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VISUAL LITERACY AND TEACHING ENGLISH: A RESEARCH ON ELEMENTARY SCHOOL STUDENTS

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Abstract
The aim of this study is to investigate the effect of Visual Literacy (VL) activities on primary school students in English teaching. In the quantitative part of the study, where the mixed method and exploratory sequential pattern were used, the quasi-experimental design with pre-test and post-test control group; in the qualitative part, case study design was used. The study group consists of 36 third grade students in a public elementary school in Konya-Kulu in 2017-2018 academic year. Achievement test developed by the researcher was used for the quantitative data and semi-structured interview forms were used for the qualitative data. Descriptive statistics and t-test were used for the analysis of quantitative data, and content analysis was used for qualitative data. The English achievement of the experimental group students in which VL activities were applied was higher than the control group students in which ongoing activities were applied; in the retention test, no difference was found between the groups. Students who expressed their opinions about VL activities stated that they liked the activities but they experienced different emotions such as anxiety, self-confidence, excitement, sense of inadequacy, happiness and productivity; significant contributions to the classroom and outside the classroom.

Keywords: Visual literacy, teaching English, primary school, lesson activities.

INTRODUCTION

At this current age, the spread of information is rapidly increasing and there are transformations in obtaining and producing information. Traditional literacy is being replaced by multiple literacy. Meaning is produced increasingly by the interaction of visual, auditory, and spatial elements and gestures (Kalantzis & Cope, 2000). Visual Literacy (VL) is an important subfield of multiple literacy, provided that the existence of images in contemporary society is discussed. Images are only (unique) representations of reality. In fact, the images around us construct truths and the way we interpret them greatly affects the way we see the world (Ferraz, 2014). Leonardo da Vinci realizes that it is difficult to record large amounts of information and converts words into drawings (Stokes, 2002). To be able to read and interpret the increasing visual information, it is necessary for one needs to be a visual reader and writer. There are many definitions of VL made by the International Association of Visual Literacy (IVLA) (Avgerinou, 2009; Bleed, 2005; Pettersson, 2009; Seels, 1994; Sosa, 2009). These definitions indicate that VL is perceived as a group of competences, a teaching method, teaching processes, a movement and an interdisciplinary field. The "first visual literacy conference" was held in Rochester, New York, USA in 1969. In this meeting, the theoretical foundations of the concept of "VL" consisting of disciplines such as art, education, linguistics, philosophy and psychology were discussed (Debes, 1970). According to it, it can be said that the four main disciplines shape the concept of "VL". These are linguistics, art, psychology and philosophy. Linguist Chomsky (1972) used the concept of "universal grammar" for visual language. From the field of art, Arnheim (1969) believes that human thought is visual. Psychologist Gibson (1954) has drawn attention to the importance of experience in the development of visual perception (Hortin, 1994: 22). Turbayne, from the field of philosophy, advocates visual language in his book The Myth of Metaphor (1970). According to

Turbayne's visual language argument; the analogy between verbal and visual language forms the basis of the concept of VL. VL contributes to the communication of people with themselves and the world. Visual thinking, learning and communication are auxiliary concepts that make up VL (Seels, 1994). When these concepts are considered, the relationship between VL and learning and teaching is clearly seen. Depending on the person's CV, VL can be defined differently (Bleed, 2005: 3). In this research; educator, instructional technology expert and researcher were identified a definition according to their identities. According to them, VL is defined for the competences of visual image interpretation and visual message generation, and one of the parts related to the teaching method and processes has been stressed.

