions to each other without hesitation, a stress-free environment, and peers being supportive each other increase the academic success as well as the student satisfaction (Mc Kenna et al., 2011). Therefore, the preparation processes of these education models shall be performed in a planned manner. Especially the peer trainers shall be chosen among the experienced students, if possible, according to the features that shall be present in the peer trainers (Topping, 1996). For a desired peer education application, one-to-one application or small groups shall be preferred (Glynn et al., 2006).

Peer trainers, as well as the peer trainees, benefit from the peer education process. The opportunity of teaching, showing and discussing what they knew before results in peer trainers obtaining profound knowledge of the subject (Özakba, 2005). Babadoğan, (2000) declares that there may be cases that the trainers are inadequate for replying the peer trainees' questions and this circumstance provides an opportunity for the peers to learn together by helping each other.

Although studies examining the efficiency of peer education generally focus on the results of peer education on psychomotor and cognitive learning (Field et al, 2004; Iserbyt et al., 2011), some studies suggest that it increases the student satisfaction, motivation and eagerness to learn (Field et al., 2004; Metzler, 2005). Nevertheless, there is no study stating that there is a direct effect of peer education on the affective development. In accordance with these information, the purpose of the study was to apply and evaluate peer education model in chess learning. With this aim, the answers of the questions below were sought:

- 1- Does the chess knowledge level of the students change in the duration of 10 weeks?
- 2- What is the opinion of peer trainees' regarding the peer trainers?
- 3- What is the opinion of peer trainers' when teaching chess?
- 4- What is the opinion of parents' regarding the chess activity?

METHOD

Qualitative methods, to study deep and detailed subjects the knowledge and meaning obtained are deep and detailed (Patton, 2014). The focus of qualitative research is on people's meaning to their own experiences, circumstances and situations (Koca, 2017). The present study is a mixed model study including both qualitative and experimental research methods.

Research Groups

The quantitative data group of the study was composed by a total of 25 primary school students, 20 peer trainees and 5 peer trainers, which participated into the chess application voluntarily within the scope of extracurricular activities. Before the practice of chess, students and parents were interviewed and informed about the practice. At the end of the practice, an interview plan was prepared for face-to-face interviews with volunteer students who wanted to participate in the meeting. Since the chess teacher was also the physical education teacher of the students for 11 years. Students answered the questions prepared in accordance with their level in the interviews. Voice recording was used in the interviews with the students. Then the audio recordings were transferred to the word and the students were allowed to read and approve the interview form. The peer trainer group included students who were voluntary, helpful, communicative, social and successful in chess and who had continued to the chess course for at least 2 years, participated in the extra scholastic chess competitions; while peer trainee group included students who did not know chess and participated to the activity for the first time in order to learn chess. The qualitative data group of the study was composed by a total of 9 voluntary students, 5 peer trainers and 4 peer trainees that participated in the chess activity.

Table 1. Distribution of Peer Students According to Gender and Grades

Grades	Peer Trainer n=20		Peer Trainer n=5	
	Girls	Boys	Girls	Boys
4			1	1
3	4		1	1
2		1		1
1	5	10		
Total	9	11	2	3

In this study, 11 students were males and 9 students were females in the peer trainee group; whereas in the peer trainer group 3 students were males and 2 student were females. In the present study, the task cards were prepared by the physical education teacher (see Table 2). Task cards are often used as instructional tools to appropriate new skills. In general they can be used to enhance task execution on the one hand and stimulate task oriented behavior on the other hand. Considering task execution quality, simple instructions on a learning task or drill by means of text, illustrations, or pictures can be presented on task cards. They provide prompts, critical cues and directions to be followed by the students during practice (Lee & Ward, 2002; Iserbyt et al., 2011).

