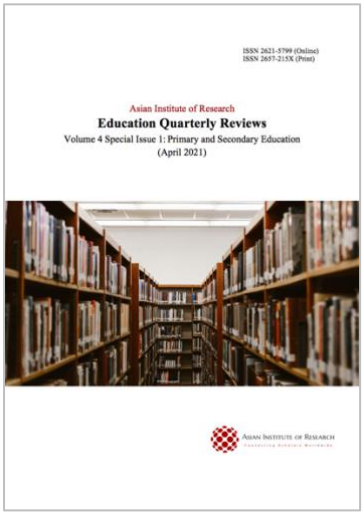

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The Effect of Intelligence Games on the Vocabulary Knowledge of Refugee Students Learning Turkish as the Second Language

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Abstract
The purpose of the research is two-fold: firstly, to determine the effect of vocabulary teaching with intelligence games on the vocabulary knowledge of refugee students studying in primary school and learning Turkish as a second language, and secondly to investigate the opinions of the students about vocabulary teaching with intelligence games. The research was designed in the explanatory sequential design of the mixed methods research. The study group consisted of 40 refugee students studying in a state-affiliated primary school in Istanbul. Teaching Turkish words in the experimental group was carried out with intelligence games whereas activities in the current textbook were utilized in the control group. As a result of the research, it was found that vocabulary teaching carried out with intelligence games was effective in improving students' Turkish vocabulary knowledge. Furthermore, it was revealed that the students enjoyed vocabulary teaching activities with intelligence games and learned the words more easily.

Keywords: Teaching Vocabulary, Intelligence Games, Teaching Turkish as a Second Language, Refugee Students

1. Introduction

Words are the ways in which emotions, thoughts, objects and concepts in the mind are expressed in voice and in writing (Karatay, 2007), and they are formed by one or more units of sound (Vardar, 1998). People need words to express themselves verbally or in writing and to communicate with people. The more words people know, the easier they can analyze the world, expand their field of concepts and develop their ability to solve relationships

between phenomena or see different relationships (Diliduzgun, 2014). Although they are at the center of human life, the value and power of words are not sufficiently emphasized. However, words both shape people showing who they are and reveal their educational and social infrastructure (Stahl and Nagy, 2006). This reveals the importance of vocabulary teaching.

Vocabulary teaching constitutes the backbone of second language teaching and learning (Ghazal, 2007). As a matter of fact, no matter how well the grammar rules of the second language are known, it is not possible to communicate fully without the help of words. Because when people learn a new language, they express themselves not with the rules of that language and grammar patterns but with the words they learn (Demirel, 2013). Therefore, people with rich vocabulary can express their feelings and thoughts comfortably and correctly (Karatay, 2007). In this regard, the value of vocabulary increases as it helps communicate in a short time without learning the mother tongue acquisition and development process, modeling, etc (Maden and Dincel, 2015). This suggests that vocabulary knowledge is needed to be improved based on the importance of second language teaching.

The researchers emphasize that vocabulary teaching strategies should provide students with the opportunity to interact with newly learned words, enable them to use words in their own sentences and focus on using them rather than keeping them in mind. At the same time, they agree that the choice and use of effective vocabulary teaching strategy depends on the task, the learner and the learning condition, and that words should be the basis of communication and an important part of the second language curriculum (Larrotta, 2011). Oxford (1990) created two basic teaching strategies: indirect and direct teaching strategies by considering the four most important basic skills in language learning. Direct teaching aims to teach words directly through classroom activities such as games, puzzles. In indirect teaching, the main purpose is not vocabulary teaching. Vocabulary teaching occurs indirectly when another language skill is taught. Similarly, Schmitt (2008) divided vocabulary teaching into two categories as purposefully and randomly. Purposeful vocabulary teaching is made according to the interest and need of the student or the request of the teacher. In random vocabulary teaching, it is generally vocabulary teaching while another activity such as listening and reading activities takes place. Vocabulary teaching takes place over a long period of time. Words are thrown into short-term memory when they are first heard. If words cannot be transferred to long-term memory, they will not be permanent and will be forgotten in a short time (Cetinkaya, 2005). The more different activities are used for the words to be taught, the more permanent the words become.

