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Wiki effect on English as a foreign language writing achievement

Seyda Savran Celik *, Department of English Language Teaching, Hakkari University, 30000, Hakkari, Turkey.
Selami Aydin, Department of English Language Teaching, Balikesir University, 10145, Balikesir, Turkey.

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Abstract

The number of the studies conducted on the use of wikis on the English as a foreign language (EFL) learning process has remained fairly limited. More specifically, in the Turkish EFL context, little attention has been paid to the effects of wikis on EFL writing achievement. Thus, this study aims to examine the effects of a wiki-based writing environment in terms of EFL writing achievement in the Turkish EFL context. In this experimental study, a background questionnaire, a writing achievement pre- and a post-test were administered to a sample group of 42 EFL learners. Results indicate that the use of wiki-based online writing environment increases writing achievement regarding content. It is recommended that wikis as appropriate tools to increase learners' EFL writing achievement should be integrated into the EFL learning process. The advantages that wikis serve should not be ignored but exploited by the teachers.

Keywords: English as a foreign language, wiki, writing, achievement.

* ADDRESS FOR CORRESPONDENCE: **Seyda Savran Celik**, Department of English Language Teaching, Hakkari University, 30000, Hakkari, Turkey. *E-mail address*: seydasavrancelik@gmail.com

1. Introduction

Writing, being a type of problem solving, a means for communication and an implement for intellectual evolvement is fundamental in EFL learning process. The ability to write English accurately is a pivotal aspect in terms of success at all levels of education and professional context. Namely, advancing in EFL writing gives several opportunities and plays a crucial role in EFL learning. Whereas earlier theories have mostly concentrated on correct forms within the context of traditional approaches, the foci have changed from applying rules into continuous and subsequent development and collaborative learning. Therefore, insufficient writing practice and the lack of writing achievement causes serious problems, which has an important role in English language learning (ELL) process.

Learning environment, being another problem in ELL process, is quiet necessary to provide learners with more practicing and achievement (Bahous, Bacha & Nabhani, 2011). Along with the recent improvements of the digital world, it has become considerably necessary to integrate online learning and practicing environments into the classroom. The reasons requiring the implementation of several technologies in the classroom are the necessities of learners and the curriculum itself (Christison & Murray, 2014). Although there are a number of studies conducted about CALL in different countries and contexts, the number of the studies is still very limited. To conclude, the studies conducted across the globe and in Turkey are few to make deduction about the effects of using wikis on the writing skills of learners.

1.1. Theoretical Framework

Emerging in the 1970s, process-based approach is perceived as the duration of composing characteristic meaning and is focused on how students write step by step. In this regard, writing consists of cognitive practices like structuring, *drafting*, *brainstorming, peer-reviewing, evaluating* and *revising* by breaking down the attention from final product to smaller steps. By writing as part of process-based approach, learners are anticipated to be active learners, planners, enactors and sharers of their knowledge with other participants.

The use of wikis, providing learners with monitoring their own learning and progress, is inclusive of some certain and fundamental learning theories. For instance, constructivism is structuring and reinterpreting knowledge by communicating with other learners, in which teacher acts as a facilitator, whereas collaborative learning is working together as a group and constructing knowledge actively just as learning. To add, Situated Cognition is based on authentic problem solving, observing and simulating with the help of new situations, while autonomous learning describes the act of learners who take over responsibility to learn, initiate and end the learning process. Last of all, Self-determination Theory is based upon the behavior, social conditions effecting learners and quality of motivation. In order to exploit the results of research and development, it is required to be acquainted with the fundamental theories related to use of wikis, the use of Web 2.0 tools and wikis on EFL writing. By taking advantages of wikis in terms of investigating, adding, discussing, collaborating, sharing, evaluating and rebuilding information, learners carry out ultimate principles.

