The Impact of Visual Literacy Awareness Education on Verbal and Writing Skills of Middle School Students[#]

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ABSTRACT

The most important source for the acquisition of the skills targeted in Turkish language course is the texts included in the textbooks. However, recent advances in computers have allowed the visual elements to be included in the education system in addition to textual elements. Visual elements are used in several media, especially in television and the Internet as well as books, magazines, newspapers, etc. For the acquisition of visual reading and visual reading skills, visual reading education is of great importance. In the present study that investigated the effect of visual reading education and visual elements on writing and verbal skills of middle school students, pretest-posttest random sampling design with control group, an experimental design was used. The study researcher randomly assigned 17 students in the study group and 18 students in the control group who were attending the 5th grade in Ahmet Yesevi ISE Middle School during the 2018-2019 academic year. The Written Expression Evaluation Scale (WEES) and Effective Speech Skills in Turkish Language Scale (VRSTLS) were used as data collection instruments. The study data were analyzed with parametric independent and paired samples t-tests. SPSS-PASW Statistics (Version 22) was used in analyses. The study findings demonstrated that visual reading awareness education had a significant impact on the development of writing and verbal skills of the students.

Key words: Awareness, Speaking, Turkish Language, Visual Reading, Writing.

INTRODUCTION

Although the term visual literacy has been used for about forty years, the history of visual literacy is as old as the existence of human beings. It is possible to consider the cave paintings drawn by first humans as the initial and most primitive form of visual literacy. According to Onursoy (2003), the transfer of information with signs starting with the visuals engraved on cave walls to the written words played a great role in the development of human cultural heritage. The initial significant symbols and signs were replaced by alphabets, which were based on actual literacy in the 21st century.

In the current information society, new knowledge is added to the existing knowledge every day; thus, the volume of information increases, leading to an immense accumulation of knowledge. Expression of this ever-increasing knowledge only verbally leads to several difficulties and limitations. In fact, it was observed that verbal and visual communication forms are used in combination in various media including theater posters and websites since no communication language could convey the desired message alone at the desired level (İşler, 2002). The use of several communication methods could not be denied in the process of strong and effective communications. Visual communication is among the effective forms of communication. The concept of "visual literacy," initially developed by Debes in 1968, is the main element in this form of communication.

Visual literacy is a multidisciplinary field associated with several others such as instructional design, semiotics, communications, philosophy, psychology, art history, fine arts, linguistics, literature, sociology, cultural studies, educational technology, etc. Thus, there has been no agreement on single definition of visual literacy. Each related individual and field have attempted to define visual literacy based on their aim and perspective (Kırkkılıç and Akyol, 2007).

Ausburn and Ausburn (1978) stated that visual literacy could be described as the group of skills that allows the individual to deliberately and voluntarily use and understand visuals to communicate with others. According to Stokes (2005), visual reading is a set of skills that allow individuals to analyze everything they observe. For Güneş (2007; 2013), it is a process understanding and visualization of all

pictures, sketches, graphics, symbols, shapes, colors, etc., and natural and social events other than written texts. This process entails structuring and organization of the mind. In this process, students could better structure and organize mental patterns that are associated with a concept or subject. Felten (2008) reported that visual literacy is the ability to understand, produce and utilize culturally important images, objects and visible actions.

According to Feinstein and Hagerty (1994), modern general education has three main objectives: reading, writing and arithmetic. It is possible to argue that visual literacy is the fourth element, which is equal to these three objectives. Visual literacy is one of the main areas of interest in several disciplines. Visual literacy plays an important role in the acquisition of language skills by students in Turkish language courses.

The skills of creating, understanding and interpreting visuals are as important as reading, writing, speaking and listening skills in Turkish language. In addition to written material, television, movies and songs, children use computers, play educational games and browse the Internet almost every day (Özbay, 2014). Kırkkılıç and Akyol (2007), considered that instruction would not be required since these visuals are easy to understand. However, visual literacy education is necessary and important for the acquisition of high-level visual reading and writing skills.

Visual literacy and education leads to several advantages in language education: Visual elements provide better comprehension of texts, improve several types of verbal skills, increase students' interest and motivation, allow active presentation of certain content when compared to written texts, improve the organization of ideas, transform complex concepts to simple and meaningful concepts, and lead to permanent knowledge (Aydemir-Özyurt, 2016; Demirel, Seferoğlu, Yağcı, 2002; Kırkkılıç and Akyol, 2007; Özbay, 2014; Yıldız, 2003).

