The Effects of Using Digital Cameras and Over-head Projector on the Writing Skills of Students

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Abstract: Writing that requires grammatical and cognitive skills together present presents significant difficulties for students and requires more time to master. Many students in our schools are devoid of effective writing skills to express their feelings and thoughts logically in a grammatically accurate context. Writing is dealt with in two directions: product-based and process-based. The former is short term-focused and involves activities about the shape of the text, while the latter is long term-focused and involves the activities about the richness of the text, ad thus requires more time and efforts to teach. Currently, teachers in most of the schools concentrate on the education of product-based writing and allocate most of their time for activities related with the exterior structure of the texts. The aim of this study is to speed up teaching writing by enabling teachers to make use of visual aids during their product-based writing education and thus letting them allocate their remaining time for process-based writing education.

Key words: Digital camera • over-head projector • writing skills

INTRODUCTION

After World War II, people started to shift their energy that they used to spend on the war to education, so technology began to be regarded as an educational tool for better education. Educational technology is a compound of development, learning, teaching, administration and technologies that has been adapted to solve the problems of education [1]. As well as saving time for the teacher, making use of materials also help students to grasp the subject better. The infrastructure of using educational materials is composed of learning environment and teaching approach, target group and content. So as to reach the target group faster and to realize full and effective education, it has become inevitable to use a kind of educational material every lesson. Little John and Windeatt [2] state that materials have a secret program that involves the attitudes of students and teachers towards teaching, learning and knowledge. Making use of a material is surely required so as to facilitate perception, learning and interest in students and to enliven the classroom atmosphere. Materials that shorten the learning time, consolidate the knowledge and ensure the permanency of it give a novel touch to the lesson and to the subject and thus provide polyphony and multi-colour in learning. The linear relationship between learning and sense organs increases thanks to materials and the permanency of information in the brain enhances with visual reinforcement. Therefore, teachers should find the best materials suitable for their subject and make the most of them in class. Teachers should not exploit the material to alleviate the subject load but to introduce it more effectively. On the other hand, they shouldn’t keep themselves in the lead of the material and the material they have chosen should be motivating and facilitating for their students. Kitao [3] states that it is very important for teachers to choose the best materials and to adapt them to their class. It is their responsibility to use new techniques and materials to assess whether the techniques they are using are sufficient or not; if not, to prevent more losses and to increase the educational quality.

Although every individual should strive for better writing skills, making use of materials in this lesson is also important with respect to visuality. Since a teacher cannot change his students in an inefficient lesson, teaching strategies are to be analysed and, if necessary, they should be changed. Regarding the components of visuality, using technological developments to improve writing skills will enhance efficiency of learning.

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WRITING AS A LANGUAGE SKILL

The most challenging part of language learning is writing. Even though listening and speaking can be learned for a certain amount in the pre-school period, it is required to have formal education to acquire reading and writing skills. As reading skills are to be acquired prior to writing skills, the latter become the final stage of language learning. Writing is a complex metacognitive activity that draws on an individual’s knowledge, basic skills, strategies and ability to coordinate multiple processes [4]. Writing skill cannot be gained through knowledge; rather, it is a long-term process during which an individual should merge his knowledge about grammar with numerous grammatical rules and build up coherent and unified structures accordingly. Expressive written language is considered one of the most difficult areas of academic achievement for children, especially those with learning disabilities [5]. Graham [6] points out that it is complex process to learn writing and it depends on the individual’s specializing in various processes and skills related with writing.

Most of the students are reluctant towards writing. For these students, the anxiety of writing is diffuse and intolerable. They have internalized past criticisms and humiliations, so they believe their expression truly reflects personal inadequacy [7]. As writing involves reading, reasoning and self-expression skills and is hard to apply, students become reluctant to participate in this activity. Therefore, they experience some problems in achieving the desired success. According to a study carried out by National Commission [8] to determine the writing skills of the students at American schools and colleges, the papers of half of the college graduates are full of grammar mistakes and most of these students aren’t up to the level to analyse their own ideas. Myklebust [9] and Graham and Harris [10] reveal that the students whose writing skills haven’t entirely developed generally form less syntactically complex sentences; that their sentences are full of grammatical mistakes; and that their sentences are short and full of spelling mistakes.