The focus and intensity of the teacher and the focus on writing and reading with oral forms have little space for the quality and forms of visual messages (Yeh & Lohr, 2010). However, people perceive and think more visually. Expressions about the importance of VL in education have been experienced (Bleed 2005; Rowsell, McLean, & Hamilton, 2012; Yeh & Cheng, 2010). VL education is necessary for application in VL education (Christodoulou & Damaskinidis, 2012). Kedra (2018) stated that there is a need for systematic VL education in universities and evaluation of their contribution to the individual. VL education raises concern about how the visual image that the student produces and how to interpret the visual image presented to him / her. This anxiety is essential for permanent learning. The visuals allow to process and remember the information in the student's mind. In the first stage of information processing, images help expand the boundaries of short-term memory (Hodes, 1998). According to Paivio (1971), who developed the dual coding theory, pictures are powerful because they are remembered more often than verbal knowledge. This is known as "the pictorial superiority effect". When words are converted into images, images are automatically converted into words (Miller & Burton, 1994: 73). Students are able to make fluent shifts between images and text, between literary and "figurative" words (Burmark, 2002). According to the binary coding theory, when the visual and verbal information is given together and given separately, it is suggested that the given form facilitates mental connections (Mayer & Sims, 1994: 390). This practice and result can take place in the teaching of all disciplines. Therefore, VL activities can also be a good option for teaching a foreign language as a second language.

For years, foreign language teaching is provided to students from secondary education to until the end of the higher education in Turkey. However, due to motivation, lack of materials, lack of resources, crowded classes, insistence on traditional teaching, and inadequacy of teaching programs and teachers, students can't learn foreign language at the desired level (Yaman, 2018). The criteria of Common European Framework of Reference for Languages (CEFR) were used in 2013 English course curriculum and program in 2018 was updated in line with these criteria (MEB, 2018). According to Common Framework Program for Teaching European Languages; A1 level for 2-6. grades and A2 level for 7 and 8 grades are identified. In A1 level, listening and speaking skills are predominant. There is limited reading and writing in the 3th grade. All four skills cover grades 7 and 8 where the A2 level begins. Listening and speaking are primary again and reading and writing are secondary (MEB, 2018: 93). In the near future Turkey is also a member of the European Union and that the teaching of English in order to have the four skills of language and individuals are required to improve the quality of learning. In the English curriculum, it is aimed that students use basic words in daily language in the first years. Thus, the Ministry of National Education (MoNE) include communicative learning, teaching methods, adopted art and game-based activities enriched with entertaining visual and auditory tools (MEB, 2018: 16). Communicative learning in foreign language education, in other words, is necessary to prepare and implement exercises to develop four basic skills: listening, speaking, reading and writing within the scope of communicative approach (Onursal, 2006: 8). It is important that these exercises and practices consist of learning experiences appropriate to real life conditions. While teaching a second language, "Children need concrete words that they can associate with what they can see or touch" (Cameron, 2001: 81). In this context, VL activities, which are also referred as the competence to interpret and produce visual messages, are based on a number of

visual communication competencies, are in line with the recommendations of the new program and the communicative approach for the 2-6th grade level.

Related Research

In short, a limited number of studies on the use of VL in foreign language teaching, which means interpreting and producing visual messages, are as follows: Nausa and Ricardo (2007) conducted a study entitled "Analysis of grammar tables: A tool that supports students' visual literacy and autonomous learning". With this approach, not only emphasis on language teaching and learning, but also the development of students' visual-cognitive skills is aimed. Robertson (2007) investigated the approach of English teachers to the concept and practice of VL. Teachers stated that they received very little training on VL, that they tried to learn through discussions with their colleagues and with their own efforts, and that they saw it as a second option for traditional literacy teaching. In the studies of Kılıçkaya and Krajka (2012), web-based comic book creation tool was produced within the scope of VL in order to facilitate grammar and sentences by students taking English as a foreign language course. As a result, it was observed that both their motivation and their learning the subject increased. Keskinkılıç (2014) evaluated the place of visual literacy gains in the curriculum without making any disciplinary distinction. In the primary education program, it was found that visual literacy gains mostly took place in the Turkish course and because of the interdisciplinary nature of VL, some VL activities were included in the other courses. It is stated that there are many achievements of visual reading and visual presentation at all levels from 1st grade to 5th grade. When the primary education program is compared with international skills, it has been observed that the aspects of finding, evaluating and using images ethically are neglected. When the literature is viewed, no study has been found in which VL activities are applied in the new classes of English as a foreign language and measures the success and effects. For this study, primary school grade 3 was selected. This study is thought to be important, because VL activities are compatible with 3rd grade level, communicative learning, teaching methods, art and game-based activities proposed in the new program (MEB, 2018). For this purpose, the following questions were sought:

(1) Is there a significant difference between the achievement post-test scores of the experimental group using VL activities and the control group using ongoing activities?