Table 2. Peer Trainer Role Cards

1.week:
Introducing the chess board to the students in the group (It consists of 32 white and 32 black squares)
Introducing the pawn to the students in the group
2.week:
Introducing the bishop to the students in the group (Infinite diagonal)
Introducing the castle to the students in the group (Infinite straight)
3.week :
Introducing the knight to the students in the group (moving as „L” letter)
Introducing 8 different moves of knight to the students in the group
4.week:
Introducing the queen and its moves to the students in the group
5.week:
Introducing the king and its moves to the students in the group
6.week:
Check move to the opponent
Impossible move (it is a move that is not included in the chess rules)
Introducing the castling move to the students in the group (changing the positions of the cast le and the king)
7.week:
Check- mate move (condition that the king cannot move anywhere in case it is checked)
Introducing the staircase mate move to the students in the group (performing mate by edging the king into one of the corners of the board)
8.week:
Introducing the fork move to the students in the group (demanding two or more pieces in one move)
Introducing the interchange of pawn with queen to the students in the group
9.week:
Introducing scholar's mate move (the shortest way to mate in chess / 4 moves)
10.week:
Introducing the notation to the students in the group (writing down the chess moves)

Researcher's Role

Quality of qualitative data collected and results honesty of participants is limited. In qualitative research, researchers' research skills gained more importance as researchers were the center of data collection and analysis in the research. Our physical education teacher, who is a practitioner in this study, has spent time and interviews with the students as an experienced teacher for 11 years. He has been teaching chess to his students for 8 years. He also participated in qualitative research courses and seminars during his graduate studies. In this research, the responsible researcher; she is a faculty member at the sports sciences faculty of a university in Ankara. She has been attending undergraduate and graduate courses on methods, models and approaches in sports education for twenty years and has been involved in many qualitative researches as a researcher or consultant. The assistant researcher who took part in the chess practice is an experienced teacher years and a graduate student. He has been teaching chess for many years and have 2. level trainer certificate. He has taken courses and seminars on peer teaching models and approaches.

Data Collection Tools

In the present study, students participated into the chess activity held in school once a week for 120 minutes for 10 weeks. 20 peer students composing the research group were separated into 5 groups; as 1 peer trainer for 4 peer trainees in each group. In the study, before the commencement of the chess application, physical education teacher holding 2. level trainer certificate have explained the students the tasks to be performed in detail and what the students were expected to do during the research. In the peer teaching model, it is also important to provide initial education for the benefit of peer teachers (King, 2002; Roscoe et al., 2007). In the present study, the questions to measure the chess knowledge level of the students and the task cards were prepared by the physical education teacher (see Table 2). The task cards, which were prepared according to the subject titles, were given to the peer trainers each week along with the explanation, also the necessary feedback was provided before and during the application. Chess knowledge level form (see Table 4) that was given to the students before and after the application and the peer evaluation form (see Table 6) which was given at the end of 10 weeks were provided to the students and have been filled with the help of the teacher. The teacher helped the students filling the form by reading out the information on the form. "Parent Participation and Satisfaction Form" was given to the parents via students and have been filled by the parents (see Table 7). Topping (1988), stated that it is important to perform the evaluations of the learning levels of the peer trainees by self- evaluation and peer evaluation. Above mentioned peer evaluation forms and parent participation satisfaction questionnaire are the forms that are located in the physical education and sports education program and teacher guidebook of the Ministry of National Education (MEB, 2007) and are advised to be used by the teachers with the purpose of measurement. According to Packer (2011), the most common and useful one of the interviews subject to qualitative research is semi-structured interviews. In semi-structured interviews, the researcher prepares the interview questions according to the research questions; however, they may ask or rearrange different questions according to the course of the interview (Creswell, 2007; Merriam, 2009). Semi-structured interview questions were used as qualitative data collecting apparatus in the study and were composed by the collection of the previous studies and they were applied with the help of expert opinion (6 questions).