Games which are exciting and interesting provide active participation in the course, are used as an effective activity in second and foreign language teaching, especially in vocabulary teaching. In the second language teaching, which is facilitated with the participation of individuals in the process, the use of games use contributes to students' learning by attracting their attention to the lesson and helps their affective, mental and social development (Isik, 2016). Since language should be used in a significant part of the games, the game supports children's language development. While playing the game, the child speaks comfortably, establishes sentences correctly, asks questions, gets answers, and gets new information. Thus, the vocabulary of the child develops (Akandere, 2006). Uberman (1998) also confirmed as a result of analyzing his own teaching experiences on vocabulary teaching, his observations on students and different expert opinions that the use of games in vocabulary teaching enables students not only to enjoy and have fun in the language they have learned, but also to practice without notice. Therefore, games are useful and effective tools that should be used in vocabulary teaching.

Intelligence games are one of the types of games that enable teaching to be both instructive and entertaining for students with the innovative education approaches adopted today (Ott and Pozzi, 2012). At the same time, intelligence games support skill development with the richness and original structures of game materials (Bottino, Ott and Tavella, 2013). Since students' perception and learning levels are different from each other, different intelligence games enable different attainments to be achieved in each student. Students who observe each other while playing games also notice these attainments that they do not normally see through their friends and gain new ones. The environment with intelligence games created for students enables them to relax and understand each other by developing the ability to fully express themselves in the relationships between students

(Sadikoglu, 2017). The use of intelligence games in the course creates positive changes in students such as self-expression, socialization, multi-directional thinking, creative and critical thinking, problem solving, attention and focus. It also contributes to academic, linguistic and mental development such as practical thinking, strengthening memory, developing visual perception, making people taste the sense of accomplishment, and giving opportunities to learn by having fun (Baki, 2018). This suggests that intelligence games will contribute to improving the vocabulary of students while teaching vocabulary.

The current study focused on refugee students living in Turkey, studying in Turkish schools and learning Turkish as a second language. Because of the civil war in Syria, the number of refugees who started to live in Turkey after 2011 has increased greatly. One of the most important needs that emerged as a result of this situation was language (Unal, Taskaya and Ersoy, 2018). Various activities, projects and practices have been developed by the Ministry of National Education to meet the needs of refugees to communicate with the people in their regions in order to continue their daily lives. This has highlighted the teaching of Turkish as a second language intensively in public schools in refugee-intensive regions (Canaz and Kucuker, 2019). As a matter of fact, students constantly need Turkish while communicating with their friends and teachers in the school environment and following their other courses. For this, Turkish vocabulary knowledge must be at least at a certain level.

Based on the literature review, it might be noted that the number of the studies on vocabulary teaching for refugee students living in Turkey was inadequate. Because when the situation of refugee students (Morali, 2018) studying in state-affiliated schools today and experiencing serious language problems in the school environment is considered, it is obvious that this field is quite incomplete. In this respect, it is thought that this study on Turkish vocabulary teaching to refugee students will contribute to the field. In addition, the literature provided few studies on intelligence games (Altun, 2019; Baki, 2018; Bas, Kuzu and Gok, 2020; Bottino, Ott and Benigno, 2009; Bottino, Ott and Tavella, 2013; Cagır, 2020; Demirel, 2015; Demirel and Karakus Yilmaz; 2019; Fiangga 2014; Lin, Shao, Wong, Li and Niramitranon, 2011; Sadikoglu, 2017). However, although there are findings that intelligence games improve linguistic skills, when these studies are examined, no studies on vocabulary teaching have been found. In this respect, our research is distinguished from other studies.

The purpose of this research is to determine the effect of vocabulary teaching with intelligence games on the vocabulary knowledge of refugee students studying in primary school. Accordingly, answers to the following questions were sought:

1. Is there a significant difference between the pre-test scores of the experimental and control groups?
2. Is there a significant difference between the post-test scores of the experimental and control groups?
3. Is there a significant difference between the pre-test and post-test scores of the experimental group learning the word with intelligence games?
4. Is there a significant difference between the pre-test and post-test scores of the control group learning the word based on the activities in the textbook?
5. Is there a significant difference between the pre-test and post-test scores of the experimental and control group students according to the gender?
6. What are the opinions of the experimental group students about teaching vocabulary using intelligence games?

2. Method

2.1. Research model

Since both quantitative and qualitative data were collected and both designs were used in the research, the research is a mixed method study. Since quantitative data were predominant and supported by qualitative data, the research was conducted with the explanatory sequential pattern of the mixed method. While explaining the quantitative results obtained in the first stage, the researchers utilize the qualitative results obtained in the second stage and support the quantitative results (Creswell and Plano-Clark, 2018). In this research, firstly, experimental

study was conducted, and quantitative data were collected and analyzed. Afterwards, quantitative results were further explained with qualitative data obtained from interviews based on the results of quantitative data.
Since the research compared vocabulary teaching with intelligence games and vocabulary teaching through activities in textbooks, the research had an experimental part. Therefore, the quantitative data of the research were obtained from the experimental methods using the experimental model of the quasi-experimental design with the post-test control group. Qualitative data of the study were collected only from interviews with the experimental group after the analysis of quantitative data. The model of the research is indicated in Table 1.