(2) Is there a significant difference among the achievement test and retention test scores of the experimental group; between the achievement post-test and retention test scores of the control group using ongoing activities?

(3) What are the opinions of the experimental group students about VL activities?

METHOD

Research Design

In this study, a mixed method was used in which quantitative and qualitative research methods were used together. Mixed method provides superiority in defining and solving problems when compared to other methods used alone. The exploratory sequential design was preferred among the mixed method research designs. The qualitative data collection and analysis is followed by the collection and analysis of quantitative data for exploratory sequential design (Creswell & Plano-Clark, 2007). The quantitative part of the study was carried out using an unequalized pre-test and post-test control group quasi-experimental design. The reason why the quasi-experimental design was used was that an assignment was made according to the equality in the groups where the same teacher taught without making a random assignment in the selection of both groups. The difference of the quasi-experimental design from the actual experimental design is that the participants were randomly assigned to the groups rather than randomly (Cohen, Manion, & Morrison, 2000). In the qualitative part of the research, descriptive case study design was used. Merriam (2013) describes the case study as a study with a particular program or sample group within a delineated system. The important thing is to gain deep knowledge about the working group. In this study, the opinions of primary school students about visual literacy activities applied in English teaching were utilized.

Study Group

The study group consisted of 36 (20 females, 16 male) third grade students. 18 students were experiment group and the others were control groups in a primary school in Konya-Kulu in the 2017-2018 academic year. 66.67% of the experimental group was female and 33.33% was male. 44.44% of the control group was female and 55.56% was male. The study was conducted in the English classes**.** While determining the study group, one of the purposeful sampling methods, the appropriate sampling method was used. The study groups consisted of the A and B branches of the two classes of the second author, who is an English teacher. The two-unit English success test was applied as a pre-test and the unrelated t-test technique was used to test whether the difference between the means of the groups was significant. The findings are given in Table 1.

Table 1: Comparison of Preliminary Test Scores of Experimental and Control Groups

Group	N	x̄	SS	sd	t	p
Experimental	18	20.78	7.88	33	-.45	.654
Control	18	19.50	9.03			

* $p > 0.05$

There is no significant difference between the pre-test scores of the students in each group in terms of achievement test. It was seen that the success of the experimental and control group students were close to each other before the application, it was concluded that the comparison of the two groups was appropriate and 3/A experiment group and 3/B were assigned as control group. In addition, students' grades in the second grade English report card is 25 "very good", 8 "good", 3 "should improve". According to Roscoe (1975), simple experimental studies under strict experimental control (matched pairs, etc.), a sample size as small as 10-20 may enable successful research (Büyüköztürk et. al., 2014, p. 92). In this study, the pre-test results of the groups and the proximity of the student report card grades and the same teacher conducting the application increase the control power over the groups.

In the qualitative study group, criterion sampling was used. The sample consisted of students (18) in the experimental group teaching English through VL activities. In this study, it is thought that the opinions of the students who are studying with VL activities will add depth to the results of the study.

Data Collection Tools

'Achievement test and Semi-structured interview form' were used in the research to determine the effect of VL activities applied in English language teaching on primary school students.

Achievement test: To develop the achievement test, the criteria that take into account the relationship between the learning outcomes of Webb (1997) were taken into consideration. Firstly, the learning outcomes (9) and topics of the two units (In my city and Weather) from the curriculum were examined and questions (60) measuring cognitive behaviors at the level of knowledge and comprehension were prepared, followed by a table of specifications. Preparing a table of statements containing subject-behavior comparisons for achievement tests provides important clues for scope validity (Büyüköztürk et. al., 2014, p. 117). The questions were presented to the expert opinions of an English instructor and 4 English teachers working in the MoNE. The questions were prepared with three options considering the readiness of the students. The final version of the test was applied to 75 fourth grade students studying in public schools in two sessions. Subsequently, item and test analyze were calculated and item difficulty test (pj), standard deviation (sj), discriminant index (rjx) and lower and upper groups were applied to independent groups t test for 27% tranches respectively. Eighteen questions (6, 8, 11, 17, 20, 29, 32, 40, 49, 54, 60, 63, 73, 75, 81, 87, 90, 97) with a discrimination index of 0.30 and below were excluded from the test. The arithmetic means of the achievement test consisting of 42 items was 29.26, the standard deviation was 5.53, the average difficulty was .71, and the reliability value of KR-20 was .90.

