

THE IMPACT OF USING COMPUTERS ON STUDENTS' WRITING PERFORMANCE

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Abstract

The purposes of this study were to determine the impact of using computers on the quantity and quality of students' writing as well as the attitudes of the students toward writing. The participants of this study were the first year students of English Study Program of FKIP Riau University. As the students learned the steps of the writing process, together with a partner they wrote a paragraph by using computers. The results of this study indicated that there were improvement of the students' writing performance in all components of writing. The students wrote better quality paragraph, wrote longer, and had a better overall attitude toward writing. The mean score of students' pretest was 53,93 and improved to 70,74 in the post test.

Key words: computers, writing performance, paper and pencil.

Introduction

Writing classes are compulsory subjects that should be taken by the students of English Study Program of FKIP Riau University before they get their Sarjana Degree. During their studying at English Study Program, the students are given three levels of writing classes, namely: Writing I, Writing II, and Writing III. This regulation, actually, is intended to fulfill the needs of the students to know how to write better for occupational or academic purposes later on.

Based on my experience, observation, and interviews with the students, *writing* is a skill that is considered difficult for them to acquire. There are some reasons for this. First, in writing class the students have to develop their communicative writing competence of the new language which probably has different rhetorical structure from their native language. As a result, the meaning of sentences produced by the students are sometimes not clear. In my opinion, this is caused by their less understanding of English grammar. Secondly, writing does not only mean applying grammatical rules, but the students have to learn how to communicate their ideas in written form. Thirdly, the students also face the problems in getting ideas, organizing ideas and developing details, choosing correct words and structuring ideas in correct sentences as well as maintaining the paragraph unity and coherence.

Although everyone, including a student, deals with various kinds of writing everyday: e-mail, newspaper, reports, instructions, advertisements, etc. yet, it is not a guarantee that he is able to write. The ability to write cannot be acquired automatically, but must be learned through a systematic instruction at school. However, being able to write well is not just an option, especially for students – it is a necessity. Along with reading comprehension, writing skill is a predictor of academic success and a basic requirement for participation in civic life and in global economy (Santangelo & Olighouse, 2009). Writing also has been considered as a powerful type of communication. When writing, the writer should be able to create the context through the words, without the direct interactions with the readers.

Some experts try to formulate the definition of writing. Ghaiih (2002) denoted writing as a complex process that allows writers to explore thoughts and ideas, and make them visible and concrete. Therefore, writing encourages thinking and learning by expressing our thought down into a piece of paper so that it can be examined, analyzed, edited, revised, and even changed. Chitravelu (2004) says that writing is a system for interpersonal communication using visible signs or graphic symbols on a flat surface such as paper, cloth or even stone slabs. According to Prasetyasih (2008), there are two functions of writing in general: (1) for occupational or academic purpose and (2) as academic assignments. Based on these definitions of writing, it can be stated that there are many types of writing depend on the purpose of the writer to write. Anyway, all of these writing have a communicative purpose and a target audience.

The traditional way of teaching writing is the teacher explains the lesson, then gives a topic and asks the students write a paragraph or essay about it. During the period of time given, the students are asked to write as best as they can. When they are finish writing, the teacher reads, corrects and grades the paper. The teacher is often very demanding about grammatical correctness and focuses the assignment primarily on structure (Leki 1994). The teacher pays detailed attention to mistakes in language forms as she thinks that mastery of forms is an important and prerequisite for writing. Students get good grades if they write paragraph or essay with as few errors as possible.

According to Hughes (2002) the teacher can evaluate the students writing based on several components: grammar, vocabulary, mechanics, fluency, and organization of the text. Moreover, the scoring system can be done in two ways: analytic scoring and holistic scoring. In analytic scoring method, the teacher evaluates the students' writing based on the scale of every writing component. In holistic scoring method, on the other hand, involves the assignment of a single score to a piece of writing on the basis of an overall impression of it. The teacher may scan the students' writing quickly first, and then read it again more carefully to find evidence for justifying the first impression.

Chitravelu (2004) gives his opinion about the evaluation. According to him, after the students submitting their works, the next responsibility of the teacher is to evaluate the students' writing. The activity of evaluation is seen as an integral part of the teaching and learning process. He also states the main objective of the evaluation: (1) to encourage students to continue making the effort to write better and (2) to point out the areas they need to improve. Traditionally, the one who has the responsibility to evaluate the students' writing is the teacher. The teacher is often seen as the judge. In fact, instead of the teacher, the evaluation can be done by peers and by the student himself. These are what we call peer evaluation and student self-evaluation.