Table 1: The model of the research

Groups	Pre-test	Procedure	Post-test
Experiment	Vocabulary Knowledge Achievement Test (VKAT)	Teaching with intelligence games	VKAT Interview form
Control	VKAT	Teaching with activities in the textbook	VKAT

2.2. Study group

The study group consisted of 40 refugee students studying in the 3rd and 4th grades of a primary school affiliated with the Ministry of National Education in Istanbul. All students were Syrian. These students were selected by considering the evaluation results of the Turkish Proficiency Examination held at the end of the 2018-2019 academic year within the scope of the project carried out jointly by PICTES and the Ministry of National Education in the institution where the research was conducted. Matching method was used when creating the control and experimental groups. The scores of the students from the Turkish Proficiency Examination were taken into consideration and the students who received the same scores were distributed equally into two groups (Table 2). In this way, two equally distributed groups were formed. One of these classes was randomly determined by the researcher as the control group and the other as the experimental group.

Table 2: Comparison of the Turkish proficiency test scores of the groups

Groups	n	$\bar{X}$	SS
Experiment group	20	52.6	8.13
Control group	20	52.6	8.13

When Table 2 is examined, it is evident that the success levels of the experimental and control groups were the same before starting the application.

The research was conducted with a total of 40 refugee students, 20 students in the experimental group and 20 students in the control group. Students are 9 to 10 years old. 50% of the students in the experimental group were female and 50% were male. 55% of the control group were female and 45% were male.

2.3. Collecting of data

As a data collection tool, vocabulary knowledge achievement test and a semi-structured interview form were used for this study.

2.3.1 Vocabulary knowledge achievement test (VKAT)

In the research, 'Vocabulary Knowledge Achievement Test' (VKAT) was developed by the researchers to determine the effect of the intelligence games on the vocabulary knowledge levels of refugee students in Turkish vocabulary teaching as a second language. First of all, the units to be addressed during vocabulary teaching were determined according to the curriculum. In the textbook, the words which were taught to the students in these units were examined. A trial test was created to measure the words that the curriculum provided to the students.

The trial test was prepared as 52 questions with 3 options. Three expert academicians and three Turkish teachers were consulted for the trial test. The pilot study was conducted with 100 refugee students attending the 4th grade in 3 different schools in Istanbul.

After the pilot study, the construct validity and reliability analyses of the test were performed. According to the data obtained from the analysis of the pilot study results, the distinctiveness and difficulty levels of the substances were calculated. As a result of the calculations, 22 items were excluded from the test. In addition, since 1 item was not approved by the provincial permission commission, it was eliminated from the test and the achievement test consisting of 29 questions was finalized. The information about the final version of VKAT is presented in Table 3.

Table 3: Information on article distinctiveness and item difficulty of VKAT

No	P (Item difficulty)	R (Article Distinctiveness)	No	P (Item difficulty)	R (Article Distinctiveness)
1	0.42	0.70	16	0.55	0.62
2	0.39	0.40	17	0.49	0.62
3	0.33	0.47	18	0.49	0.59
4	0.55	0.70	19	0.42	0.55
5	0.60	0.70	20	0.65	0.59
6	0.55	0.33	21	0.67	0.48
7	0.67	0.59	22	0.64	0.55
8	0.44	0.40	23	0.50	0.66
9	0.55	0.62	24	0.42	0.62
10	0.67	0.55	25	0.38	0.48
11	0.49	0.40	26	0.56	0.37
12	0.41	0.44	27	0.59	0.55
13	0.59	0.33	28	0.57	0.62
14	0.49	0.37	29	0.56	0.62
15	0.53	0.51			

Table 3 demonstrates that the distinguishing value of all items in the final form of VKAT was higher than 0.33, and therefore has a good distinguishing value. The item difficulty value is between 0.33-0.67. Based on the item difficulty values of the items, the questions were neither very difficult nor very easy. It was calculated that the mean difficulty index of VKAT was 0.52 and the mean distinguishing index was 0.53.

Validity studies: The validity of the test was ensured by referring to the opinions of 3 academicians who are experts in the field of Turkish education and two Turkish teachers working in the teaching of refugee students. In the questions selected for VKAT, attention was also paid to the distribution of the subjects within the scope of the application.