The aim in writing instruction is to equip students with the required skills to express their feelings and ideas effectively and functionally. Sharples [11] states that writing is analytical, requires evaluation and problem solving and is a process relying on synthesis. The writing skills of students should be maximized so that they can acquire critical thinking skills and express their knowledge and ideas effectively. Therefore, they should be exposed to writing activities not only at school but outside school as well. Using writing tasks to learn content offers students opportunities to expand their knowledge of vocabulary; to strengthen the planning, evaluating and revising processes; and to practice grammar, spelling, punctuation, modes of argumentation and technical writing [12].

Writing instruction is based on two fundamental points: product-based and process-based. The former is short-term and requires studies of the external structure of the text, while the latter long-term and requires studies of the internal structure of the text. Knowledge and skill can be acquired rapidly; however, ability needs more time to be achieved. Knowing punctuation rules reveals the knowledge of the students, whereas using this information in similar and different situations reveals their skills. The behaviours at the level of knowledge and skills express their low-level perceptive skills which appear in product-based writing. The process-based writing-which needs time to flourish-brings the use of knowledge and skills to the foreground, requires relevant abilities-necessitates the activation of upper-level perceptive skills. The development of writing skills enables the students to collect, organize, analyse and unify the information coherently.

Considering the studies to evaluate the situation based on performance, similarities between these studies and efforts to get process-based products in writing lessons could be seen Dietel, Harmani, Knuth [13] Linn and Grounlund [14] Chase [15], Nitko [16]. Performance is called any kind of effort in achieving an aim. Büyüközzer [17] defines performance as a set of strategies in applying the information, skills and studying habits of students via the performance tasks that are meaningful and interesting for students. Improving the writing skills of students

<table>
<thead>
<tr>
<th>Table 1: Distribution of the subjects according to gender</th>
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<tbody>
<tr>
<td>Gender</td>
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<tr>
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<tr>
<td>Male</td>
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<tr>
<td>Female</td>
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<td>Total</td>
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<tr>
<th>Table 2: The current state of the writing skills of the students</th>
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<tbody>
<tr>
<td>Writing</td>
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<tr>
<td>Sentence order errors</td>
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<tr>
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</tbody>
</table>
Table 3: The unrelated T test results of the error scores obtained from the pre-test carried out for control (traditional) and experimental (with over-head projector) groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
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<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control pre</td>
<td>60</td>
<td>1.86</td>
<td>1.36</td>
<td>1.76</td>
<td>0.83</td>
<td>0.33</td>
<td>0.74*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.92</td>
<td>0.63</td>
<td>0.87</td>
<td>0.37</td>
<td>1.65</td>
<td>0.10*</td>
</tr>
<tr>
<td>Experimental pre</td>
<td>60</td>
<td>1.85</td>
<td>1.16</td>
<td>1.75</td>
<td>0.90</td>
<td>0.09</td>
<td>0.92*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.86</td>
<td>0.74</td>
<td>0.91</td>
<td>0.30</td>
<td>1.07</td>
<td>0.28*</td>
</tr>
</tbody>
</table>

*p < 0.05

requires their long-term performance on the matter. The facts that students can have command of the text they are writing; that they can dominate the direction of the words; and that they can express their wishes coherently show the necessity of a higher perceptive skill with respect to writing skills.

Brinker [18] states that a text has both linguistic and communicative aspects, should be coherent in its own structure, should have a solid communicative function as a whole and should involve a limited set of linguistic indicator. Those students who can combine the structural and functional characteristics of the language and achieve coherent and meaningful unity of words show that they have the command of the subject and the language as well. Today, the mysterious state of the texts has been solved thanks to subjective scales in the analysis of the texts and thus the coherence of the internal structure of them has been able to be taught. De Beaugrande and Dresler [19] sought for harmony of cohesion, coherence, intentionality, persuasion, acceptability, informativity, situationality and intertextuality in order for a linguistic product to have text characteristics. They added that one of them being absent deteriorates the communicative value of the text.