For Güneş (2007), visual reading is significant for the development of language, cognitive and social skills, learning, comprehension, recollection and cognitive independence skills in Turkish language instruction. Visual reading allows visualization, better comprehension of the topics by the student and the student solves comprehension problems.

Based on Pavio's Dual-Coding Theory, the information obtained with written texts is recorded on the left sphere of the brain, while the information obtained through visuals is recorded on the right hemisphere (Başaran, 2014; Kırkkılıç & Akyol, 2007). In other words, when written texts are supported with visual elements, the information obtained with the text is dual coded in the brain; thus, minimizing forgetting the information. Feinstein and Hagerty (1994) argued that visual literacy requires the use of the right hemisphere of the brain, which is very important for human development, and allows the individual to comprehend abstract ideas in the left hemisphere of the brain by converting these ideas into lively, convincing, intense and familiar concepts. This is important since it allows the individual to acquire the ability to process the same idea through various methods and read and comprehend the visual environment.

In the present century, visual elements play an important role in our lives. It became inevitable to encounter visuals such as computer screens, videos, phone, and TV screens in almost all aspects of our lives. According to Başaran (2014), one of the ultimate aims of the Turkish language course is to allow the students to acquire the ability to share their feelings and ideas effectively. Instruction of the language of visuals is of great importance in order to acquire these skills. The inclusion of visuals, which are already included in the lives of individuals of all ages and groups and affecting almost all areas of private and professional life, to the education system is a requirement for the achievement of the educational goals. Akpınar (2009) reported that the education system has incorporated and should incorporate visual elements into the curricula via the consideration of the digital world and the new learner's generation that underwent significant transformations due to current technological advances. However, visual literacy was introduced in 1968 in the West, and in 2005 in Turkey. Until 2005 Turkish Language Curriculum (Grades 1- 5), visual literacy was not included among the learning areas in any curriculum. It is possible to associate this fact with the educational approaches that determined the curricula content until 2005.

The adoption of the constructivist approach in the 2005 Turkish Language Curriculum (Grades 1-5) may have been instrumental in the inclusion of visual reading as a learning area. Visual reading, based on the comprehension and interpretation of visual elements such as forms, symbols, images, etc., was included in the Turkish language course as a separate learning area for the first time in the new primary education curricula during the 2005-2006 academic year. The lack of visual literacy skills before this curriculum should undoubtedly be considered as a major problem in language education. The new Turkish language curriculum included 17 achievements in visual reading and 11 achievements in visual presentation (Kaya, 2020; MEB, 2005).

The 2006 Turkish Language Course Curriculum (Grades 6, 7, and 8) did not include individual visual reading and presentation achievements, instead the following two achievements were included: "Interprets visuals included in the text, supports the written text with visual material."

The 2015 Turkish Language Course Curriculum included various visual reading and presentation achievements for primary school and 5th grade students. In this curriculum, the number of achievements was higher when compared to the 2006 curriculum. However, it included no visual reading achievements for 6th, 7th and 8th grade students. The following visual reading and presentation achievements are included in the curriculum: 2nd grade curriculum, "T2.2.4. The student could express her/his understanding about the visuals, written texts and media content." The 3rd grade curriculum, "T3.2.13. The student could utilize visuals when understanding the reading material." The 4th grade curriculum, "T4.2.15. The student could utilize visuals when understanding the reading material." The 5th grade curriculum, "T5.2.13. The student could utilize visuals when understanding the reading material."

Visual Reading and Presentation was included as an achievement for the 1st, 2nd, 3rd and 4th grades under

listening, reading and writing skills in the 2017 Turkish Language Course Curriculum. Furthermore, for the 5th, 6th, 7th and 8th grades, various visual reading and presentation achievements were included only under reading skills. Compared to the previous curricula, the number of visual reading and presentation achievements increased in the 2017 curriculum. It is possible to argue that this was due to the increases in the function and significance of visual reading and presentation in the educational process. In this curriculum, it was also mentioned that visual elements could be used in the measurement and evaluation processes:

> "Various items should be used when structuring written exams that would allow the students to use high level cognitive skills. Developed items should be enriched by textual (short text, poetry, tables, graphics etc.) and visual elements (cartoons, photographs, images, etc.), graphical organizers (concept maps, mind maps, etc.) and these should be utilized actively. These items would contribute to the utilization and development of students' inference, critical thinking, analysis, visual reading, reasoning, and spatial skills. (MEB, 2017, pp. 11-12).

