



Online Collaborative Writing Technique Using Wiki: How Effective is It to Enhance Learners' Essay Writing?

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This paper focuses on the use of Wiki in enhancing learners' skills in writing argumentative essays. This paper describes the implementation of the online collaborative writing technique (OCWT) through Wiki activities and aims at analyzing the effectiveness of the OCWT to enhance the learners' argumentative essay writing. This study applied a descriptive method, involving a group of 29 students from the English Education Study Program at Universitas Terbuka (UT), Indonesia. In order to find out the effect of teaching material model on improving students' English writing skills, the researchers used two types of instruments, test, and non-test. The observation was also conducted to describe the process of implementing the OCWT. Based on the observation reports, the results of the statistical tests, and the analysis of the learners' perceptions, the OCWT using Wiki integrated into Moodle has a significant influence in improving the learners' argumentative essay writing skills, and as its implication, this approach is very appropriate to hone learners' learning independence. Moreover, the results of the survey show that the learners were very enthusiastic in participating in OCWT.

Keywords: argumentative essay, collaborative writing, online learning, writing skills

Introduction

Writing is one of the language skills which is categorized as a productive one. It needs a process for learners to create a rough draft in order to ultimately produce a high-quality final piece of writing. During the process of writing, learners need to follow some steps by considering writing aspects such as content, grammar, coherence, as well as vocabulary or diction (Nunan, 1989). They also have to prepare for the complex writing process by considering many skills including mental, psychological, rhetorical and critical aspects (Sapkota, 2012). During the last few decades, the paradigm of teaching writing skills has shifted from product-oriented into process-oriented (Murray, 1972; Raimes, 1991). This process approach emphasizes several aspects, including "the way the author works, the participation of writers in the community to communicate with each other, and the orientation towards the purpose of writing and its readers" (Wirtz, 2012, p. 5). Based on a sociocultural point of view, learning foreign languages currently focuses on student participation in collaborative learning activities (Firth & Wagner, 2007). Furthermore, based on the constructivist point of view, as learning designers teachers have to "create a learning

atmosphere with information objects and socially meaningful, for example, filled with communication and collaboration activities” (Gold, 2001, p. 36).

Some researchers have conducted studies on applying collaborative learning methods, including in the teaching of writing. In the context of its learning process, Vygotsky (1978) argues that collaborative learning is needed to help students through the Zone of Proximal Development, that is the gap between what learners can achieve themselves and in collaboration. Wells (1999) supports Vygotsky’s opinion by stating that collaborative learning provides opportunities for self-regulation for students to carry out tasks, build knowledge and skills, and work independently. In other words, collaborative learning involves an active and constructive process in which knowledge is created, then transmitted in a social context of work, i.e. students work in groups or together with teachers applying critical thinking and problem solving skills (Smith & MacGregor, 1992).

There are some collaborative writing techniques that have been developed as alternatives for language teachers, such as “dialogue journal, round table, dyadic essays, peer editing, etc.” (Barkley, Cross, & Major, 2005, p. 235). Furthermore, applying those writing techniques in online learning is another challenge in language teaching and learning. Wiki has been an alternative for online collaborative writing activities during the last few decades. Different from the research previously conducted, this research tried to offer the use of Wiki Moodle. A wiki as a collection of collaboratively authored web documents in this research, was integrated into Moodle, a free and user-friendly learning management system appropriate for optimizing learners’ independent learning. This study aims to answer the following research questions:

1. How was the OCWT implemented by using Wiki?
2. How effective is the OCWT using Wiki to enhance the learners’ argumentative essay writing?

Literature Review

Argumentative Essay Writing and Its Development

Along with the development of information and communication technology which has a great impact on the development of education, in the last few decades the language teaching paradigm, including the teaching of writing skills, has shifted from teacher-centered teaching to learner-centered teaching (Schreurs & Dumbraveanu, 2014). This paradigm shift inevitably affects the changing of teaching materials as well as the pedagogical approach used in the teaching of writing skills in order to optimize the learning process of learners.

Writing skills for adult learners at a higher education level is not only limited to writing one paragraph. Their writing competencies are already at an advanced level where learners are expected to be able to integrate sentences in several paragraphs that are interconnected with each other. This is known as an “essay”. An essay is “a group of paragraphs about a specific subject” (Oshima & Hogue, 1999, p. 56). Writing essays is no more difficult than composing sentences in paragraphs, only it is longer and more complex because it must align the relationship between the paragraphs.

Essay writing skills cannot be separated from the classification known as “genre”. This term has long been used and theorized on through various perspectives including "literary studies, popular culture, linguistics, pedagogy and more recently, English/literacy education" (Knapp & Watkins, 2005, p. 21). Moreover, there are basically three main approaches in writing skills, namely (1) product approach, (2) process approach, and (3) genre approach. The genre approach means that the writing skills emphasized relate to the knowledge of the context in which the writing is used, especially the purpose. The process approach sees the importance of writing development through relevant input and is related to the context, purpose, and the readers (Badger & White, 2000). When applying this approach in our writing, we have to consider the contextual aspects based on the subject matters we are discussing without ignoring the

purpose and our audience.

Shih (1986) emphasizes the process approach as a new paradigm in teaching writing skills with some characteristics. The first characteristic is that teaching writing focuses on the writing process resulting in a final writing product. The teacher should assist learners in understanding their own writing process and building pre-writing strategies. Moreover, the learners get some experiences in developing concepts, and revising, giving learners time to write and rewrite. Finally, the teachers and peers are encouraged to provide feedback and allocate some time to meet learners individually during the writing process. In its application, the process approach requires more attention from the teacher because a teacher has a responsibility to provide writing exercises as well as feedback on the learners' writing results.