Reliability studies: As a result of the reliability analysis, it was found that the Cronbach's alpha value of VKAT developed by the researcher was .88, the mean difficulty index was 0.52 and the mean distinguishing index was 0.53, and therefore, the developed VKAT was a reliable and usable measurement tool.

2.3.2. Semi-structured interview form

'Semi-Structured Interview Form' was used to determine refugee students' views on intelligence games and applications. In the semi-structured interview technique, questions are prepared in advance. It is important to try the prepared questions with a group of people and to make the necessary changes as a result of this experiment and to write new questions if necessary (Yildirim and Simsek, 2008). In the current research, firstly, a questionnaire was created for the interview. While preparing the questions, question patterns that can be easily understood by considering the Turkish levels of the students were created. The interview form prepared based on the questions in the pool was shown to three experts working in the field and the opinions of the experts were taken. Some of the questions in the interview form were removed and minor changes were made in some of them

in compliance with the opinions received. Afterwards, the form was applied to three refugee students studying in the school. With the feedback obtained from this application, a semi-structured interview form finalized.
Interview questions:

1. Did you like the intelligence games in class? Why do you like it?
2. What is your favorite intelligence game? Why?
3. Did you have any problems playing intelligence games? What kind of problems did you have?
4. Did the intelligence games help you learn new words?

2.4. Data collection process

In the research, first of all, legal permission was obtained from Istanbul Directorate of National Education for the applications to be made in 2019-2020 academic periods. After the application was allowed, VKAT, which was used as a pre-test and post-test, was developed in the research. At the same time, lesson plans were prepared for the subjects to be addressed every week for the researchers. In the next stage, VKAT was applied to both the experimental and control groups as a pretest. Afterwards, the experimental study was initiated. The courses were conducted according to the activities in the Turkish Teaching to Foreigners textbook prepared by Ministry of National Education with the control group students and intelligence games planned with the experimental group students. At the end of eight weeks, VKAT was applied to both the experimental and control groups as a post-test. After determining the post-test results, the semi-structured interview form was applied only to the experimental group students. Face-to-face interviews were carried out with all students in the group. Each interview took approximately 8-10 minutes. The working schedule for the application process is shown in Table 4.

Table 4: Application schedule

Application date	Lesson hour	Subject	Intelligence games used
1. Week	40′	Pre-test application	
2. Week	40′+40′	Occupations	Dixit
3. Week	40′+40′	Places	Tik Tak Bomm
4. Week	40′+40′	Me and My Close Circle	Come on Tell me
5. Week	40′+40′	Time	Double
6. Week	40′+40′	Opposite Words	Dixit
7. Week	40′+40′	Our Body	Tik Tak Bomm Extra
8. Week	40′+40′	Fruits and Vegetables	Painting Matching
9. Week	40′+40′	Fruits and Vegetables	Scrabble (Word Building Game)
10. Week	40′ 170′	Post-test application Semi-structured interview	

Procedures performed in the experimental group

Throughout the application, the subjects were taught with intelligence games for 8 weeks with two lesson hours (40'+40') per week in accordance with the course plans prepared in advance. Intelligence games specified in Table 4 were used to teach the subjects determined according to the curriculum. In the applications, the teacher came to the classroom with the intelligence game planned in line with the subject of the week and tried to draw the attention of the students to the intelligence games first. After drawing the attention of the students, researcher informed the students about the game and emphasized how to play the game and what they should pay attention to. After the necessary information was given, the students actively participated in the process and played intelligence games. The teacher also benefited from question-answer and discussion techniques while teaching with intelligence games. However, question-answer and discussion techniques were also used in the control

group. In the process of vocabulary teaching with intelligence games, worksheets were used to reinforce words and visuals were utilized with the help of smart boards. During the evaluation of the information on the subject, the evaluation activities in the workbooks were carried out by the students.

Procedures performed in the control group

The courses with the control group were taught by the researcher in accordance with the curriculum by considering the MoNE's "Compensation Education Framework Curriculum for Foreign Students" for 8 weeks. Courses were continued with the activities in the 2019-2020 academic year textbook prepared by MoNE with these students. Throughout the application, words were taught in accordance with the plans in the curriculum. Textbooks, workbooks and worksheets were used as tools and direct expression, question-answer and discussion methods were used as methods. All studies conducted to reinforce the words with the experimental group were also conducted with the control group. The same worksheets were also used in this group. As an evaluation, the evaluation activities in the student workbooks were carried out.