To conclude, writing via wikis corresponds with constructivism which focuses on explanation, alteration and rebuilding information socially. In this sense, wikis, intrinsically created for collaboration, tempt learners to create, edit, and share anytime with anyone. Additionally, wikis are of the well-known collaborative teaching tools which motivate a variety of users to add, edit and share content and increase interaction socially. Furthermore, situated cognition is mainly based on authentic problem solving and problem solving via communication, likewise creating wiki is also authentic act, which is the reason for choosing this theory as framework (Matthew & Felvegi, 2009). Responsibility to learn is offered to learners especially with the help of technology and wikis provide them a proper

basis to be self- directed and learn autonomously by being responsible to choose when or what to write. Moreover, wikis provide learners with social interaction and cooperation, enhance motivation, serve as the instrument increasing competence and provoke a desire to learn, which incorporates self-determination theory into current EFL situations. In order to exploit the results of research and development, it is required to be acquainted with the fundamental theories related to use of wikis, the use of Web 2.0 tools and wikis on EFL writing.

1.2. Literature Review

Studies seeking to find out the effects of process-oriented approach in learners' writing proficiency mostly indicate that process-based instruction leads learners to have higher writing performance. For example, Abbate-Vaughn (2006), by using process-oriented instruction, put forward that prospective teachers were highly helped by drafting, constructing, reconstructing and peer reviewing. Bayat (2014) looked into the effects of this approach on writing achievement. It was found that writing process had a considerable effect on success. The most recent study by Seban and Tavşanli (2015) focused on implementing activities such as drafting, creating and sharing. Twenty-seven second grade learners were interviewed after the process lasting a year. As a conclusion, it was obtained that being involved in this process led learners to have writing identity and assumptions about writing were positively influenced.

Studies seeking out the effects of wikis focus on various issues. For instance, Liu, Kalk, Kinney, Orr & Reid (2009) conducted a study by reviewing the literature on the use of Web 2.0 tools in higher education. It was concluded that wiki was one of the most commonly discussed technological tools in the contemporary literature and could enhance teaching and learning. In a recent study, Sun and Qiu (2014) found that learners admired wiki for enhancing their motivation and the experimental group achieved much more than the control group in terms of performance outcomes. Moreover, Aydin and Yildiz (2014) detected more accurate use of grammatical rules, more attention paid to meaning rather than structure by the learners and advanced writing performance. Ahmadi and Marandi (2014) analyzed 50 wiki posts belonging to 20 EFL learners both qualitatively and quantitatively. It was remarked that students generally preferred using wiki with the aim of posing questions and conveying solutions. Moreover, results indicated that learners paid more attention to punctuation, grammar rules and spelling. They also concluded that the use of wikis enabled students to perform and write better. According to Sleeman (2015), most of the weaker students actively joined online activities, improved their writing skills and felt more confident by using wikis and forums for writing practice. In terms of pieces created by learners, Chin, Gong & Tay (2015) reflected that quality of written products was enhanced generally.

1.3. Overview of the study

This study mainly aims at investigating the current status of EFL writing achievement and the effects of wikis in EFL writing achievement in the Turkish context. Moreover, the study is significant in terms of several causes. To begin with, the study globally contributes to the related literature with respect to efficaciousness of process-based writing instruction and will fill a gap in this context. Second, the study makes a major contribution to the related literature on the importance of learning environment for writing achievement. Third, this study will serve to discuss the effects of wikis on EFL writing achievement in Turkish EFL context. The research finally makes suggestions for researchers, teachers along with material and curriculum designers with regard to adjusting wikis properly into progressing EFL writing process. By taking these concerns into account, this study aims to answer the following research question:

- Does the use of wikis in EFL writing affect the writing achievement?

2. Method

2.1. Subjects

The participants of the study included 42 pre-service English teachers studying at the ELT Department of Necatibey Education Faculty at Balikesir University, Turkey. The group contained 31 (73.8) females and 11 (26.2) males. Participants were freshmen at advanced level of English, as they all studied EFL at high school. Before attending university, students' language proficiency was evaluated by FLE which is officially administered and that score was used in order to determine their language proficiency.

2.2. Tools

For the purpose of obtaining data from the participants, the tools used in the study included a background questionnaire and writing achievement pre and post-tests. Background questionnaire attempted to collect information about learners' age, gender and academic achievement scores. Moreover, writing achievement tests consisted of chosen topics which were already asked in TOEFL exams.