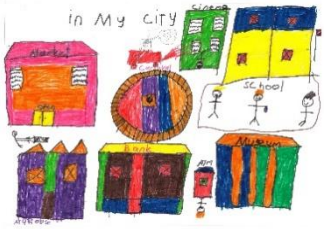
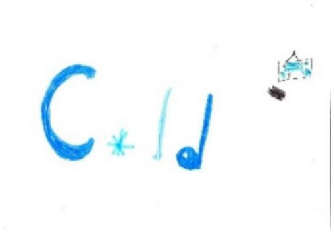
Interview form: A semi-structured interview form was prepared by the researchers to determine the opinions of the students in the experimental group about VL activities used in teaching English. Semi-structured interviewing is a flexible application with a specific systematic, in accordance with the prepared interview questions and protocol. During the interview, the flow of questions and their order may change and more in-depth answers can be obtained (Yıldırım & Şimşek, 2011). After the interview form was prepared, a pre-interview with 5 students was conducted to see if the questions were understandable and the time setting was taken into consideration by considering the age group. Unclear questions were corrected and presented to the opinions of three experts in the field of educational sciences for content validity. Example questions are: What are your feelings and thoughts on VL activities? How did you learn English with VL activities? What else did you gain besides learning English?

Data Collection and Research Application Process

Before the application process, data collection tools were prepared and permission was obtained from the MoNE. The VL activity plan was prepared by the researchers in accordance with the gains in the primary school English curriculum. The opinions of one VL specialist and two English teachers were taken for the plan. The final plan is included in the 8-week lesson plan.

Before the experimental procedure, the achievement test was applied to the experimental and control groups as a pre-test. During the application process, the lessons were given to the groups by the English teacher and the second author who took "VL and instructional technology" course in the master's degree. 8 weeks of instruction were given in two weeks, "In my city" 4 in March and April and "Weather" 4 in April and May. In addition to the textbook determined by the MoNE in the experimental group, the English classes were taught with VL activities and in the control group only with the guidance of the books determined by the MoNE. At the end of eight weeks, achievement test was applied to both groups as post-test. After one month, the achievement test was applied to the groups again as a retention test. Some examples of VL activities are presented in Table 2.

Table 2: Examples of VL Activities

Week	Unit	Activity	Example of Activity
4	In my city	Freehand drawing	
5	Weather	Logotype study	
8	Weather	Creating story board	

Data Analysis

For the quantitative data of the study, the normality of the distribution of scores obtained from the pre-test, post-test and retention test of both groups was tested. Kolmogrov-Smirnov, Anderson-Darling, Shapiro-Wilk, Shapiro-Francia, Cramer-von Mises, Watson, Kuiper, Vasicek's Park-Park test are among the normality tests proposed in the literature (Bayoud, 2019). In studies conducted on the power of accessible normality tests, it was reported that the best result was obtained by the Shapiro-Wilk test in small samples (Ahmad & Khan, 2015; Yap & Sim, 2011). Shapiro-Wilk test was preferred because the sample groups were smaller than 50 in determining the normality of this study. Since the Shapiro-Wilk values of the students in the groups were greater than .05, parametric tests were used in the analyzes. The analyzes were evaluated at .05 significance level. For the purposes of the experimental process, the experimental (pre-test-post-test) and control group (pre-test-post-test) averages and the difference between the averages of both groups (pre-test post-test and retention test) for dependent-independent samples t-test was used.