2.6. Data analysis

Quantitative data obtained from the research were analyzed by SPSS 22 program. Mann-Whitney U Test, one of the non-parametric analysis methods, was used to compare the pre-test and post-test results of the experimental and control groups. Wilcoxon Signed Ranks Test was used to compare the pretest post-test scores of the groups. The opinions of the experimental group students about teaching with intelligence games were analyzed by content analysis. "The main purpose of content analysis is to bring together similar data within the framework of certain concepts and themes and to organize and interpret them in a way that the reader can understand" (Yildirim and Simsek, 2008: 227). In this research, firstly, the transcribed interviews were read several times by the researchers and tried to make sense of the whole. Important places were noted in this process. In the following process, coding was started. The purpose of coding is to extract meaning from the data available, to divide them into text or visual parts, to label these parts with codes, to examine whether the coding overlaps or is used unnecessarily and to narrow these codes down to broad themes (Creswell, 2017). After making individual coding, the researchers tried to determine the similarities and differences between them by making comparisons. Thoughts on differences were shared and met in common. After the coding was completed, similar codes were brought together and themes were created. During the data analysis, the names of the participants were named with S1… . S20 for ethical considerations.

3. Results

3.1 Results of quantitative data

Mann-Whitney U-Test results of the pre-test performed to determine whether there was a success difference between the experimental and control groups before the research are given in Table 5.

Table 5: Pre-test results of the experimental and control groups

Group	n	Mean rank	Rank sum	U	p
Experimental	20	20.38	407.50	197.500	.946
Control	20	20.63	412.50		

*p> .05

Table 5 showed that there was no significant difference between the achievement pre-test mean scores of the control group students and the experimental group students (U=197.500, p=.946, *p>.05). Wilcoxon Signed Ranks Test was performed to determine whether there was a difference between the pre-test and post-test scores of the students in the experimental group where intelligence games were used. The analysis results are given in Table 6.

Table 6: Pre-post test results of the experimental group

	n	Mean rank	Rank sum	z	p
Negative rank	0	.00	.00	3.924*	.000
Positive rank	20	10.50	210.00		
Equivalent	0	-	-		

* Based on negative ranks, p < .05

Table 6 displayed that there was a statistically significant difference between the pretest and posttest scores of the experimental group students (z=3.924, p=.00; *p<.05). When the mean rank and the sum of the difference scores were taken into consideration, it was evident that this difference observed is in favor of positive ranks, that is, post-test.

Wilcoxon Signed Ranks Test results regarding whether there was a significant difference between the pre-test and post-test results of the control group are given in Table 7.

Table 7: Pre-post test results of the control group

	n	Mean rank	Rank sum	z	p
Negative rank	0	.00	.00	3.430*	.001
Positive rank	15	8.00	120.00		
Equivalent	5				

* Based on negative ranks, p < .05

The results of the analysis indicated that there was a significant difference between the success scores of the control group students before and after the application (z=3.430, p=.001; *p<.05). It was evident that this difference observed is in favor of positive ranks, that is, post-test when the mean rank and the sum of the difference scores are considered.

Mann-Whitney U test results of the control group students who were taught with the activities in textbook and the experimental group using intelligence games are given in Table 8.

Table 8: Pro-test results of the experimental and control groups

Groups	n	Mean rank	Rank sum	U	p
Experimental	20	26.28	525.50	84.500	.002
Control	20	14.73	294.50		

*p< .05

Table 8 showed that there was a significant difference between the success post-test scores of the experimental group students and the control group students (U= 84.500, p=.002; *p< .05). The mean ranks demonstrated that the pre-test scores of the experimental group students are quite high compared to the pre-test scores of the control group students.

Mann-Whitney U test results of the pre-test and post-test scores of the experimental group students according to the gender variable are given in Table 9.

Table 9: Pre-test and post-test results of the gender variable of the experimental group

	Gender	n	Mean rank	Rank sum	U	p
Pre-test	Female	11	8.09	89.00	23.000	.043
	Male	9	13.44	121.00		
Post-test	Female	11	8.77	96.50	30.500	.147
	Male	9	12.61	113.50		

*Pre-test, p<0.05

**Post-test, p>0.05

Table 9 indicated that when the pre-test results of the experimental group in terms of gender were examined, a significant difference was found in favor of male (U=23.000, p=.043, *p<0.05). When the post-test results of the gender variable of the experimental group are examined, no significant difference was found between the female and male students (U=30.500, p=.147, **p>0.05).

Mann-Whitney U test results of the pre-test and post-test scores of the control group students according to the gender variable are given in Table 10.