Interview Questions:

- 1- Did teaching chess to your friends contribute to you in any way?
- 2- Did you have difficulties when teaching chess to your friends?
- 3- How did you cope with these difficulties?
- 4- How did you teach chess to your friends?
- 5- Did you enjoy learning chess from your friend? 6- Did you learn chess from your friend?

Collection of Data

School management and parents were informed before the commencement of the study and all necessary permissions were received. Chess knowledge level of the students was measured with pre-test and post-test measurements, peer evaluation form were filled in by the students with the help of the teacher, the forms that were sent to the parents were collected after the parents filled them. In the qualitative part of the study, after the students were informed about the interview, a face to face interview technique was used in a closed room. An audio- recorder was used during the interviews. Interviews lasted 15 to 25 minutes. In order to clearly analyze the data obtained from the answers the students gave to the questions, the content analysis technique, which is a qualitative analysis method, was used (Yıldırım & Şimşek, 2013). Data obtained were primarily processed in the computer medium. Afterwards, data were coded by the researcher as short sentences according to the phrases used. In the present study, phrases regarding the themes were coded as childrens' first word of name and surname.

Validity: In the study, it was paid attention to make the findings consistent and meaningful for internal validity. The research model, data sources, collection process, data analysis and interpretation are provided in detail in the findings. The findings were provided to be a whole through observation by the researcher and by the expert who made the coding. For the external validity of this research, the characteristics of the research group, the sample selection were clearly stated and direct quotations were included in the text. The raw data obtained from the research is kept and stored by the researcher in order to be examined later.

Reliability: The school and participants in which the research was conducted were described in detail in the method section. In the study, the expressions obtained for internal reliability were read and coded separately by the researcher and expert instructor and then themes were formed. The reliability analysis of the qualitative data was calculated by the formula developed by Miles and Huberman (1994) and the reliability was 82%.

$$P(\text{reliability percentage}) = \frac{Na (\text{agreement})}{Na (\text{agreement}) + Nd (\text{disagreement})} \times 100$$

$$P = 54/54+12=0,8181 \times 100 = 81.8 (\sim 82\%).$$

The sources of data in the research have been described in detail in order to ensure the researcher's verifiability for external reliability. This will guide people who will do similar research so as to identify the data sources. The raw data obtained from the research have been kept and stored by the researcher for further examination. In order to ensure validity and reliability of the study, expert opinion (Patton, 2002) and participant confirmation (Cresswell, 2009) were provided.

Codification of Data: After interview texts were read line by line, codes that were found important by the researcher were underlined.

Finding Themes: Upon finishing the coding step, appropriate themes were created by collecting related codes. Thematic coding is categorizing (theme) the predetermined codes according to the common aspects determined.

Analysis of Data

In the present study, descriptive statistics was used for the analysis of quantitative data and the results were tabulated as frequency and percentage values. In the study, a paired t-test was used in order to compare the chess knowledge levels of the students for 10 weeks in pre-test and post-test conditions. For the analysis of the qualitative data, content analysis method was applied and the data was categorized into 4 themes (see Table 3).

FINDINGS

Peer education is a process in which students learn a specific concept, skill or knowledge by helping each other under the guidance of a teacher. With this method, students learn according to their own learning steps, perception levels and learning styles (Korner et al., 2014).

Table 3. The Distribution of the Student Opinions According to Theme, Code and Subjects in the Chess Application

Code	Frequency	Themes
I had fun	3	
One by one expression	2	
They made occasional mistakes and I showed them the correct way	2	
I liked that they listened to me	2	
I had difficulty in the beginning	4	Teaching Chess
I taught what my teacher taught and what I knew	2	
I taught my friends while I learnt myself	3	
I liked it very much when they played and I learned new moves	2	
I easily taught the difficult moves	2	
I had difficulty at first	1	
I learnt chess by playing	2	
Good communication	2	Learning Chess
My friend behaved well	2	
Content, enjoyed	2	
Easy learning	2	
They talked too much	2	
They made funny noises	3	Difficulties
Some of my friends listened while some neither listened nor cared	4	Encountered
Some were really difficult, we learnt it is difficult to teach	1	
I warned my friends	3	Coping
It was easy to express one by one	2	Mechanisms
I easily taught the difficult moves	2	the Difficulties
I taught the way I learnt the easiest	2	