For the qualitative part of the study, the data collected by semi-structured interview method were analyzed by content analysis. Content analysis was performed according to Yıldırım and Şimşek's (2011) stages. Conversations on the voice recorder were converted to written documents. Written documents were compared with the researcher's notes, and coding and thematic coding were done by two researchers. For the reliability of the data, the formula [Consensus / (Consensus + Disagreement)] x 100, which was proposed by Miles and Huberman (1994), was used and the percentage of agreement was calculated as 0.91. Direct quotations were included to reflect the views of the participants more realistically and to ensure the validity of the research. Participants who were students were identified with the nicknames S1, S2. In addition, qualitative analysis results were digitized and presented in tables for ease of reading.

FINDINGS

Findings Related to the First Research Question

Achievement post-test scores of the experimental group using VL activities and the control group using the ongoing activities were compared with t-test for independent samples. The analysis results are presented in Table 3. According to the results in Table 3, there is a statistically significant difference between the post scores of each group ($t_{(33)} = -2.09$, $p < .05$). When the experimental and control group's post-test averages of achievement test are examined, it is seen that the difference is in favor of the experimental group.

Table 3: Comparison of Final Test Scores of Experimental and Control Groups

Group	N	$\bar{x}$	SS	sd	t	p
Experiment	18	32.94	8.43	33	-2.09	.044*
Control	18	26.50	9.99			

* $p < .05$

Findings Related to the Second Research Question

Achievement post-test and retention test scores of the experimental group were compared with t-test for dependent samples. Likewise, the achievement and retention test scores of the control group were compared with the t-test for dependent samples. The analysis results are presented in Table 4. According to the Table 4, there was no statistically significant difference between the experimental group's achievement post-test and retention test scores ($t(33) = .50$, $p > .05$). Similarly, there was no statistically significant difference between the achievement post-test and retention test scores of the control group ($t(34) = .22$, $p > .05$). When the averages of post and retention tests of the groups are examined separately, it is seen that the scores are close to each other.

Table 4: Comparison of Post-test and Retention-test Scores of Experimental and Control Groups

Group		x̄	SS	sd	t	p
Experiment	Post test	32.94	8.43	3	.50	.623
	Retention test	32.17	9.31			
Control	Post test	26.5	9.99	34	.22	.827
	Retention test	26.2	10.51			

Findings Related to the Third Research Question

The findings obtained from the interviews with the experimental group students were examined in two categories as "general contributions of VL activities to students" and "contributions of VL activities to students learning". In Table 5, the general contributions of VL activities according to the students' views are given. Related themes are as follows: "Improving painting skills, strengthening friendship relations, entertaining, using what they have learned in life, developing imagination". According to the students, VL activities generally contributed to "improving painting skills and strengthening friendship relations". Other views complement these two contributions (entertaining, using what they have learned in life, developing imagination).

Table 5: General Contributions of VL Activities to Students

Contributions	Students	Example Quotation
Drawing skills	S1,S3,S4,S5, S6,S7,S8,S9, S10,S11,S12, S13,S14,S15	*My drawing skills improved(S1).*
Friendship relationships	S1,S2, S3,S5,S7,S8, S9,S10,S11,S12, S13,S14,S15	*My relationships strengthened in group activities(S1)*
Entertaining	S1,S7,S8, S9,S10,S11,S12	*I liked painting more, and the things we drew on the board were fun(S11).*
Using what you have learned in life	S1,S8,S9	*For example, when my get a hoarse voice, I can tell my problem by drawing it(S8).*
Imagination	S5,S10	*I used my imagination more(S10).*

Table 6 shows the contribution of VL activities to learning English according to student views. According to the students, VL activities contributed a lot in their English "learning to increase learning and retention, differentiate the course, love the course and show interest in the course". Example quotations support these views.