The traditional way of teaching writing has several weaknesses; (1) the teacher views the students' writing as a product. The teacher assumes that the students who have good writing abilities are those who write with few errors; (2) the teacher focuses on form (syntax, grammar, mechanics, and organizational) rather than content; (3) the writing class may become a source of frustration for the teacher and the students. The teacher often complains that the students' writing are poor, not nice, etc. On the other hand the students become confuse and distressed. Both the teacher and the students become frustrated.

A good teacher will always try to do her best to help her students to learn. Since 1970s, there has been the era of change and innovation in language teaching methodology. (Littlewood 1991: x) says there is a movement in foreign language teaching. The movement is called "communicative movement". This was the decade during which communicative language teaching came to replace *Audiolingualism* and *Structural-Situational Approach*. Since that time the goal of foreign language learning is communicative ability. It makes the teacher consider that language is not only in term of its form, but also its communicative function. In line with this opinion, (Mathew 1994) argues that the teaching and learning process should move from *teacher-centered class* to *student-centered class*. The primary goal of *student-centered class* is to promote the students' involvement and interaction.

Some experts also argued that the language learning activity is meaningful when the students clearly see what they are doing and why they are doing that. To ensure "meaningfulness" then, the teacher should state clear objectives that the students have to achieve. The clarity of the objectives is also important to enable the students to assess their success. Learning a language would also be greatly enhanced when the learners see that what they learn have some sense of personal relevance. Furthermore, in the era of globalization, it can be seen that the world changes so rapidly due to the rapid development of technology. In such a fast changing world, survival can only be made possible if one is able to adapt himself to the change.

As mentioned before, the teacher has to provide *student-centered activities* in her teaching and learning process and help the students to choose suitable learning strategies. Young (2003) says that integration of Information and Communication Technology (ICT) facilitated the creation of a virtual environment that transformed learning from a traditional passive experience to one of discovery, exploration, and excitement in a less stressful setting. While Jarvis (2004) argues that technological innovations have gone hand-in-hand with the growth of English teaching. The use of ICT has facilitated the growth of the English language teaching and learning, including teaching and learning of writing.

Integrating the use of ICT in teaching writing is also one way done by the teacher to improve the students' writing ability. In recent years, language teachers have been exploring ways in which ICT can be employed to make language learning more effective and motivating for students (Castellani, J., & Tara Jeffs 2001).

The development and spread of the personal computer and the internet have brought the most significant changes in the technology of writing since the diffusion of the printing press. Most students welcome computers as a powerful tool to be integrated into English learning, including writing. The students say that using computer gives them several advantages, for example: they have fun during teaching and learning process, they feel motivated and the teaching and learning process become more interactive and enjoyable. This idea is in supported by Thigpen (2012) who says that teachers are constantly looking for ways to motivate their students and to help them become better writers. One tool that many teachers are using is the computer. Moreover, Thigpen (2012) says that although there are some research findings available about the effectiveness of using the computer as a writing tool, the results of this research are mixed. Some studies have indicated that there is no significant difference between students who compose on the computer

and students who compose with paper and pencil, while other studies found out that students who use a computer for writing tend to write better and longer.

The use of computers can be helpful in writing and learning to write. The neat appearance of words on the computer screen may suggest to students that all is well, even in the presence of logical, grammatical and stylistic errors. In addition, computers can make the rearrangement of words, sentences and paragraphs and other revisions far easier. Similarly, some more recent programs of computers can spot spelling and grammatical mistakes and suggest corrections Thigpen (2012).

Warschauer (2007) conducted a research about the use of computers for writing and communication. His study surveyed 167 ESL and EFL students in 12 university academic writing classes in Hong Kong, Taiwan, and the U.S. The result shows that the students overall had a positive attitude toward using computers in writing and that this attitude was consistent across a number of variables, including gender, typing skill, and access to a computer at home. Warschauer also mentions that the most motivating aspects of using computer-assisted instruction include (a) the novelty of working with a new medium, (b) the individualized nature of computer-assisted instruction, (c) the opportunities for learner control, and (d) the opportunities for rapid, frequent non-judgmental feedback. Sullivan and Pratt (1996) tried to analyze student's writing performance as a result of having participated in online discussions. They compared one ESL writing class using online discussion and one ESL writing class not using it. The result shows a significant advantage for the online discussion course in writing improvement over the course of the semester.