The 2017 Turkish Language Course Curriculum was updated in 2018. All visual reading and presentation achievements were preserved. In the 5th, 7th and 8th grades, although there was only one visual reading and presentation achievement under reading skills, a new acquisition was added under writing skills in the 6th grade (T.6.4.5. The student could utilize graphics and tables when necessary to support the written text).

The main objective of Turkish language education is the acquisition of listening, speaking, reading and writing skills. However, the review of the previous studies in the literature demonstrated that the written expression skills of the students were not at desired levels (Ağca, 2003; Çiftçi 2006; Özbay, 2003; Sever, 2011; Tağa & Ünlü, 2013; Ünalan, 2008). It could be argued that although various activities that aimed the acquisition of writing skills have been conducted, the desired outcomes were not achieved. Furthermore, previous studies in the literature reported that the students were not at desired levels also in speech education, required attention was not paid to speech education, the efforts to improve speech education were not at expected levels, speech education activities were conducted in adequate numbers when compared to activities for other language skills, the teachers mostly experienced problems such as unavailability of diverse material during the implementation of speech activities, and Turkish language teachers did not adopt different methods and techniques in the courses except for a few conventional methods and techniques (Arhan, 2007; Aşçı, 1996; Benzer and Ünsal, 2019; Sargın, 2006; Üner, 2010). On the other hand, Benzer and Ünsal (2019) reported that 20% of teachers claimed that speech activities in the textbooks did not attract students' interest and 18% stated that the activities were not suitable for the student level.

One of the basic tools and materials to achieve the basic objectives of the Turkish language course and for the students to acquire the desired level of skills is the textbooks. The findings of certain previous studies (Arhan, 2007; Basaran, 2003; Ozbay, 2003; Sandikci, 2006; Susar, 1999) demonstrated that teachers generally used only textbooks and they neglected the utilization of other tools and materials.

Due to the recent technological advances, it could be suggested that visual communication became increasingly more important. Thus, the verbal and writing skills of the students could be improved with the use of visual elements in addition to the texts in Turkish language textbooks and the acquisitions of these skills could reach the desired levels. Karadağ (2003) reported that the use of photographs and pictures in writing practices has an important role in the organization of the textual flow. Küçük (2006) reported that the five senses should be employed in written expression practices in the primary and secondary education. According to Kırbaş and Orhan (2011), one of the factors that determine the productivity of the educational materials is the sensory organs they address. Because, independent of the educational level, the more sensory organs are addressed by a material, the educational objectives could be achieved more quickly and effectively. Perhaps the most important contribution of allowing the students to write using images is that it would improve their enthusiasm for writing (Kılıç & Seven, 2005). Thus, students could acquire the ability to read visual elements in native language education, and also, through the use of qualified visual elements, students could improve writing and verbal skills to desired levels. Therefore, the determination of the impact of visual literacy on the writing and verbal skills that were emphasized in Turkish language courses, could significantly contribute to the literature.

Objective

The present study aimed to determine the impact of visual reading education and visual elements on the writing and verbal skills of the 5th grade students. The most important tool in the acquisition of the skills targeted in the Turkish language course is the texts included in the Turkish language course textbooks. However, in recent years, technological advances allowed the inclusion of visual elements in the education system in addition to the texts. Although the students are informed on reading the texts in the textbooks, no systematic information is provided about reading the visual elements, which have become significant in education. Visual elements are used in several media, especially in television and the Internet, and also in books, magazines, newspapers, etc. Visual reading and visual reading education is significant in the acquisition of visual reading skills.

The research question was determined as follows in the present study:

- What is the impact of visual reading education and visual elements on the verbal and writing skills of middle school students?

METHOD

In the present study that investigated the impact of visual reading education and visual elements on verbal and writing skills of middle school students, pretest-posttest random design with control group was used. According to Karasar (2017), pretest-posttest random design with control group

includes study and control groups, the members of which are determined randomly. Büyüköztürk et al. (2016) stated that the objective of this design is to determine the difference between the groups due to the experimental application based on the dependent variable. Thus, pre-test is applied before the experimental application to emphasize that there was no difference between the groups. Then, conventional and experimental methods are implemented with separate groups. At the end of the application, the rates of change in the groups are determined by conducting the posttest.

The model could be described symbolically as in Table 1 where G1 indicates the study group, G2 denotes the control group, MR represents the random distribution of the matched subjects in the groups, O1.1 and O2.1 reflects the pretest measurements applied to both groups, O1.2 and O2.2 reflects the posttest measurements applied to both groups, and X denotes the independent variable (visual reading education) applied to the subjects in the study group.