In order to increase the efficiency of text-writing of students, long-term programs are needed. In a report of the National Commission in 2003 for American families, schools and colleges, it was advised that sufficient time be given to students to improve their writing skills, their writing skills be evaluated justly and reliably, new techniques be sought to identify their grammatical mistakes. Generally, those students who are reluctant to write become unsuccessful in writing both in the structural aspect and in forming a meaningful content. Teachers who strive for rich content in their students’ writing allocate most of their time for activities to improve the external structure of their texts; however, this not only causes a waste of time, but also prevents effective learning. Therefore, teachers should deal with the problems about the external structure of texts rapidly in a short time and switch to process-based writing activities.

Since the improvement and evaluation of writing skills are hard and demanding processes, most teachers prefer concrete evaluation methods and try to assess the writing skills of their students by focusing on the shape of the text, legibility of their writing and structuring of their sentences. In a study carried out in Turkey [20], it was determined that 54% of the Turkish teachers pay attention to spelling and punctuation rules and the external structure of the text while evaluating the writing skills of their students, whereas only 21.2% deal with the internal structure of the text.

Reading every paper in class and providing feedback for students takes up a lot of time. However, if he made his student read it aloud in class, he would enable both himself and other students in class to see the mistakes in the text collectively; otherwise, he will limit the process between himself and the owner of the text and neglect other students if he does the evaluation himself.

New strategies are required to provide collective participation of the whole class, to save time for the teacher, to promote the learning levels of the students and to make the course of the lesson more enjoyable.

**RESEARCH QUESTIONS**

Is there a significant difference between a writing lesson through digital camera and over-head projector and that through traditional methods during the perception of the matter with regard to learning and evaluation?

Is there a significant difference between a writing lesson through digital camera and over-head projector and that through traditional methods during the perception of the matter according to gender?

**MATERIALS AND METHODS**

The study was an experimental type which was carried out to determine the acquisition levels and error discrepancies between the students who are taught writing through digital camera, over-head projector and
computer support and those who are taught writing through traditional methods. Semi-experimental design was used over pre-final test unequalized experimental and control groups [21]. One of the groups was the control group, while the other was the experimental. Measurements prior to and after the experiment were recorded in both groups. Pre-final scores were determined and variance analysis was carried out. Afterwards, the significance of differences was tested via comparisons among the scores.

**SAMPLING**

The sample population of the study was composed of 120 1st grade students at Kütahya Girls’ Vocational High School. The randomly chosen students from each class were gathered in a hall and were divided into two groups randomly; one was the control group and the other was the experimental group-each composed of 60 students.

**GATHERING AND ANALYSIS OF DATA**

In order to determine the current situation of these students, a writing test was given to them which required them to write an essay about any topic they would like. Later, throughout the research period (two hours a week for four weeks), the same teacher lectured both groups; however, while one group made use of digital camera and over-head projector during the lesson, the other followed the traditional instructional method-sometimes by making each student read his own essay and at other times by letting the teacher evaluate each paper on his own and then give feedback to the students. In the experimental group, during the first hour of a two-hour lesson, the teacher took the photos of each student’s essay and, in the last hour, projected them onto the curtain asking each student to read his paper aloud and point out his own mistakes. If no answer came from the student, he wanted an answer from other students and carried on his lesson with necessary interventions. Thus, he not only provided feedback for each student individually but also prevented similar mistakes in other students.

In the analysis of the data, evaluation of each essay written by both groups was limited to sentence order errors, spelling mistakes, punctuation mistakes and format errors such as paragraph and paper margins. Depending on these variances, the error averages of the two groups were compared and significant differences were analysed.

In the “analysis of data” stage of the study, firstly, the distribution of the population was given according to gender. Afterwards, a general pre-test was carried out to measure current state of the writing skills of these students. The mistakes were analysed with SPSS 11.5 package program.

**RESULTS**

It can be seen above that 40% of the 120 students in the study are male, while 60% are female. The results of the first diagnosis carried out to determine the general level of the writing skills of the group are shown below.

It was established in the first application to determine the writing skills of the subjects composed of 120 students that the most errors appeared in punctuation (M: 2.48; SD: 1.26), second to which came sentence order (M: 2.04; SD: 1.08), followed by spelling (M: 1.51; SD: 0.97) and format errors (M: 0.78; SD: 0.43).