In short, based on the explanation above the purpose of the study is to know the impact of using computers on students' writing performance. The research questions were formulated as the following: (1) Can the use of computers as a writing tool give positive impact on the students' writing performance? (2) What aspects of writing can be improved? (3) How is the attitude of the students toward writing by using computers? In other words, the purpose of the research are: (1) to know if the use of computers as a writing tool can give positive impact on the students' writing performance; (2) to know aspects of writing that can be improved; and (3) the attitudes of the students toward writing by using computers.

This research was a *Time-Series Experimental Design* research. As stated before, the primary objective of this research was to know the impact of using computer as a writing tool on the students' writing performance. During the writing class, the students wrote paragraphs based on the prepared lesson plans that were designed based on the syllabus. The students used computers in writing their paragraphs.

The students writing performance in writing can be seen from the quantity and quality of writing. Quantity of writing was defined as the number of words written on the final draft. It was measured by simply counting the number of words produced by the students during a period of time. Quality of writing was defined as the level of excellence achieved by the students and was determined by evaluating the final draft. In this case, three raters used the analytical method suggested by Hughes (2002) to evaluate the students' paragraphs.

To know the improvement on the students' writing performance, pre-test and post-test were given. The students were asked to write a paragraph independently before the research began and at the end of the research. Then, and the scores for each of the two groups were compared and analyzed descriptively by computing the percentage of frequency and mean score. These two kinds of data also supported by analyzing paragraphs produced by the students every week after the teacher explained the lesson. Besides, the observation was also done in order to know about the students' attitude toward writing.

The participants of this study were 34 first year students of English Study Program of FKIP Riau University and the study took place during the first semester academic year 2013-2014. During eight weeks of the study, the writing process was explained and the students were taken through all five steps of the writing process: Prewriting (brainstorming, clustering, outlining), writing first draft, sharing, revising or editing and writing the final copy. The teacher also guided the students through the process. The students worked in collaborative pairs to complete one paragraph.

On Mondays, after listening to the teacher's explanation, the students worked in pair on the prewriting step of the writing process. Each pair was given a title and the teacher allowed the students to brainstorm for ideas on the topic and write the first draft. Each pair worked together on their computer and took turns typing. On Wednesdays, sharing, revising or editing activities were combined on into one activity. Each pair exchanged papers with another pair. Each pair was given a red pen and an editing checklist. After that the students had to write the final copy. The final copies were taken up each week for analysis.

Discussions

The mean number of words written by the students during the eight weeks can be seen in Table 1. The results of this study indicated that in all weeks, the number of words written by the students was increased. In other words the students writing performance in terms of quantity was improved.

Table 1: Mean Number of Words Written by Students

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Mean Number of Words Written by Students	102.1	107.7	117.4	123.9	124.3	126.4	127.2	128.9

Table 2 shows the mean evaluative score of students during eight weeks of study. The evaluated writing components were: grammar, vocabulary, mechanics, fluency and organization. The score interval was arranged between 1 until 6. The results of evaluation indicated that the writing performance of students in terms of quality was improved every week except on the seventh week.

Table 2: Mean Scores of Evaluative Rubric

Number of the week	Writing Components					Converted Score
	G	V	M	F	O	
week 1	3.00	3.33	3.67	3.00	3.67	55.6
week 2	4.00	4.33	4.00	4.00	4.33	68.9
week 3	4.33	3.67	4.00	4.33	4.67	70.0
week 4	4.33	4.33	4.33	4.33	4.67	73.3
week 5	4.33	4.33	4.67	4.67	4.33	74.4
week 6	5.00	4.33	4.67	4.33	5.00	77.8
week 7	5.00	5.33	4.33	4.67	4.67	80.0
week 8	4.67	4.67	4.67	5.00	4.67	78.9
Average	3.79	4.29	4.29	3.91	4.50	72.36

The analysis of students pre-test and post-test can be seen in Table 3. The results of this study indicated that the improvement of students' writing performance were in all components of writing. The highest improvements were in aspects of fluency and grammar.