When the qualitative results of the study were examined, interviews were held with a total of 9 voluntary students, 5 peer trainers and 4 peer trainees, participating in the peer education model application in chess teaching. When the opinions of the students were evaluated, teaching, learning, the difficulties encountered and coping mechanisms for the difficulties were thermalized and investigated (see Table 3).

Themes

- 1- Teaching Chess
- 2- Learning Chess
- 3- Difficulties Encountered
- 4- Coping mechanisms for difficulties

Teaching

Peer trainer students stated that they had difficulties when teaching chess in the beginning, however they tried teaching by telling one-to-one technique, they showed the way they learned the easiest and they taught by playing. They also improved their knowledge and had so much fun when teaching.

"I had so much fun when teaching chess to my friends, some were talking too much. I explained one-by-one, one thing at a time; I improved myself when teaching and I reviewed the moves (MÖ)."

"I had a remarkable amount of difficulty when teaching my friends, therefore I taught the way I learnt the easiest. They learnt faster because I easily taught the difficult moves (AK)."

"I had fun when teaching chess to my friends. I really liked that they listened to me and learnt better things from me. I also learnt better moves when teaching (OH)."

"There were some difficulties when teaching chess to my friends. They sometimes made mistakes, I showed them the correct way (KK)."

Learning

Peer trainees stated that it was different to learn chess from their friends, they had fun, their friends showed the correct way when they made incorrect moves and that they improved in chess.

"I did not have great difficulty when learning chess, I only had a little difficulty. My friend taught me by showing how the pieces move (OK)."

"At first I had some difficulty in learning chess. But I started to improve thanks to my friend (TO)."

"I liked learning chess from my friend, I had fun. I learnt really well (CY)."

Difficulties Encountered

The greatest difficulties encountered were reported to be peers talking loudly among themselves and peers not listening to their friends. It is important that the peer trainers have abilities of listening, setting an example and providing support as well as they manifest sincere and determined patterns of behavior.

"Some talked all the time during the classes and they made mistakes. Some listened well (KK)."

"Some were really difficult, we learnt that it is difficult to teach (KA)."

"I had some difficulty when learning chess. We were kind to one another when my friend was teaching me chess (TO)."

"Some had difficulty in learning because others were talking. I had to explain one by one. Because they were not listening when explained once (MÖ)."

"They were talking too much (OH)."

Coping Mechanisms for the Difficulties Encountered

Peer trainers reported the communication was positive and good when they warned their friends who were not listening and the students started to listen.

"They listened to me expect one person, I told him/her to listen and warned him/her (ENK)"

"I taught the way I learnt the easiest (MÖ)".

"It was easy to explained one by one (KA)"

"I easily taught the difficult moves (TO)"

As a result of this study, the improvement of the chess knowledge levels of the peer trainees was statistically significant increase at the end of 10 weeks (see Table.4).

Table 4. Pre-Test, Post-Test Scores of Chess Knowledge Levels and Correct Percentage Difference Results of the Peer Trainees

	Pre-test Correct		Post-test Correct		Difference	
	F	%	F	%	F	%
1. How many squares are there in a chess board?	0	0	14	70	14	70
2. How many chess pieces are there?	0	0	16	80	16	80
3. How many black chess pieces are there?	0	0	16	80	16	80
4. How many white chess pieces are there?	0	0	16	90	18	90
5. What is the points of each chess piece?	0	0	20	100	20	100
6. How does the pawn move?	8	40	20	100	20	60
7. How does the castle move?	1	5	20	100	20	95
8. How does the knight move?	5	25	20	100	20	75
9. How does the bishop move?	2	10	20	100	20	90
10. How does the queen move?	0	0	18	90	18	90
11. How does the king move?	0	0	20	100	20	100
12. How does the chess game end?	3	15	20	100	17	85

