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## A comparison of computer-aided ELVES method and video-aided instruction in text teaching in terms of student success

Nesrin Özdener<sup>a\*</sup>, Sezin Eşfer<sup>a</sup>

<sup>a</sup> *Atatürk Faculty of Education Department of Computer Education Instructional Technologies, Marmara University, Istanbul 34722, Turkey*

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### Abstract

The purpose of this study is to determine the effect of computer-aided ELVES method on student success in text teaching. The study also analyzes the likelihood whether the video-aided instruction method can be used with different techniques. And the instructional methods discussed within the scope of the study have been compared in terms of student success. The study conducted based on post-test model was carried out on three different experimental groups. A study of post-test results of students has enabled us to determine that there is a considerable difference in favor of computer-aided ELVES method for performing the target behaviors.

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*Keywords:* Method of ELVES; video-aided instruction; text teaching; language teaching; instructional method.

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### 1. Introduction

The major problem encountered by language instructors in text teaching is that students' passiveness during teaching lead to attention deficiencies and non-internalization of the text on the part of students. It is possible to utilize information technologies in order for the students to get rid of this passiveness and comprehend the text. However, it is of great importance to properly integrate it into instruction for optimum utilization of opportunities offered by the technology.

It is known that use of computer, video and Internet-based materials in educational activities eases class management by teachers, increases the attention of students and teachers, and enhances the effectiveness of learning-teaching process (Pedras and Horton, 1996; Gilden, 1998; Christine, 1999; Beers, Paquette and Warren, 2000; Kablan, 2001). For this reason, it is possible to make use of audio-visual tools in order to overcome the difficulties in text education.

Video-aided teaching demonstrated itself as an effective and interpretive education as observed from the lectures designed by Hult and Edents (2003) in order to evaluate skills of students; video-based pedagogical education in Friel and Carboni's (2000) works have generated the potential for supporting alternative experiences. On the other hand, Daniel's (1996) empirical study has shown the ease of adopting a constructive education approach through bringing real situations and problems to the class environment (Daniel, 1996; Cannings and Talley, 2003). Bliss and Mazur (1996) have worked with joined classes on educational videos that develop decision making mechanisms and critical thinking related to conditions which are not probable in reality and otherwise would be dangerous for the students to learn it by experiencing directly. Despite these studies that present positive results in video-based education, in his comparative study of video teaching and traditional methods, Bucalos (2003) concluded that there was no difference between student achievements.

Another teaching method that can be used in language education is the ELVES method. Yangın (1998) showed the positive effects of the ELVES method on listening comprehension in his study with 1<sup>st</sup> grade students. ELVES is composed of the first letters of

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\*Nesrin Özdener.

E-mail address: [nozden@marmara.edu.tr](mailto:nozden@marmara.edu.tr).

Excite (enabling the reminiscence of foreknowledge – attention getting – motivating), Listen (listening), Visualize (visualizing, animating), Extend (developing – elaborating) and Savor (assimilating – jogging one's memory) (Levesque, 1989; cited by Yangin, 1998).

### 1.1. Excite

Excite step consists of starting up a debate among students in which they can express their foreknowledge on the issues in the video, before reading the text. Questions associating the experiences of the children to the main idea, to the topic and to the characters of the text are posed; the teacher may chair the debate.

### 1.2. Listen

As the meaning is not aggregated in one point of the text, the children need to be oriented towards guessing. When the listener becomes capable of confirming or rejecting the guesses, s/he needs to be oriented to remember the main idea of the story. When the students are capable of guessing, they should be encouraged to take the floor; to express their views own and feelings.

### 1.3. Visualize

Envisaging is particularly important for helping the children to infer. While listening to a story, a child may envision different imageries. It is necessary to provoke the children to share these imageries in their minds by expressing them in words.

### 1.4. Extend

When the listeners are able to link the foreknowledge to the new knowledge present in the story, they make use of the meaning at maximum level. The storyteller may ease the listening comprehension by posing questions to the listeners.

### 1.5. Savor

The listeners need some time in order to narrate the feelings and ideas originated from the story. Savor step involves activities that enable listeners to structure the meanings derived from the listening comprehension in the period necessary for embedding the text to the minds.