2.3. Procedure

This experimental study used a three-step procedure: (1) administration of background questionnaire and writing achievement pre-test, (2) practice, (3) administration of writing achievement post-test. First of all, both background questionnaire and writing achievement pre-test were administered during the third week of the spring semester of academic year 2014-2015. The participants in the study were assigned to control and experimental groups in accordance with their writing achievement pre-test scores. Both groups studied same topics and were taught by the same instructor with same types of instructions and but in different settings. Whereas participants in the control group performed their tasks in a traditional pen-paper writing process, the ones in the experimental group completed their tasks via wikis. Ultimately, to compare control and experimental groups at the end of the process, the post-test, having the same content with the pre-test, was administered.

2.4. Data Analysis

Statistical Package for Social Sciences (SPSS) was utilized for analysing data collected. With the purpose of assigning participants' writing achievements, two experienced EFL teachers scored the essays which were written by the participants. After grading, inter and intra-rater reliability, pre-, post-tests and overall reliability were calculated, as seen in Table 1. The data showed that both inter- and intra-scorer reliability was obtained. Additionally, in terms of pre- and post-tests, mean scores, standard deviations, minimum and maximum scores, standard error of means in terms of content, organization, discourse markers, vocabulary, sentence construction, mechanics and total scores were calculated.

Table 1. Inter-rater and intra-rater reliability of the pre- and post-tests

Scorers	Pre-test	Post-test	Overall
Scorer 1	0.84	0.84	

Scorer 2	0.73	0.87	0.86	0.91	0.92

3. Findings

In terms of writing achievement, Table 2 clearly presented that there were significant differences between the scores of pre-and post-test scores for the control group, as shown in Table 2. The values indicated that there was a significant increase in writing achievement. The values showed significant differences for all of the items. For instance, in terms of significance levels; whereas content, organization and discourse markers were .00, .00 and .03 respectively, vocabulary, sentence construction, mechanics and total score were .00. Furthermore, this obviously shows that two tests were substantially correlated.

Table 2. Paired samples test for the control group.

		Mean	Std. Deviation	Std. Error Mean	Sig.
Content	Post-test	17.09	4.90	1.06	.00
	Pre-test	14.45	3.27	.71	
Organization	Post-test	8.59	3.05	.66	.00
	Pre-test	7.07	2.11	.46	
Discourse	Post-test	6.23	1.42	.31	.03
markers	Pre-test	5.52	.95	.20	
Vocabulary	Post-test	9.38	2.24	.49	.00
	Pre-test	7.59	1.52	.33	
Sentence	Post-test	18.85	3.41	.74	.00
construction	Pre-test	14.83	3.34	.73	
Mechanics	Post-test	3.85	.28	.06	.00
	Pre-test	3.40	.51	.11	
Total Score	Post-test	63.73	13.76	3.00	.00
	Pre-test	53.11	10.30	2.24	

As shown in Table 3, significant correlations between the pre- and post-test scores were found for the experimental group. For example, the significance level for content, organization, discourse markers, vocabulary, sentence construction, mechanics and total score were found to be .00, which indicates a considerable correlation between pre- and post-test results.

Table 3. Paired samples test for the experimental group

	Group	Mean	Std. Deviation	Std. Error Mean	F	Sig.
Content	Control Group	14.45	3.27	.71	.30	.58
	Experimental Group	14.69	2.99	.65		
Organization	Control Group	7.07	2.11	.46	.43	.51
	Experimental Group	6.47	2.63	.57		
Discourse	Control Group	5.52	.954	.20	.00	.95
markers	Experimental Group	5.19	.98	.21		
Vocabulary	Control Group	7.59	1.52	.33	.36	.54
	Experimental Group	8.09	1.80	.39		
Sentence	Control Group	14.83	3.34	.73	.23	.63
construction	Experimental Group	14.83	3.39	.74		
Mechanics	Control Group	3.40	.51	.11	.60	.44
	Experimental Group	3.50	.50	.10		
Pretest total	Control Group	53.11	10.30	2.24	.00	.93
score	Experimental Group	52.78	10.32	2.25		