Contribution	Students	Sample Quotes
Love and have interest in the lesson	S1,S3,S4,S5, S7,S8,S9,S11, S14	
Retention	S1-18	*My vocabulary has improved(S1). My own zoo comes to mind when I hear zoo(S14).* *I learn English better by drawing (S3).*
Making the course different	S1,S3,S4,S5,S6, S7,S8,S9,S10,S11, S12,S13,S14,S15	*I remember words, sentences and all of them very well, for doing it in class(S7).*

Table 6: Contribution of VL Activities to Students' Learning English

DISCUSSION AND CONCLUSION

To find answers to the first, second and third questions, the achievement, post-test and retention scores of experimental group using VL activities in primary school teaching and control group using ongoing activities were compared with each other and the groups themselves. Firstly, the achievement post-test scores of the experimental and the control group were compared and a significant difference was found in favor of the experimental group. Secondly, the achievement post and retention-test scores of the experimental and control groups were again compared independently within each group. According to the analysis, no statistically significant difference was found between the achievement and retention test scores of both experimental and control groups. When the averages of the post and retention test are examined separately, it is seen that the scores are close to each other. These results show that the success level does not decrease after a few weeks.

It can be said that the experimental group maintains its success in the last test in terms of permanence. No similar research has been found in the literature regarding direct VL activities in primary and secondary education and the learning of a course or subject. Özkubat (2015) conducted a similar study in preschool. The students applied visual awareness education program including VL activities and found significant difference in favor of the experimental group in terms of post-test and retention scores of visual discrimination, visual writing and interpretation. Sosa (2009) argue that VL education is an integral part of the technology integration course of university students. After the training, the students stated that they create effective visual designs on both paper and screen. Consequently, as in this research, VL training has been effective in achieving the goal. Some studies aiming at using visuals in foreign language teaching and increasing student achievement (Kılıçkaya & Krajka, 2012; Ramirez, 2012) support the results of this research. There are also studies that show that learning foreign languages with visuals does not make a difference with traditional methods as an academic achievement (Karakuş, 2014). In addition to the foreign language, in the fields such as Physics, Astronomy, Mathematics and Turkish teaching, it is consistent with the quantitative results of the research on the effect of teaching supported by visual materials and readings (Düzgün, Dilber, Şenpolat, Tatar, & Düzgün, 2015; Güneş, 2013; Kuvvetli-Arpaguş, Mongol, & Ünsal, 2015; Yerlikaya & Yerlikaya, 2016) and non-overlapping studies (Şengül & Körükçü, 2012).

To find answers to the third question, the results were examined in two categories as "general contributions of VL activities to students" and "contributions of VL activities to students learning". Themes related to the general contributions of VL activities according to the students' views are: Developing painting skills, strengthening friendship relationships, entertaining, using what they have learned in life, developing imagination. According to students' views, VL activities generally contributed mostly to "improving painting skills" and "strengthening friendship relations". Other views complement these two contributions (entertaining, using what they have learned in life, developing imagination). Callow (2008) conducted visual reading exercises for students within the scope of VL applications. As a result, students stated that there was an increase in their capacity to interpret and understand visual images. It is possible to think that the students' imagination and painting skills are developed from the studies of illustration, interpretation and understanding in VL.

According to the students, VL activities contributed greatly to "increasing learning and retention", "making the course different", "loving the course and being interested in the course". It supports the results of similar studies on visual reading, giving presentations and learning from visuals (Balun, 2008; Kabapınar & Sağlamgöncü, 2018). In Şengül and Körükçü's (2012) studies, visual learning practices did not make a difference in academic achievement besides traditional learning, but they created a difference in attitude towards the course. According to the results, VL activities used in the English course provided primary school students with cognitive (academic achievement, development of imagination, etc.), affective (strengthening friendship relationships, interest in the course, etc.) and psychomotor (painting skills, cutting, pasting, etc.). The role of the language teacher is very important here. Besides enabling students to learn and use the target language, teachers need to create

conditions for specific visual-cognitive processes to take place. In doing so, language teachers will compare their students with more systematic thinking processes (Nausa & Ricardo, 2007). Britsch (2009) emphasized the importance of teachers who will teach English as a second language to receive VL education and learn to think visually, too.

In the light of the results, some suggestions can be made: To carry out VL activities in the primary school where the research was conducted, university scientific research support was used. Schools must have the necessary physical equipment to implement VL activities. Regulations on the use of VL activities can be made in foreign language teaching programs. In-service and pre-service teachers and instructors from preschool to higher education should receive VL education within the scope of instructional technology.

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