Participants

The study population included the 5th grade students attending Ahmet Yesevi ISE Middle School located in Tusba, Van Province in Turkey. The study group demographics are presented in Table 2.

As seen in Table 2, 10 out of 17 students in the experimantal group were female and 7 were male and 12 out of 18 students in the control group were female and 6 were male. The 5th grade students in the study group were assigned with random sampling, which is a non-probabilistic sampling method. A random sample is an easily accessible sample considered to reflect the population (Tavşancıl & Aslan, 2001). According to Yıldırım and Şimşek (2016), in this sampling method, every member of the population has an equal chance of selection for the sample.

There were 2 5th grade classes at Ahmet Yesevi IMKB Middle School during the 2018-2019 academic year. The teacher who instructed both classes stated that the class levels were equal. The author and the teacher assigned one of these classes as the experimental group and the other as the control group. The experimental group included 17 students and the control group included 18 students.

Data Collection Instruments

Five cartoons were shown to the participating students and they were asked to discuss about these cartoons. After their discussion was over, forms that included these cartoons were distributed and the students were asked to write their comments on each cartoon. An example of this form is presented in Appendix 1.

The Written Expression Evaluation Scale (WEES) and Effective Speech Skills in Turkish Language Scale (VRSTLS) were used as quantitative data collection instruments.

Written Expression Evaluation Scale (WEES)

The reliability of the scale that was developed by Sever (2011, p. 261) was KR-20:.83 and KR-21:.79 in the pretest, and KR-20:.88 and KR-21:.86 in the posttest. In the present study, the Cronbach alpha reliability coefficients of the pretest and posttest scores were analyzed to determine the reliability of the scale. Thus, the Cronbach's alpha reliability coefficient for the whole observation and evaluation form was .94. Therefore, the scale could measure the written expression skills.

WEES included 25 items, 5 of which measured invention skills, 8 of which measured planning skills, and 12 of which measured expression skills. The scale was a 5-point Likert-type scale [(1) Very inadequate, (2) Inadequate, (3) Partially adequate, (4) Adequate, (5) Very adequate]. The scale is scored with three different types of points: The scores of the respondents to 5 items that measure invention skills formed the invention skills sub-dimension score, the scores of the respondents to 8 items that measure planning skills formed the planning skills sub-dimension score, the scores of the respondents to 12 items that measure expression skills formed the expression skills sub-dimension score, and the total of the invention, planning and expression skill scores formed the written expression evaluation score. The minimum score in the invention skills sub-dimension is $5 \times 1 = 5$, the maximum score is $5 \times 5 = 25$ points, the minimum score in the planning skills sub-dimension is $8 \times 1 = 8$, the maximum score is $8 \times 5 = 40$, the minimum score in the expression skills sub-dimension is $12 \times 1 = 12$, and the maximum score is $12 \times 5 = 60$. The minimum total written expression score is $25 \times 1 = 25$, and the maximum total written expression score is $25 \times 5 = 125$ based on the three subdimensions. As the scale scores increase, the written expression skills increase, and as the scale scores decrease, the written expression skills decrease as well.

Effective Speech Skills in Turkish Language Scale (VRSTLS)

Based on first level factor analysis of the scale developed by Çintaş-Yıldız and Yavuz (2012), it was determined that the chi-square was 1059.76, degree of freedom was 247 (p =.000), goodness of fit index was 0.92, and normalized fit index was 0.91, root mean square error was 0.098. These values indicated that the results of the first level factor analysis were sufficient. Then, second level factor analysis was conducted. Based on the results of the second level factor analysis, it was determined that chi-square was 1057.80, degree of freedom was 242 (p =.000), goodness of fit index was 0.93, normalized fit index was 0.92, root mean square

Table 1. The study design

G1	M$_R$	O1.1	X	O1.2
G2	M$_R$	O2.1		O2.2

Table 2. The Experimental and Control Group Students Based on Gender

	Female	Male	N
Experimental Group	10	7	17
Control Group	12	6	18

error was 0.100. Based on these findings, it was concluded that the scale was valid. It was determined that the first-half reliability of the scale was .98 based on the Spearman Brown formula and it was .98 based on the Guttman Split-Half technique. Cronbach α (internal consistency) coefficient was calculated as .92. These findings indicated that the reliability and internal consistency of the scale were high. The pre-test and post-test score Cronbach alpha reliability coefficients were also calculated. Thus, it was found that the Cronbach's alpha reliability coefficient for the whole observation and evaluation form was .96. The validity and reliability analyses demonstrated that the scale was valid for measuring effective speech skills.