According to Table 3, no significant difference was determined in the error rates in the essay texts of the students in both groups which were written as pre-test. Before applying the independent variables, the advance information of the students should be known and kept under control, which is an important variable in determining the significance of the results of the study. In this regard, no significant difference was seen among the error scores of both groups in the pre-test (p>0.05). It was also noticed that students had similar advance information on writing skills at the beginning.

According to Table 4, significant difference (p<0.01) was seen throughout the process in the development of

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Table 4: The unrelated T test results of the error scores obtained from the pre and final tests carried out for control (Traditional) groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Sentence order errors</th>
<th>Spelling mistakes</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Control pre</td>
<td>60</td>
<td>M</td>
<td>1.86</td>
<td>1.36</td>
<td>1.76</td>
<td>0.85</td>
<td>3.23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>0.92</td>
<td>0.63</td>
<td>0.67</td>
<td>0.37</td>
<td>4.86</td>
</tr>
<tr>
<td>Experimental</td>
<td>60</td>
<td>M</td>
<td>1.45</td>
<td>0.88</td>
<td>1.10</td>
<td>0.33</td>
<td>4.29</td>
</tr>
<tr>
<td>final</td>
<td></td>
<td>SD</td>
<td>0.59</td>
<td>0.76</td>
<td>0.70</td>
<td>0.47</td>
<td>7.68</td>
</tr>
</tbody>
</table>

*p<0.01
writing skills by using traditional method. Thus, at the end of the lesson the rate of errors in sentence order decreased from (M: 1.86; SD: 0.92) to (M: 1.45; SD: 0.59); in spelling from 1.10; SD: 0.70) and in format from (M: 0.83; SD: 0.37) to (M: 0.33; SD: 0.47).

According to Table 5, significant difference (p<0.01) was seen throughout the process in the development of writing skills by using over-head projector. Therefore, at the end of the lesson during which the teacher used over-head projector, the rate of errors in sentence order decreased from (M: 1.85; SD: 0.86) to (M: 0.73; SD: 0.79); in spelling from (M: 1.16; SD: 0.74) to (M: 0.81; SD: 0.91); in punctuation from (M: 1.75; SD: 0.91) to (M: 0.68; SD: 0.77); and in format from (M: 0.90; SD: 0.30) to (M: 0.11; SD: 0.32).

According to Table 6, as a result of the training given to the Control (traditional) and Experimental (With over-head projector) final groups, it was determined that the students trained with the support of the over-head projector made fewer errors than those trained in the traditional way. Therefore, no significant difference (p<0.01) was seen among the error rates of the pre and final scores regarding writing skills except for spelling mistakes. As a result, it was determined that the error rates of sentence order (M: 1.45; SD: 0.59), spelling (M: 0.88; SD: 0.76), punctuation (M: 1.10; SD: 0.70) and format (M: 0.33; SD: 0.47) in the traditional way were reduced to (M: 0.73; SD: 0.79), (M: 0.81; SD: 0.91), (M: 0.68; SD: 0.77) and (M: 0.11; SD: 0.32) respectively in the over-head projector-supported method.

The application of for correcting mistakes the over-head projector aided method differentiated significantly except for the criteria of correcting the spelling mistakes in the traditional method. It can be argued that, considering the mean rates, this difference occurred due to the over-head projector.

**DISCUSSION AND CONCLUSION**

Forgetting the fact that writing needs long-term efforts, some impatient teachers expect more success from their students in writing. In addition to the difficulties inherent to the nature of writing skill, the methods teachers apply in the learning-teaching process also affect the writing skills of their students negatively.

The difference in the rate of sentence order mistakes of the students in the control group where traditional methods were used to improve their writing skills in the pre and final tests that were done at the end of a four-week process was 0.41. The difference in the rate of punctuation errors was 0.66, in the rate of format errors being 0.50 and in the rate of spelling mistakes being 0.48. According to these data, in the control group, where the teacher made use of traditional method, there is a difference in favour of punctuation with 0.66 rate of mistakes the most.

In the experimental group, where students were taught writing with the aid of digital camera and over-head projector for a period of four weeks, pre and final test scores revealed the following differences in errors (Table 5). Sentence order 1.12, spelling 0.35, punctuation 1.07 and format 0.79. Thus, a significant difference was determined among the error rates of the students in the experimental groups in the pre and final tests which were
done to measure their writing skills after a four-week course with the aid of the over-head projector.