Table 4. Pre-test scores for the control & experimental group (Independent samples test

The values in Table 4 showed that there were no statistical differences in terms of wiki effect on

		Mean	Std. Deviation	Std. Error Mean	Sig.
Content	Post-test	19.64	2.32	.50	.00
	Pre-test	14.69	2.99	.65	
Organization	Post-test	8.92	2.55	.55	.00
	Pre-test	6.47	2.63	.57	
Discourse	Post-test	6.83	1.19	.26	.00
markers	Pre-test	5.19	.98	.21	
Vocabulary	Post-test	10.28	1.93	.42	.00
	Pre-test	8.09	1.80	.39	
Sentence	Post-test	20.83	3.09	.67	.00
construction	Pre-test	14.83	3.39	.74	
Mechanics	Post-test	3.92	.28	.06	.00
	Pre-test	3.50	.50	.10	
Total score	Post-test	70.50	10.40	2.27	.00
	Pre-test	52.78	10.32	2.25	

writing achievement between the scores of control and experimental groups. To begin with, for content, while the pre-test mean score for the control group was 14.45, it was 14.69 for the experimental group. In terms of organization, the mean score for the pre-test was 7.07 for the control group, whereas it was found to be 6.47 for experimental group. For discourse markers, the mean score for the pre-test was found to be 5.52 for the control group and 5.19 for the experimental group. In terms of vocabulary, mean score for the pre-test was 7.59, whereas it was 8.09 for the experimental group. As for sentence construction, the mean score for the pre-test was 14.83 for both control and experimental groups. Regarding mechanics, the mean score for the pre-test was 3.40 for control group, whereas it was found to be 3.50 for the experimental group. The pre-test total score was found to be 53.11 for the control group, but it was 52.78 for the experimental group.

The values in Table 5 showed that mean score for content significantly differed for content, while no significant correlations were found for organization, discourse markers, vocabulary, sentence construction, mechanics and total scores. According to the values, in terms of content, the mean value was 17.09 for the control group while it was 19.64 for the experimental group. In terms of organization, the mean value for the post-test for control group was 8.59, while it was 8.92 for experimental group. With respect to discourse markers, the mean value for post-test was 6.23 for the control group and it was found to be 6.83 for the experimental group. For vocabulary, the mean score for the post-test was 9.38 for control group, as it was 10.28 for the experimental group. When sentence construction was considered, the mean score for the post-test was found to be 18.85 for the control group, while it was found to be 20.83 for the experimental group. In terms of mechanics, the mean score for the post-test was 3.85 for the control group, whereas it was 3.92 for the experimental group. Last of all, the total mean score for the post-test was found to be 63.73 for the control group, while it was found to be 70.50 for the experimental group.

Table 5. Post-test scores for the Control and experimental group (Independent samples test)

	Group	Mean	Std. Deviation	Std.Error Mean	F	Sig.
Content	Control Group	17.09	4.90	1.06	11.31	.00
	Experimental Group	19.64	2.32	.50		
Organization	Control Group	8.59	3.05	.66	.47	.49
	Experimental Group	8.92	2.55	.55		
Discourse markers	Control Group	6.23	1.42	.31	.32	.57
	Experimental Group	6.83	1.19	.26		
Vocabulary	Control Group	9.38	2.24	.49	.66	.42
	Experimental Group	10.28	1.93	.42		
Sentence construction	Control Group	18.85	3.41	.74	.14	.70
	Experimental Group	20.83	3.09	.67		
Mechanics	Control Group	3.85	.28	.06	.59	.44
	Experimental Group	3.92	.28	.06		
Posttest total score	Control Group	63.73	13.76	3.00	2.36	.13
	Experimental Group	70.50	10.40	2.27		