Out of the 24 items in VRSTLS, presentation subdimension included 7 items, sound subdimension included 4 items, wording and articulation subdimension included 5 items, focus on speech subdimension included 4 items, and recognition of the audience subdimension included 4 items. The form was a 5-point Likert-type scale [(5) I completely agree, (4) Agree, (3) Moderately agree, (2) Disagree, (1) Strongly disagree]. The scale included five types of scores: the total respondent score for the 7 items that measured presentation skills formed the presentation skills sub-dimension score, the total respondent score for the 4 items that measured sound skills formed the sound skills subdimension score, the total respondent score for the 5 items that measured wording and articulation skills formed the wording and articulation skills sub-dimension score, the total respondent score for the 4 items that measured focus on speech skills formed the focus on speech skills sub-dimension score, the total respondent score for the 4 items that measured the recognition of the audience skills formed the recognition of the audience skills sub-dimension score, and the total of the presentation skills sub-dimension score, sound skills subdimension score, wording and articulation skills sub-dimension score, focus on speech skills sub-dimension score, and recognition of the audience skills sub-dimension score formed the Turkish effective speaking

score. The minimum score in the invention skills sub-dimension is $5 \times 1 = 5$, the maximum score is $5 \times 5 = 25$ points, the minimum score in the planning skills sub-dimension is $8 \times 1 = 8$, the maximum score is $8 \times 5 = 40$, the minimum score in the expression skills sub-dimension is $12 \times 1 = 12$, and the maximum score is $12 \times 5 = 60$. The minimum total written expression score is $25 \times 1 = 25$, and the maximum total written expression score is $25 \times 5 = 125$ based on the three subdimensions. As the scale scores increase, the written expression skills increase, and as the scale scores decrease, the written expression skills decrease as well. However, in the focus on speech skills dimension (items 17, 18, 19 and 20), the opposite is true. The lower the score, the higher the effective speaking skills, the higher the score, the lower the effective speaking skills. Table 3 shows the five-week instruction plan in the study and control groups.

Data Analysis

Two quantitative data collection instruments were used in the study. These were Written Expression Evaluation Scale and Effective Speaking Skills in Turkish Language Scale.

In the present study, SPSS-PASW Statistics (Version 22) software was used to test whether there was a significant difference between pretest and posttest scores of the study group, where visual instruction was conducted, and the control group where the conventional method was used in course instruction. The paired samples t-test was used to determine whether there was a difference between the pretest and posttest scores within the groups. Independent groups t-test was used to determine the difference between the study and control group scores.

To determine which statistical tests should be used in the analysis of students' data collection instrument scores, the distribution of their total scores between the pretest and posttest (normality test) applications was employed. The test types were determined based on the normality of the data distribution.

Table 3. Five-week Course Instruction in the Study and Control Groups

Week	Study and Control Groups	
1st Week	Five visual elements were displayed to the study and control group members. The students in both groups were allowed to discuss about these elements, and during these discussions three field expert observers completed the VRSTLS for each student. Then five visual elements were displayed to the students in both groups one by one and the students were asked to write their comments on these visual elements. Student notes were evaluated separately for each student by the three using WEES.	
	Study Group	**Control Group**
2nd Week	(3 periods) Theoretical knowledge on visual reading were instructed.	Turkish language course was instructed based on MNE Turkish Language Curriculum.
3rd Week	(3 periods) Theoretical knowledge on visual reading were instructed. Several visuals were shown and discussed.	Turkish language course was instructed based on MNE Turkish Language Curriculum.
4th Week	(3 periods) Theoretical knowledge on visual reading were instructed.	Turkish language course was instructed based on MNE Turkish Language Curriculum.
	Study and Control Groups	
5th Week	During the final week of the application, after the implementation of the experimental study, the same applications conducted in the pretest were conducted again.	

George and Mallery (2003) stated that to assume normal distribution of data, the skewness and kurtosis values should be between -2 and +2. The normal distribution of the present study data was determined based on the above-mentioned criteria.

Based on Table 4, pretest and posttest scores exhibited normal distribution in both study and control groups.

Based on Table 5, pretest and posttest scores exhibited normal distribution in both study and control groups.