Table 10: Pre-test and post-test results of the gender variable of the control group

	Gender	n	Rank average	Rank sum	U	p
Pre-test	Female	10	12.25	122.50	32.500	.182
	Male	10	8.75	87.50		
Post-test	Female	10	11.90	119.00	36.000	.284
	Male	10	9.10	91.00		

**Pre and post-test, p>0.05

As shown in Table 10, when the pretest results of the gender control group were examined, no significant difference was found between the pre-test results of the male and female students (U=32.500, p=.182, **p>0.05). When the post-test results of the gender variable of the control group are examined, no significant difference is seen between the female and male students (U=36.000, p=.284, **p>0.05).

3. 2. Results of quantitative data

Firstly, the students were asked whether they liked the intelligence games used in the lessons and the findings regarding the answers received are presented in Table 11.

Table 11: Whether the use of intelligence games in lessons is liked or not

Liking status	Students	f	%
I like it.	S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20	20	100
I do not like it	-	0	-
Total		20	100

As shown in Table 11, it was found that all of the students liked to play with intelligence games. These considerations about the reasons why students liked intelligence games are given in Table 12.

Table 12: Reasons why students like intelligence games

Reasons	Students	f	%
Enjoyable	S2, S3, S5, S7, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19	15	43
Nice	S2, S4, S5, S7, S8, S14, S16,	7	20
Learning new things	S1, S2, S5, S6, S18, S20	6	17.1
Intelligence development	S9, S13	2	5.7
Like to play	S8	1	2.9
Having pictures	S10	1	2.9
Making friends	S11	1	2.9
Not tiring like a lesson	S14	1	2.9
Having a good time	S19	1	2.9
Total		35	100.3

When Table 12 was examined, the reasons why they liked intelligence games were grouped under 9 headings. 43% of the students stated that they liked intelligence games because they were fun, 20% because they were beautiful, 17.1% because they learned new things, 5.7% because they developed intelligence, 2.9% because they liked playing, 2.9% because they had pictures, 2.9% because they made friends, 2.9% because they did not feel like teaching and did not tire, 2.9% because they had a good time.

While S17, one of the students who stated that they liked it because it was fun, expressed their thoughts as "I had a very fun, good time," S2, S3, S10, S11, S20 expressed themselves with the sentence "because it was very fun." For the same reason, S15, one of the students who stated that I liked intelligence games, expressed his/her thoughts with the sentence "Because I played, I had fun, it was fun." While S2, one of the students who stated that I liked it because it was beautiful, shared the idea of "I learned very fun and beautiful new things" S7, I liked to play. Because it is fun, the games are good". While S1, S2, S5, S6, which stated that they learned new things as the reason for liking, expressed themselves with the sentence "I loved, learned new things."

Stating that s/he liked the way intelligence games were played, S8 expressed his/her thoughts as "It was very beautiful, I liked playing." One of the students who said that they liked it because it improved intelligence, S9 said "I liked it because it improved our intelligence." S11, who stated that s/he liked mind games as a reason for making friends, said "I liked it. Because it is very fun, we played with friends. I found new friends; I talked to them" s/he expressed his/her thoughts.

The findings about the intelligence games that students like the most and the reasons why they like these games are given in Table 13.

Table 13: The most popular intelligence game and reasons for being loved

Intelligence game	Reasons	Students	f	%
Tik Tak Bomm	Finding new words	S4, S5, S8, S9, S10, S12, S14, S17, S18, S20	20	66.3
	Enjoyable	S2, S6, S7, S14		
	Pictures are good	S3, S8, S10, S17		
	Having a competition	S2		
	Very good.	S3		
Picture Mapping	Nice.	S1, S15, S19	7	23.3
	Finding the same pictures	S1, S15		
	Strengthening memory	S13		
	Having pictures	S19		
Word Generation Game	Learning new words	S11	2	6.7
	Self-improvement	S11		
Come on, tell me.	Being able to play well	S16	1	3.3
Total			30	99.6

Table 13 showed that there were four games that students loved the most during the application process. 66.3% of the students stated that they liked the 'Tik Tak Bomm' game the most. Students stated that they liked it to be fun, to have beautiful pictures, to have new words, to be very beautiful, to offer the opportunity to compete. S2 from students expressed his/her thought that "Tik Tak Bomm, racing is very nice and fun," S3 "the pictures in the game were beautiful," S14 "taught some words. I didn't know, I learned, it was fun." 23.3% of the students stated that they liked the 'Picture Mapping' intelligence game the most. S1, one of the students said "The game is very beautiful. When you find two similar fruits, you buy them."