Table 5. A Comparison of Pre-Test, Post-Test Scores of Chess Knowledge Levels And Correct Percentage Difference Results of the Peer Trainees (Paired *t*-test)

	N	Mean	S.D.	S.E. Mean	T	p
Pre-test	12	0.0792	0.1287	0.0372	-24.12	0.000
Post-test	12	0.9250	0.1055	0.0305		
Difference	12	-0.8458	0.1215	0.0351		

As a result of the paired *t*-test between the success percentages of pre-test and post-test; a statistically significant difference was observed ($p < .05$). H_0 was rejected, signifying that the chess application with peer education model had an effect on the number of correct answers of the students (see Table 5).

Table 6. Peer Evaluation Results of the Students

Peer Review Form	Yes		Sometimes		No		Total (n=20)	
	F	%	F	%	F	%	F	%
1. She/he participates in the studies voluntarily	19	95	1	5	0	0	20	100
2. She/he shares what s/he knows with her/his friends	19	95	1	5	0	0	20	100
3. She/he helps her/his friends when needed	18	90	2	10	0	0	20	100
4. She/he completes the task s/he takes on time	20	100	0	0	0	0	20	100
5. She/he respects opinions of her/his friends	18	90	2	10	0	0	20	100
6. She/he talks in an in-offensive manner in discussions	17	85	2	10	1	5	20	100

In this study, according to the results of peer evaluation form performed at the end of the chess activity, it was reported that peer trainers completed the tasks on time, they were helpful, sharing and respective to one another (see Table 6).

In the study, approximately $n=19$ (% 95) of the parents reported that their child was improved socially in the activity, the child wanted to play the chess with the opposite sex ($n=15$) and the parents are satisfied with the chess activity ($n=19$) (see Table 7).

Table 7. Parent Participation Satisfaction Form Results

Percent Participation Satisfaction Form Results (n=20)		f	%
1-What kind of changes happened in your child participating in the chess activity (Affective, Cognitive, and Social)?	Effective	1	5
	Social	19	95
	Capacity Cognitive	0	0
2- If your child had problems, are you satisfied with the changes in her/his behavior after participating the chess activity?	Satisfied	20	100
	Not Satisfied	0	0
3- Did your child enjoy playing chess with the same sex or the opposite sex more?	Same Sex	3	15
	Opposite Sex	17	85
4- Did your child enjoy playing chess on computer?	Yes	20	100
	No	0	0
5- Did your child enjoy playing chess with the same- aged children or younger or older children more?	With Same Age	14	70
	With Younger	4	20
	Does Not Matter	2	10
6- Are you satisfied with the chess activity?	Satisfied	19	95
	Not Satisfied	1	5

DISCUSSION

The purpose of this study was to apply and evaluate peer education model in chess learning. As a result of the present study, as well as the cognitive improvement of chess skill, social achievements of the students also increased. While the chess knowledge level of the students was very low before participating the chess activity, a statistically important improvement was observed at the end of 10 weeks ($p < 0.05$). Dağ et al. (2012) on the effect of peer education on the sexual health knowledge levels of university students; university students reported that their knowledge level was increased as a result of the peer education. In many studies of peer education model, majority of the participants reported that they felt much more self-confident and knowledgeable (Gök, 2013; Mirzeoğlu et al., 2014), an increase was observed in their learning capacities and exam performances (Goldsmith et al., 2006; Gill et al., 2006).