The tests that were used in the analyses were determined based on the normality test results. The study data were analyzed with SPSS-PASW Statistics (Version 22).

FINDINGS

In this section of the study, the study findings are discussed, and various interpretations are presented about the findings. The study findings were discussed in two sections.

Impact of Visual Reading Awareness Instruction on Writing Skills

Findings about the effect of visual reading awareness education on students' writing skills are shown in Table 6.

Based on the data presented in Table 6, there was a statistically significant difference between the pretest and posttest scores of the study group students who were instructed with visual reading awareness and conventional methods in the course [$t_{(16)}$ = -10.309, p <.05 (p =.001)]. Total WEES scores revealed that the mean written expression score of the students at the beginning of the period was = 46.52, SD = 11.38,

and the mean written expression score increased to = 69.47, SD = 13.31 after the visual reading instruction.

In Table 7, it could be observed that there was no significant difference between the pretest and posttest total scores of the control group students [$t_{(17)}$ = -1.114, p>.05 (p =.281)]. In the pre-test conducted at the beginning of the semester, the mean written expression score of the students was = 58.22, SD = 13.28, while after the conventional instruction, the mean written expression score of the students was = 60.00, SD=11.94 in the posttest.

Based on Table 8, it could be suggested that there was no significant difference between the pretest and posttest scores of the study group students [$t_{(33)}$ = -2.78, p>.05 (p =.090)].

Based on the data presented in Table 9, it could be suggested that there was a statistically significant difference between the posttest scores of the study group students who were instructed with the visual reading awareness method in addition to the conventional education method for three weeks and the control group students [$t_{(33)}$ = 2.21, p <.05 (p =.034)]. Total WEES scores revealed that the mean written expression posttest score of the students in the study group at the end of the semester was = 69.47, SD = 13.31, while the mean written expression posttest score of the control group students, who were instructed with the conventional method, was = 60.00, SD = 11.94.

Impact of Visual Reading Awareness Instruction on Verbal Skills

Findings about the effect of visual reading awareness education on students' verbal skills are shown in the table below.

Based on the data presented in Table 10, there was a statistically significant difference between the pretest and posttest scores of the study group students who were instructed with visual reading awareness and conventional methods in the course [$t_{(16)}$ = -2.185, p <.05 (p =.037)]. Total VRSTLS

Table 4. Normality Tests Based on the Total Study and Control Group Scores in WEES

Group	Test	Skewness	Standard error	Kurtosis	Standard error
Study Group	Pretest	-.681	.550	1.804	1.063
	Posttest	-.769	1.063	-.106	1.063
Control Group	Pretest	-.082	.536	-.986	1.038
	Posttest	-.226	.536	-1.052	1.038

Table 5. Normality Tests Based on the Total Study and Control Group Scores in VRSTLS

Group	Test	Skewness	Standard error	Kurtosis	Standard error
Study Group	Pretest	-.889	.427	-.193	.833
	Posttest	-1.660	.427	3.375	.833
Control Group	Pretest	-.014	.427	-.794	.833

Table 6. Paired samples t-test to compare study group's pretest and posttest scores

Test	N	$\overline{X}$	s	Sd	t	p
Pretest	17	46.52	11.38	16	-10.309	.001
Posttest	17	69.47	13.31			

Table 7. Paired samples t-test to compare control group's pretest and posttest scores

Groups	N	$\overline{X}$	s	Sd	t	p
Pretest	18	58.22	13.28	17	-1.114	.281
Posttest	18	60.00	11.94			

Table 8. Independent samples t-test to compare study and control groups' pretest scores

Groups	N	$\overline{X}$	s	Sd	t	p
Study group	17	46.52	11.38	33	-2.78	.090
Control group	18	58.22	13.28			

Table 9. Independent samples t-test to compare study and control groups' posttest scores

Groups	N	$\overline{X}$	s	Sd	t	P
Study group	17	69.47	13.31	33	2.21	**.034**
Control group	18	60.00	11.94			

scores revealed that the mean verbal expression score of the students at the beginning of the period was = 53.86, SD=8.1, and the mean verbal expression score increased to = 56.56, SD= 7.25 after the visual reading instruction.

In Table 11, it could be observed that there was no significant difference between the pretest and posttest total scores of the control group students [t$_{(17)}$ =.602, p >.05 (p =.552)]. In the pre-test conducted at the beginning of the semester, the mean verbal expression score of the students was = 50.76, SD=9.77, while after the conventional instruction, the mean verbal expression score of the students was = 50.20, SD=9.45 in the posttest.