### 1.6. The aim of the study

The purpose of this study is to determine the effect of computer-aided ELVES method on student success. The study also analyzes the likelihood whether the video-aided instruction method can be used with different techniques. And the instructional methods discussed within the scope of the study have been compared in terms of student success. The study will seek answers for the following questions:

Are there any meaningful differences between the group exposed to ELVES method and the one exposed to video-aided instruction in terms of;

1. comprehending the topic, main idea and supporting ideas of the text?
2. determining an event, place, time, character, object and elements related to these contained in a text?
3. determining the cause-effect relation and purpose-result relations regarding the events in a text?
4. Does the fact that during the application of the video-aided instruction in a group the role-players in a video are classmates of the students make any considerable difference?

## 2. Methodology

The study conducted via pre-test model was carried out on three different experimental groups consisting of 137 Seventh grade Primary School students. The students in the first experimental group were instructed through a video in which their classmates played parts, the third one through a video in which their classmates did not play parts and second one through computer-aided ELVES method. The first-term grade point averages regarding the course Turkish Language have been used for determining the pre-study co-working groups. Applied to the third experimental group, the ELVES method has been conducted with the aid of a presentation prepared by the researchers using MS Powerpoint (Image 1 and Image 2). Used in the presentation, the play named "King and Theatre" has been written and scripted by Turkish Language teachers serving at the school where the study has been conducted. Consisting of three acts, the play then has been portrayed and recorded by the school's theatre club with the aim of

forming the videos used for the first and second experimental groups (Image 3). Within the scope of the research, both video-educated students and students that received computer-aided ELVES method that have never read the text “*King and Theater*” or seen its theater adaptation are taken. In order to make the children carefully follow the educational methods, *video watching form* is distributed to the video-educated children and *presentation follow-up form* to those that used ELVES method and they were asked to fill them in during the application.

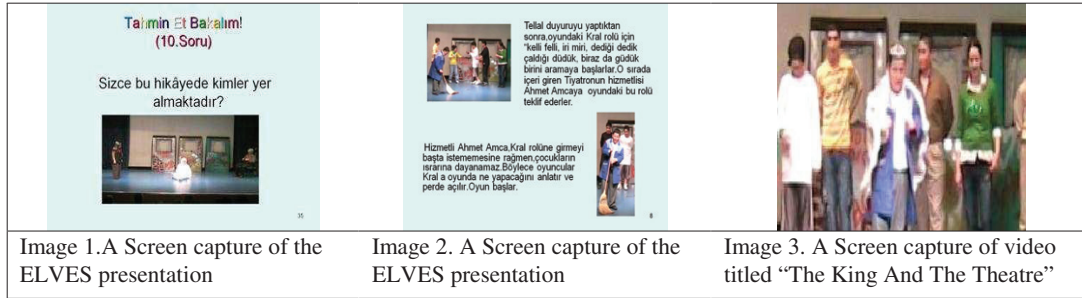


Image 1. A Screen capture of the ELVES presentation

Image 2. A Screen capture of the ELVES presentation

Image 3. A Screen capture of video titled “The King And The Theatre”

The post-test applied in order to determine the student success in text learning consisted of seventeen open-ended, matching and fill-in-the-blanks questions testing the ability of the students to determine the topics, main and supporting ideas, key words and implications of what they hear/watch and the elements concerning the cause-effect and purpose-results relations, place, time and characters.

### 3. Findings

In order to observe whether these research groups are on equal levels regarding the computer class, Turkish course grades during the 2007-2008 school year, semester 1 are compared using “One-Way Analysis of Variance” method. The results of the analysis demonstrate that there are no remarkable differences regarding the Turkish course between the two groups [ $F(135)=1,185, p=,309>.05$ ]. In other words, the achievements related to the Turkish course do not vary among the groups.

In order to answer the research question as to whether there are remarkable differences between the research groups regarding *comprehension of the topic, main idea and supporting ideas of the text*, the final test results of the groups are compared using ANOVA test and the results are presented in Table 1.

Table 1. ANOVA test results dealing with the success of comprehending topic, main idea and supporting idea

	Sum Of Squares	df	Mean Squares	F	Sig.	Mean Difference
Between Groups	1993,22	2	996,61	22,39	,000	I–II, III–II
Within Groups	5876,22	132	44,52			
Total	7869,44	134				

When Table 1 is observed, with what regards *comprehension of the topic, main idea and supporting ideas of the text*, it is found that there is a significant difference in favor of the group on which the computer aided ELVES method was implemented [ $F(134)=22.39, p<.05$ ]. According to the Scheffe test given in order to establish in which classes this difference is observed, it is seen that the students in the Experimental group I ( $X=3,28$ ) and Group III ( $X=2,10$ ) have lower results than those in the Group II ( $X=10,76$ ). According to homogeneity, test variances are homogeneous ( $p=,740 >.05$ ).