According to the peer evaluation results that was applied to the students at the end of the chess education of 10 weeks, it was reported that the students improved themselves during the chess education regarding listening to what is being explained, observing, asking questions, communicating positively, helping and cooperating. In the study of chess teaching application with peer education model, taking responsibility, being respectful to others, the communication, sharing and helping behaviors among students increased. There are studies in the literature that supports the results of the present study (Ayvazo & Ward, 2009; Özakba, 2013; Kate et al., 2014; Mirzeoğlu et al., 2014; Mirzeoğlu, 2017).

When the qualitative results of this study were examined, peer trainers stated that they had difficulties when teaching chess in the beginning, they had to warn their friend because the students talked too much and when the students started listening they created solutions and they taught the way they learnt the easiest, they taught by explaining, they established positive communication and they also improved their knowledge and tactics when teaching their friends. The peer trainees stated that they had difficulties in the beginning when learning chess, however they learnt well and had fun by applying what the peer showed via a good and positive communication. Peer education process increases the self-esteem and communication skills of the students by providing cognitive, psychomotor and social achievements, it helps students to improve their leadership skills and to make career plans and it creates an opportunity for students to learn how to learn (Field et al., 2004; Iserbyt et al., 2011; Gök, 2013; Kate et al., 2014). Although no study exists evaluating the

effect of peer education on the affective development; there are studies that suggest the peer education process increases the satisfaction, motivation and the eagerness to learning students (Field et al., 2004; Mirzeoğlu et al., 2015; Mirzeoğlu, 2017).

Within the frame of the difficulties encountered in the application, the peer trainers stated that the friends did not listen in the beginning and made a lot of noise, the peer trainers had to warn the friends and explained one by one and they taught the way they learnt the easiest as a solution and they liked when the friends started to listen and make correct moves. On the other hand, peer trainees reported that it was difficult at first due to loud environment, however they started to learn by application once they started to listen and they had fun and good communication and they helped others during the application.

RESULT and SUGGESTIONS

There were factors limiting the study in this study. Chess time was sufficient for learning. First of all, chess learning can be in a very different age range, so the peer trainers' ages were different. Peer trainees did not listen to their peer trainers at first but they started to listen as they learned the right moves. The other one, peer teachers' communication and teaching skills were not at the same level, so guidance and communication of physical education teacher increased. As a result of the present study, as well as the cognitive improvement of chess skill, social achievements of the students also increased. While the chess knowledge level of the students was very low before participating the chess activity, a statistically important improvement was observed at the end of 10 weeks ($p < 0.05$). According to the peer evaluation results that was applied to the students at the end of the chess education of 10 weeks, it was reported that the students improved themselves during the chess education regarding listening to what is being explained, observing, asking questions, communicating positively, helping and cooperating. In the study of chess teaching application with peer education model, taking responsibility, being respectful to others, the communication, sharing and helping behaviors among students increased. In the study, according to the self-evaluation results that were applied to the students at the end of the chess education of 10 weeks, it was reported that the students improved themselves during the chess education regarding listening to what is being explained, observing, asking questions, using time efficiently, communicating positively, helping and cooperating. In the study of chess teaching application with peer education model, taking responsibility, being respectful to others, the communication, sharing and helping behaviors among students increased.

According to the results, students stated that they completely learnt chess from the peer trainers. Peer education provides peer trainers the opportunity to teach, show and discuss what they learnt before and to gain profound information. It is stated that there may be cases that the trainers are inadequate for replying the peer trainees' questions and this circumstance provides an opportunity for the peers to learn together by helping each other.

1. As a result of the study, it is possible that the parents change their opinion regarding the extracurricular sports activities to be held in school due to the parents' positive opinion regarding their children participating the chess education (children being socialized, being content of playing chess and having good time). This might consequently increase the participation of students to activities in different branches and more talented students might be brought into sports for school firstly and then for the country.

2. In the present study, knowledge and skills of the students have increased as a result of the 10 week chess education with peer education model. It is important that the teachers shall aim by using different education models and approaches for the motivation and participation of the students to different activities that contribute not only to psychomotor achievements but also cognitive and social achievements as we.

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