6,7% of the students stated that they liked the 'Word Generation Game' intelligence game the most. S11, one of the students, stated that the reason for liking this intelligence game was that it provided the opportunity to learn

new words and improved him. S11 said, “Because I think I have improved myself. I learned new words. 3.3% of the students stated that they liked the 'Come on, tell’ intelligence game best.

Results regarding students’ have problems while playing intelligence games and what kind of problems they experienced are given in Table 14.

Table 14: Students' situations of having problems while playing intelligence games

Problem status	Reasons	Students	f	%
I had no problems		S1, S2, S3, S4, S7, S9, S11, S12, S13, S15, S16, S17, S20	13	65
I had problem	Not understanding the rules	S5, S6, S8, S10 S14, S18, S19	7	35
Total			20	100

Table 14 indicated that 65% of the students stated that they did not have problems while playing intelligence games, while 35% stated that they had problems. The students who answered “I had a problem” were asked what kind of problems you experienced. The reason why students have problems is grouped under a single heading as not understanding the rules. Among the students who stated that they had problems, S8 stated that “it was a little while ago, in the rules”, S10 stated that “it was yes, I could not understand the rules in the word production game.”

Table. 15: The state of intelligence games helping to learn new words

Help status	Students	f	%
It helped.	S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S13, S14, S15, S16, S17, S18, S19, S20	19	95
Did not help	S12	1	5
Total		20	100

Table 15 displayed that 95% of the students answered that intelligence games helped them learn new words while only one student answered that they did not. This showed that almost all of the students could learn new words with intelligence games

4. Conclusion, Discussion, and Suggestions

In the current research, no significant difference was found between the groups in the pre-test applied to the groups before the application (U=197.500, p=.946, p>.05). However, in the post-test applied to the groups after the application, a significant difference was found in favor of the experimental group students where word teaching was performed with intelligence games (U=84.500, p=.002; p<.05). When the literature was reviewed, no study could be found on word teaching with intelligence games. However, the results of vocabulary teaching studies using other types of games are in parallel with the results of this study. In their studies, Rueb, Cardoso and Grimshaw (2018) and Zengin (2019) investigated the effect of teaching words using digital and educational computer games, Isik (2016) with educational games, Erdogan (2014) and Taheri (2014) with language games, Ozturk (2018) with word games and computer games, Yip and Kwan (2006) with online word games. They found that vocabulary teaching with games was more effective on vocabulary knowledge of students than curriculum or vocabulary teaching with traditional methods. In our research, a significant difference was also found between the pre-test post-test scores of both groups (EG: z=3.924, p=.00; p<.05, CG: z=3.430, p=.001; p<.05). In this respect, it was found that vocabulary teaching carried out with textbooks had a positive effect on vocabulary knowledge of students. However, when the post-test scores of the two groups were compared, it was determined that vocabulary teaching carried out with intelligence games gave more positive results on Turkish vocabulary knowledge of refugee students compared to vocabulary teaching carried out with activities in textbooks.

When considered in terms of gender, while no significant difference was found between the success scores of the female and male students in the control group (U=32.500, p=.182, p>0.05), it was found that there was a significant difference in favor of the male students in the experimental group (U=23.000, p=.043, p<0.05). However, in the post-test conducted after the applications, no significant difference was found between the success scores of the female and male students in both groups (EG: U=30.500, p=.147, p>0.05, CG: U=36.000, p=.284, p>0.05). Zengin (2019) also examined the effect of vocabulary teaching with educational computer games on success by gender and found that there was no difference in the success of girl and boy students. Al Zangana (2018) also determined that there was no gender-based difference in his study investigating the effect of educational game techniques on students' English word learning. Likewise, in this context, it is obvious that the results of this research are in parallel with the results of the studies in the literature.

The interviews indicated that all of the students (n20) in the experimental group liked intelligence games; they found the use of intelligence games in lessons fun and also thought that they helped them make friends. Similarly, in other studies on the use of games in vocabulary teaching, it was revealed that the majority of the students found this experience fun (Kosemehmetoglu, 2019), supported the use of game activities and welcomed them positively (Durmus, 2019). In parallel with the findings we obtained in our interviews, there are also studies that determine that students like to play games and are very enthusiastic about playing games (Fisser, Voogt and Bom, 2013). Demirel (2015) examined the effect of using intelligence games in Turkish and mathematics lessons on students' affective and cognitive skill development and determined that there was an increase in students' participation and academic achievement at the end of his study.