4. Conclusion and Discussion

Three conclusions were reached in the study. The first conclusion is that process-based writing instruction has supportive impacts on EFL learners' writing achievement. Speaking more specifically, process-based writing instruction improves content, organization, discourse markers, vocabulary, sentence construction and mechanics of writing in a traditional learning environment. It was also concluded that in a writing class instructed in process-based writing approach, learners advance writing statements and organizing parts of an essay along with adding supporting details, composing much more well-developed essays, correct use of words, enlarged word-choice and usage. The second conclusion is that the use of process-based instruction and the wiki based environment in an EFL writing class has an influence on participants' writing achievements. That is, the use of wiki along with the process-based writing approach leads learners to improve their writing skills in terms of content, organization, discourse markers, vocabulary, sentence construction, vocabulary and mechanics. Furthermore, learners compose most relevant sentences to topic, state clearly, support with introduction, body paragraphs, conclusion and details, use signal words, pronouns, adjectives correctly, define paragraphs clearly and make less mistakes. With the help of wikis, EFL learners develop content closely connected with topic, use sophisticated words along with prepositions and make fewer errors. The third conclusion reached in the study is that, when traditional pen-paper and wiki-based writing are compared, wiki-based online environment enables learners to get higher scores, whereas both types of environments improve their writing skills. Specifically, regarding content, learners are encouraged to write more substantively developed genre, relevant to topic and knowledgeable thesis by means of wiki-based writing environment.

Several pedagogical implications including a brief comparison between the findings obtained from previous research and the ones found in the current study. First of all, this study provides evidence for the effectiveness of process-based writing instruction in a traditional learning environment in terms of increasing achievement in EFL writing. Similar results are found in terms of deducing that process approach is effective in improving writing ability (Abbate-Vaughn, 2006; Arslan & Şahin, 2010; Zhou, 2015). Similarly, as is found by Susser (1994), the study concluded that process-oriented writing pedagogy enables learners to be conscious of their learning process. Additionally, the study draws a conclusion that the process-oriented writing approach is a useful way to stretch their vocabulary and gain more sophisticated vocabulary knowledge, as found by Muncie (2002). Furthermore, the study concludes that process-oriented writing instruction enables learners to create more complex

sentences and coherent texts with more words, which is also concluded by Lee (2006). Moreover, process-based writing instruction by using wiki is found to have positive impacts on EFL writing in this study. Similar findings are also obtained by Kontogeorgi (2014) indicating that wikis lay emphasis on the effectiveness of process-oriented writing and that wikis improve electronic literacy, collaboration, providing teacher and peer feedback. Furthermore, the conclusion of this study stating that wikis have the capacity to improve teaching and learning activities match with the findings by Chu (2010).

Some practical recommendations can be put forward in consideration of the conclusions. First of all, media literacy and educating teachers to use digital media in the class effectively should be compulsory in teacher training programs. Second, wiki existing as an advanced technology tool ought not to be ignored by teachers but benefited from the advantages it serves. Third, teachers also need to integrate process-based writing instruction into their traditional teaching environment in order to enhance learners' writing achievement. When it comes to curriculum designers and material developers, more attention should be paid to the supportive impacts of process-based writing instruction and new integrated environments should be considered. Furthermore, concerning writing in EFL, policy makers need to be concerned about preparing and re-orienting the schools and learners for 21st century education in a digital era and look over recent research on the use of digital media such as wikis. It is noteworthy that curriculum designers need to pursue a policy, make supportive plans, and fund-raise for making impressive use of wikis in EFL classes. In addition, curriculum and material developers should include wikis to writing course plans in order to provide learners with power and opportunity to share ideas with others and influence thoughts.

Several limitations can be noted. First of all, this study is limited to 42 freshmen students studying at the ELT Department of Necatibey Education Faculty at Balikesir University, Turkey. Second, this study is limited to experimental research process including pre-test along with writing achievement test, four-week administration and post-test together with achievement test. Third, the topics of tests are limited to the ones created for TOEFL. Fourth, the study is limited to investigating EFL writing achievement and motivation. Moreover, the tool for collecting data is limited to AWMQ (Payne, 2012).

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