In order to answer the research question as to whether there are remarkable differences between the research groups regarding *identification of the event, place, time, entity and elements related to these*, the final test results of the groups are compared using ANOVA test and the results are presented in Table 2.

Table 2. ANOVA test results dealing with the success of identification of the event, place, time, entity and elements related to this

	Sum Of Squares	df	Mean Squares	F	Sig.	Mean Difference
Between Groups	5089,69	2	2544,84	61,27	,000	I–II, III–II
Within Groups	5482,68	132	41,54			

Total	10572,37	134
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As it is seen in Table 2, with what regards *identification of the event, place, time, entity and elements related to these*, it is established that there is a significant difference in favor of the group on which the computer aided ELVES method was implemented [ $F(134)=61.27$ ,  $p < .05$ ]. According to the Scheffe test held in order to establish in which classes this difference is observed, it is recorded that the students attending to Group I ( $X=18,02$ ) and Group III ( $X =15,10$ ) have lower results than those attending to Group II ( $X = 29,19$ ). According to homogeneity, test variances are homogeneous ( $p=,104 >.05$ ).

The results of the Anova test conducted in order to compare the achievements in *identification of cause-effect and aim-end relations with regards to the events in the text*, are presented in Table 3. What regards *identification of cause-effect and aim-end relations with regards to the events in the text*, it is established that there is a significant difference in favor of the group on which the computer aided ELVES method was implemented [ $F(135)=30.29$ ,  $p < .05$ ]. According to the Scheffe test held in order to establish in which classes this difference is observed, it is recorded that the students attending to Group I ( $X=10,09$ ) and Group III ( $X =9,23$ ) have lower results than those in the Group II ( $X = 15,02$ ). According to homogeneity, test variances are homogeneous ( $p=,570 >.05$ ).

Table 3. ANOVA test results dealing with the success of identification of cause-effect and aim-end relations with regards to the events in the text

	Sum Of Squares	df	Mean Squares	F	Sig.	Mean Difference
Between Groups	896,78	2	448,39	30,29	,000	I-II, III-II
Within Groups	1969,03	133	14,81			
Total	2865,82	135				

In order to answer the other research question as to *whether there are remarkable differences in achievements between the research groups when a classmate appears in the video*, the final test results of the groups are compared using T test and the results are presented in Table 4. As seen in Table 4, a significant difference was seen in favor of the students whose classmates appeared in the video ( $t_{(90)}=3,32$ ;  $p <.05$ ).

Table 4. Independent T test results regarding the effect of whether those having a role in the video are classmates on the success

Groups	N	Mean	T	sd	P
Group I* (7-A )	45	37,16	3,32	90	,001
Group III (7-C)	47	28,13			
Total	92				

\* Class 7-A with a classmate in the video

#### 4. Conclusion

This study sought to identify the effects of the computer-aided ELVES method in text-based teaching on student achievement. Moreover, different techniques for video-aided education in text-based teaching are examined and the educational techniques within the scope of the research are compared with regards to student achievement. In line with the findings, the following results are achieved.

According to the research findings, when students are compared in terms of *comprehension of the topic, main idea and supporting ideas of the text; identification of the event, place, time, entity and elements related to these; and identification of cause-effect and aim-end relations with regards to the events in the text*, it is observed that the computer-aided ELVES method is effective and more successful than the video method. This difference in the achievements of the students can be explained by the use of "Guess what?" sections, prepared according to the ELVES method, which triggers analysis of text structure and thinking. Particularly, these questions posed to the Extend and Savor steps may be the primary reason in creating this difference. Research findings coincide with those of Yangin (1998) that demonstrated the positive effects of the ELVES method on listening comprehension skills of the students.

According to the findings of another study, within the group of video-aided education, appearance of classmates in the video had positive effects on student achievement. It has been observed that the students paid more attention to the video in which their classmates take part as a course material during the video-aided instruction. The children being classmates were proved to be effective in drawing attention to and focusing on the subject. On the other hand, students, having known the classmates beforehand, might have had difficulties in associating their classmates to the roles and could have had a critical eye on them; and this can be considered a restriction related to the technique employed. This limitation may be among the reasons why it failed in text instruction more compared with ELVES method. It can be suggested using cartoon characters and students' classmates within the same scenario in order to observe the differences in student's attention and achievement in further studies.

Research findings are important for intersecting the information technologies and different methods in order to eliminate the problems and difficulties encountered during text teaching in language instruction, and therefore ensuring more effective instruction designs.

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