Another view of the students was that using intelligence games in lessons helps them make friends in the classroom environment. Friendship acquisition is of great importance for language teaching. Each friend creates an opportunity to use newly learned words. As a matter of fact, Tierney and Readence (2000) stated that any experience with word plays an important role in the easy learning of that word and making it permanent in the mind. When the literature was examined, it was seen that intelligence games increased peer cooperation in the study conducted by Lin et al. (2011). Sadikoglu (2017) also found that the use of mind intelligence in learning processes positively affected students' interpersonal relationships.

When the other opinions of the students about the use of intelligence games were examined, it was determined that the students thought that intelligence games were effective in teaching new things and improving intelligence. The fact that students are aware that they have learned new things during the application process shows that the teaching process has been efficient. The idea is that students will learn new things increases their interest and participation in the course. Baki (2018) also stated that after playing intelligence games, students learned to be patient, to try and be determined, not to give up, to comply with the rules of games and to comply with these rules, to succeed in difficulty or to do it by working and thinking, to use intelligence and to develop it. It was found that the experimental group students liked 'Tik Tak Bomm' and 'Picture Mapping' intelligence games the most during the application process. The reasons for liking these games include that games are fun, that there are beautiful visuals and that learning new words strengthens their memories. The fact that intelligence games are rich in visuals is also more effective in students' concepts of words. Sadoski (2005) states in his study that using various visuals in vocabulary teaching ceases to be abstract and helps to embody the word. He stated that establishing a relationship between the visual and the meaning of the word helps to encode the word in the mind.

It was seen that most of the students did not have a problem while playing intelligence games, and seven students who had problems were found to have problems in understanding the rules. Bakhsh (2016) also examined the difficulties faced by teachers in English lessons while teaching words through games and found that students could have difficulty in understanding the rules of games. Altun (2019) determined that mind games were effective in improving visual perception and attention. However, while selecting the games to be played, she stated that first of all, simple games should be selected and games whose rules are difficult in the future should be switched to, she also stated that children should be given the feeling of accepting losing as well as being able to experience the feeling of success in competitive games. Demirel (2015) similarly stated that

during his research, some students broke away from the game while playing games with difficult rules and therefore difficult games can reduce motivation. The results of this research and other studies showed that the rules of play should be expressed to the students in the simplest way when using intelligence games.

It was revealed that most of the students found the use of intelligence games in lessons useful and thought that intelligence games and teaching contributed to learning new words. Erdogan (2014) found that language games facilitated vocabulary learning in English vocabulary teaching and were one of the most effective ways in vocabulary teaching. Similarly, in their study, Huyen and Nga (2003) determined that educational games were effective in vocabulary teaching and increased the permanence of information. It can be said that vocabulary teaching with intelligence games provides language development, motivates students, provides fun learning, and strengthens communication based on both this study and the other studies obtained as a result of the literature review.

As a result, in the research, it has been revealed that intelligence games are effective in teaching Turkish words to refugee students. In addition, it was determined that the refugee students in the experimental group stated that they learned new words in a more fun way through intelligence games. In this respect, it was observed that they thought intelligence games helped them while learning new Turkish words. However, it was concluded that some students sometimes had difficulties in adapting to the process as they had difficulty understanding the rules of the games.

The following suggestions can be made in line with the results obtained.

- It was determined that the experimental group students liked “Tik Tak Bomm” and “Picture Mapping” intelligence games the most during the application process. Therefore, language teachers can teach vocabulary by using these games in their lessons.
- Intelligence games can be used not only to teach vocabulary in language teaching but also to improve speech, listening, writing and reading skills.
- In line with this research, which has been determined that intelligence games are an effective tool in Turkish vocabulary teaching, the effect of intelligence games on teaching other languages can also be examined.
- While conducting this study, it has been realized that there is not enough research on the use of intelligence games in lessons, although seminars on intelligence games are frequently organized in Turkey and their importance is emphasized. In order to eliminate this deficiency, new studies should be carried out in this field.

Acknowledgments

The research revealed a significant increase in the students' vocabulary knowledge after 8 weeks long the intelligence games applied to the experimental group. In addition, vocabulary teaching with intelligence games contributed to students' enjoyment of the process, while contributing to their communication with each other. The control group showed less progress in improving their vocabulary knowledge. However, in the research, while taking the opinions of the refugee students in the experimental group about the process, they were not asked sufficiently detailed questions due to their language level. This situation created a limitation for the study. While collecting data in similar studies, getting help from experts who know the mother tongue of the students will contribute to collecting detailed data.

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