Based on Table 12, it could be suggested that there was no significant difference between the pretest and posttest scores of the study group students [t$_{(33)}$ = 1.336, p >.05 (p =.187)]. It was observed that the mean verbal skills score of the study group students in the pretest conducted at the beginning of the semester was = 53.86, SD=8.11, while the mean verbal skills score of the control group students in the pretest conducted at the beginning of the semester was = 50.76, SD=9.77.

Based on the data presented in Table 13, it could be suggested that there was a statistically significant difference between the posttest scores of the study group students who were instructed with the visual reading awareness method in addition to the conventional education method for three weeks and the control group students [t$_{(33)}$ = 2.78, p <.05 (p =.007)]. It was observed that the mean verbal skills posttest score of the students in the study group after the instruction

Table 10. Paired samples t-test to compare study group's pretest and posttest scores

Groups	N	$\bar{X}$	s	Sd	t	p
Pretest	17	53.86	8.11	16	-2.185	.037
Posttest	17	56.26	7.25			

Table 11. Paired samples t-test to compare control group's pretest and posttest scores

Groups	N	$\bar{X}$	s	Sd	t	p
Pretest	18	50.76	9.77	17	.602	.552
Posttest	18	50.20	9.45			

Table 12. Independent samples t-test to compared study and control groups' pretest scores

Groups	N	$\bar{X}$	s	Sd	t	p
Study group	17	53.86	8.11	33	1.336	.187
Control group	18	50.76	9.77			

Table 13. Independent samples t-test to compare study and control groups' posttest scores

Groups	N	$\bar{X}$	s	Sd	t	P
Study group	17	56.26	7.25	33	2.78	.007
Control group	18	50.20	9.45			

was = 56.26, SD=7.25, while the mean verbal skills posttest score of the control group students, who were instructed with the conventional method, was = 50.20, SD=9.45.

DISCUSSION AND CONCLUSION

In the present study, the impact of visual reading education on writing and verbal skills of middle school students was investigated. Thus, the students in the study group received visual reading instruction for three weeks. Various visuals were displayed for the control and study group students and the students were asked to comment on the visuals. After the visual reading instruction was given to the students in the study group, the visuals were displayed again, and the students were asked to discuss and write their comments on the visuals. The study findings are summarized below.

At the beginning of the experimental process, it was determined that there was no statistically significant difference between the pretest written expression scores of the study and control groups [t (33) = -2.78, p>.05 (p =.090)]. Both groups started the education process with similar mean achievements.

There was no statistically significant difference between the pretest and posttest written expression scores of the control group [t (17) = -1.114, p>.05 (p =.281)]. There was a statistically significant difference between the pretest and posttest written expression scores of the study group [t (16) = -10.309, p <.05 (p =.001)]. This finding demonstrated that visual reading instruction and visual elements had a positive impact on the development of written expression skills.

There was no statistically significant difference between the effective speaking skill pretest achievement scores of the study and control groups [t (33) = 1.336, p>.05 (p =.187)]. In other words, before the experiment, both groups exhibited similar verbal skills.

There was no statistically significant difference between the pretest and posttest effective speech skill achievement scores of the control group [t (17) =.602, p>.05 (p =.552)]. However, it was determined that there was a statistically significant difference between the pretest and posttest effective speech skill achievement scores of the study group favoring the posttest scores [t (16) = -2.185, p <.05 (p =.037)]. In other words, the implemented visual reading instruction activities in the study group had a positive impact on the effective speaking skills of the students.

To summarize the findings, the visual literacy awareness instruction conducted with the study group led to a higher development in verbal and writing skills of the students when compared to the conventional instruction approach.

Several recent academic studies on visual reading and visual elements reported that visual elements facilitated student learning. The findings of these studies were consistent with the present study findings. Kırbaş and Orhan (2011) reported that the use of visual elements improved writing skills. In a study by Balun (2008), primary school teachers stated that the students expressed themselves better through visual readings. Dönmez (2013) found that the use of cartoons

in Turkish language course improved student achievements in reading comprehension and writing skills. Örs and Baş (2018) reported that students did not experience any difficulties in forming sentences when visuals are included in the activities, transferred the images onto paper in a logical order, interpreted the visuals presented in the activity based on the details, and included comparative expressions.