The unrelated T test results of the error scores obtained from the final test of Control and Experimental groups revealed the difference between the digital camera and the over-head projector (Table 6). In both groups, the error rate of sentence order showed a significant difference of 0.72; that of punctuation being 0.42; that of format being 0.22-all in favour of the experimental group (p<0.01). This difference arose from the use of digital camera and the over-head projector.

There wasn’t a significant difference (p>0.05) in both groups in spelling errors, the reason of which was directly proportional to the vocabulary of the students. Since the possibility of a student's encountering a word whose spelling he knows wrongly is so little, the chance of correcting this error became so little accordingly. The fact that the title of “spelling errors” covers a larger context than the others prevented a significant difference in the case.

In both groups, no significant difference was seen between the genders (p>0.05).

Since grammar is given to the students separately from the text, they experience problems in applying their out-of-text knowledge to the text. Many researchers (Calkins, 22; Graves, 23; Routman, 24) agree that teaching grammar separately from the text is by no means useful; on the contrary, it would be better if they were given together, because language remains only as information in grammar lessons, whereas students are required to convert their information into skills in writing lessons. In the learning environment, the course supported with the aid of the over-head projector enables the students to learn the whole better. As can be concluded from the research results, format that involves the knowledge of the whole in itself can be perceived more easily with the aid of over-head projector.

Wyse [25], in one of his empirical studies, points out that teaching grammar has a negligible effect in improving the writing skills of secondary pupils. Fogel and Ehri [26] argue that not focusing on grammar in writing lessons yield more pedagogically positive results. Andrews, Tgoersen, Beverton, Freeman, Locke, Low, Robinson and Zhu [27] claim that formal grammar teaching hasn’t provided the students with positive results in improving their writing skills in the studies in the last century.

Damashek [28] advises students to be a proof-reader and an editor so as to build up a good text. Individual and collective feedback provided by the over-head projector reveals this to us clearly. In this case, teachers saw themselves only as a trainer rather than an editor, grader or a proof-reader. Errors were determined cooperatively in class and were corrected by students themselves, which yielded a positive and enjoyable environment where students evaluated themselves. Brilliant [29] stresses that students can find their mistakes faster when they read their writings aloud, that finding their own mistakes provides them with a more effective error-finding experience; and that they feel a moment of triumph rather than shame when their teacher shares their errors with them.

Gray [30] recommends ways in which educators can decrease the amount of time spent grading papers. In particular, he recommends paying more attention to the overall organization and content of a paper, rather than to the sentence-level errors. However, there is no way for the student to enrich the content of the text without having full knowledge of grammar, spelling, punctuation and format. While nothing can be understood from a text written by someone who doesn’t have adequate knowledge of punctuation and grammar, it won’t be welcomed when a writer who improved himself in writing makes sentence-level errors. In learning, there is a way going from the simple to the complex. At this stage, teachers are to be able to create the time to enrich the content of their student’s text somehow.

The major component of the success of the students is feedback. When a student cannot be aware of his error, there is no way for him to correct it. Teachers who use assessments to provide feedback give their students opportunities to demonstrate learning improvement [31]. In this case, permanency of knowledge was secured through instant feedback. When they know where they made a mistake, they won’t do it again. As the over-head projector makes an individual feedback available for the whole group, it enables the feedback and learning to be shared simultaneously. Harsen [32] states that assessment of students’ papers will improve their writing skills. During speaking, getting feedback from the gestures and mimes of the speaker, the individual can control himself and express his ideas better; however, in writing, as there is no way of instant feedback, he doesn't have a chance to correct himself. Choice, time and response or feedback are important elements in teaching children to write effectively [33, 34, 35]. Using time effectively and achieving full learning depend on special efforts of the teacher and his taking responsibility.
In writing lessons, using digital camera and overhead projector lets the students see their errors in producing the text visually, have instant feedback, see their errors for themselves and lets the teacher put extra efforts and responsibility upon the student. As a result, the teacher will have time to give such elements as coherence, intentionality, acceptability, informativity, situationality and intertextuality to his students all of which are required for a good text and take more time to teach in teaching process-based writing skills.

REFERENCES