Table 2: Mean Scores of Pre-test and Post-test

Students' Score	Writing Components					Converted Score
	G	V	M	F	O	
Pre-test	3.25	3.26	3.17	3.22	3.31	53.93
Post-test	4.42	4.17	4.26	5.25	4.27	70.74

The analysis of the students' pre-test indicated that lots of students have difficulties in terms of grammar. For example the students wrote, "Pekanbaru has *many place* that you can visit.", "*Its place* in Sukajadi, *the location not too far and also* the place is clean. There *many have food* which we can choice to eat", "... I don't like it, *because not amazing*", "I *would to talking* about...." and still many other mistakes in term of preposition, tenses, comparison, and so on.

In terms of vocabulary, the mistakes made by the students were mostly about choice of words. For example: "I like restaurant in Pekanbaru because their food *fix with my tongue*". "If we compare Pekanbaru in the *last ago and nowadays*, Pekanbaru is more developed", "Pekanbaru *has improved* very much, we can find the library, *workshop* and gas station everywhere.", "... their life that hasn't been *touched by technology*", "... but their life that is *close to technology* helps them to be up to date". It seemed that the students had difficulties in choosing accurate words in expressing their ideas.

In mechanics, many times the students had mistakes in spelling and incorrect use of punctuation and capitalization. Incorrect spelling of words usually was due to the carelessness of the students. Next point is about the students' performance in term of fluency and organization. In term of fluency, the students' sentences sometimes not only inappropriate but also misused and had little sense of ease of communication. About the organization, most of the students' mistakes were caused by unwell organized of idea. Moreover, most parts of their sentences were not "tied" together.

There were some important points that can be taken into consideration in teaching and learning process of writing by using computers. During the drafting step, the students would frequently read back over what they had written and would make changes directly. So there were not so many corrections going on during the revision step. The reason was that, it was easy for the students to make changes without making the paper looks messy. Another reason was that the words or sentences on the monitor screen were easier to reread. This is particularly helpful for students working in pairs, as the monitor is large enough and is in a position that both students can see it easily.

During the editing process, the students seemed to make changes only on a superficial level, such as making capital letters and adding periods. These students had already made changes in the content of their sentences during the drafting step. In some cases, the students had mistakes in spelling because they didn't

know how to program their computers. They didn't know that their computers can spot spelling and grammatical mistakes and suggest corrections as well.

Through the observation, I believe that the biggest factor to affect the quality of the paper was appearance. The neatness of the text on the monitor made it easier for the students to reread and make changes. Appearance affected length because they usually think that they need to fill up a bunch of lines. The students would write longer sentences because they think that they have to fulfill the computer screen. As a result, it is no surprise that the students wrote more and more words.

Most of the students seemed to like writing. The majority of students had positive attitudes toward writing. Although at the beginning they felt that writing is hard, takes too long, and isn't enjoyable but they feel happy when finally they could finish their job.

Conclusions and Suggestions

The results of this study indicated that the computer can successfully be used as a writing tool. The use of computers can give positive impact on the students' writing performance. The writing performance of students became better and better in terms of quantity and quality. In terms of quantity, the average number of words written by students improved from 102,1 to 128,9, while in terms of quality, the average scores of the students' writing improved from 53,93 to 70,74. I believe that the computer should be used regularly, although not exclusively, for the teaching of writing skills. The finding of this research also indicated that the computer is an additional tool that the teachers can use to get students motivated to do their best and to become better writers.

Besides, there are some suggestions can be given. The process of writing in an academic environment is challenging and the only way to improve writing performance is to keep writing. By this way, the students may acquire the fundamentals, or at least the standard, required of academic purpose of the writing.

Lots of students say that writing is difficult and this situation makes them less motivated. Using computer, however, is one of the ways can be used by the teacher to enhance motivation. The teachers can enhance students' motivation by helping them gain knowledge and skill about using computers, giving them ample opportunity to use this electronic communication, and carefully integrating computer activities into the regular structure and goals of the course.

In other words, computers can be used not only as a learning tool but it can be used as media of communication as well. The teacher, then should provide time and training so that students learn as much as possible about the functions of the computer, and also creating opportunities for students to have positive experiences

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