Düzgün (2000) reported that the use of visual material and visual reading significantly contributed to student understanding, comprehension and academic achievement. Akçam (2006) concluded that visual reading had positive effects on inference and summarizing skills. Çam (2006) argued that there was a significant correlation between visual reading levels, reading comprehension skills, critical reading skills, and Turkish language course academic achievements of fifth grade students in primary school.

Akpınar (2009) reported that teacher attitudes were positive towards visual reading and presentation and they considered this field contributed to methodological and technical diversity to Turkish language program and achievement of the program goals and preparation of the students for visual life. Güldaş (2012) stated that the visuals in the primary school first grade Turkish language and "I am learning to read and write" textbooks led to learning; however, more active and permanent learning could be achieved with the improvement of these textbooks. Tarakçı (2013) determined that 14-week long values education program conducted using mass communication tools in Turkish language course visual reading and visual presentation activities improved the student views on value acquisition. According to Baş and Kardaş (2014), there was a positive correlation between the visual reading skills and reading comprehension test scores of the fourth-grade students.

In addition to the improvement of reading, speaking, comprehension, criticizing and writing skills of the students in the Turkish language course, certain academic studies reported that visual reading and visual reading education had effects on the comprehension levels of the students in other courses.

Düzgün (2000) argued that the use of visual material and visual reading significantly contributed to understanding, comprehension and academic achievements of the students. Kuvvetli (2008) determined that visual reading-oriented method was more effective when compared to the conventional method on the improvement of the student achievements in physics course motion and optics topic. Uğur (2009) and Uğur, Dilber, Şenpolat and Düzgün (2012) stated that visuals and visual reading were extremely useful especially in understanding and comprehension of the topics. Türkoğuz and Yayla (2010) found that science instruction based on visual art activities led to an increase in student achievements. Kuvvetli-Arpaguş, Ünsal and Moğol (2011) concluded that visual reading method was more effective when compared to the conventional method in the improvement of student achievements in the global mirrors and lenses topic. According to Soslu, Dilber and Düzgün (2011), when the experiments were explained with visuals, the students understood the topics easier. Düzgün (2013) reported that the

use of visual reading approach improved students' academic achievement, comprehension and their attitudes towards the physics course when compared to the conventional method. Gülen and Demirkuş (2014) stated that the use of visual material improved the student achievements in the study group when compared to the control group.

In recent years, the curricula associated with visual reading and visual elements included certain Turkish language writing and listening achievements. However, achievements associated with visual elements and presentation could be included in all skills. Achievements could be reorganized based on differences between the students and could be updated based on current requirements consistent wit the technological advances of the 21st century.

In Turkish language education, the main tools utilized for the acquisition of listening, speech, reading and writing skills are the texts in textbooks. In addition to the texts in the textbooks, visual elements could be used more effectively and efficiently for the acquisition of basic skills. Various visuals could be included in the textbooks, in addition to the listening content. Students could be allowed to conduct certain activities using these elements to improve their verbal, reading, listening and writing skills.

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APPENDIX
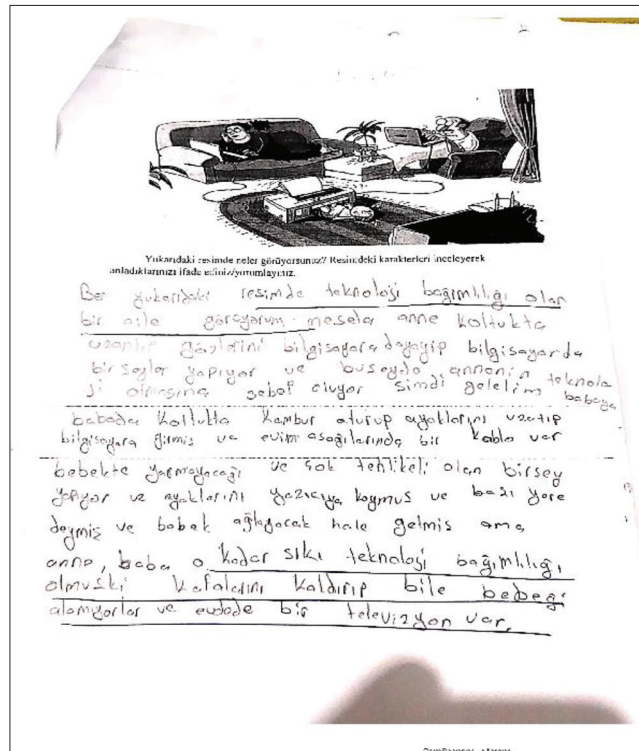
Appendix 1. Sample visual reading form