The language function of one writing genre, the argumentative essay, is to convince the reader using arguments, facts, evidence, reasons, descriptions or explanations that support a particular side. Renkema states that "argumentation examines the issues that are characteristic of research on argumentative and persuasive language use" (Renkema, 1993, p. 128). Based on the argumentative discourse, a language is functioned as a way of attracting readers' attention is the most important point in which the readers should be convinced of something offered. Through this opinion it can be seen that there is a very close relationship between argumentation and persuasion. Persuasion is defined as "verbal communication that attempts to bring about a voluntary change in judgment so that readers or listeners will accept a belief they did not hold before" (McCrimmon, 1984, p. 329). In other words, argumentation is a means of persuasion. Moreover, writing an argumentative essay is described as a dynamic creation process. Some important aspects that arise in understanding argumentative essay writing are (1) a text is seen as a unit, (2) writing as a process of creation and use of skills, and (3) social context is influenced by the writer and audience (Chala & Chapeton, 2012). In this context, an argumentative essay writer becomes part of sociocultural reality. The writer wants to achieve the purpose of writing, i.e., convincing the reader and inviting readers to agree and follow his/her ideas.

Collaborative Techniques for Argumentative Essay Writing

Global development in education is inseparable from the development in the field of information and communication technology or ICT. The term e-learning or online learning is growing rapidly and is very popular among educational institutions. Online learning is defined as "an open and distributed learning environment that uses pedagogical tools, enabled by Internet and Web-based technologies, to facilitate learning and knowledge building through meaningful action and interaction" (Dabbagh & Bannan-Ritland, 2005, p. 8).

Philosophically, online learning is the embodiment of the learner-centered learning paradigm because it is "strongly promoting active learning, collaborative learning, mastery of learning materials and a learning process controlled by the students themselves" (Simonson, Smaldino, & Svacek, 2014, p. 123). Furthermore, this has strengthened the characteristics of online learners who are expected to be independent as well as autonomous learners. It means that learners are not only able to participate in the learning process independently following the instructor's instructions, but they are also able to manage their own learning time and determine the learning materials according to their own needs. With the use of computer and internet-based technology, the instructors can optimize the learners' learning process in obtaining a more meaningful learning experience.

By using a collaborative writing technique in an online class, the learners are expected to gain a better understanding through their learning activities. The concept of collaborative learning is explained by Barkley, Cross, & Major (2005, p. 4) that it is more about "developing self-reliance, autonomy of learners for self-learning, and critical learning of learners". Furthermore, they offer collaborative learning techniques (CoLTs) for writing, i.e., "dialogue journals, round table, dyadic essays, peer editing, collaborative writing, team anthologies, and paper seminar" (Barkley, Cross, & Major, 2005, p. 253). Reviewing those CoLTs, it is possible that some can be applied in online learning activities for writing.

From the foregoing discussion, it implies that the teaching of writing in a foreign language through online delivery needs to consider some pedagogical factors, including the appropriate materials, the appropriate approaches within different contexts, as well as skillful instructors (both the content and the use of technology). Furthermore, teachers often concentrate on the results of learners' writing without considering the factors that affect the final writing product. Therefore, the expected writing competencies of the learners are not optimally achieved. In online learning, instructors of writing skills need to have the same ability to teach writing as in a face-to-face classroom where they can communicate directly.

Previous Studies

Currently the use of online applications to improve learners' writing skills, particularly collaborative writing, is growing rapidly. One alternative to apply an online collaborative writing technique (OCWT) is by using Wiki. The use of Wiki as a vehicle to embody peer reviews and tutor's feedback activities on learners' writing allows the learners to optimize the process of writing through collaborative activities.

A previous research was conducted by Kear, Donelan, and Williams (2014) using Wiki for an online project that focuses on the perceptions of teachers and students as users. The results show a positive response from students related to the benefits and ease of use. Wiki is a useful tool for students in collaborating, especially in developing shared resources. In addition, the teachers' response to this program was also good. However, "the use of Wiki in this context is less well received by tutors, because it causes an increase in their workload in assessing the quality of students' collaborative processes" (Kear, Donelan, & Williams, 2014, p. 84). To reduce the workload of tutors, they need more structure in student assignments.

Sánchez-Gómez, Pinto-Llorente, and García-Peñalvo (2017) conducted research on the use of Wiki with the result that Wiki has a positive impact on improving learners' skills in writing English essays, including the experience of interacting to reach an agreement, obtaining solutions to problems or conflicts that arise, obtaining effective feedback, both from tutors and other learners, and increasing the motivation to continue to interact and actively produce their own writing. The research used Wiki software that was carried out to improve the writing skills of prospective English language teachers. The results of this study also indicate that Wiki-based learning activities and discussion forums are very effective for improving learners' writing skills. Furthermore, the learners said they had the experience of interacting with other learners and were satisfied with the feedback received.

Other research considers the impact of Wiki on learners' acceptance of the social norms associated with its use, as well as their attitudes in the social environment, particularly with regard to their behavioral intentions (Altanopoulou & Tselios, 2017). The results show the need for teachers to promote and improve students' perceptions that Wikis are easy to use, useful, and communicate positive attitudes in responding to them.

Wright, Burnham, and Hooper (2012) have conducted another study of using Wiki for online collaborative writing with the following result.

It should be apparent by now how valuable the Wiki was in the management of our book. We were able to communicate via the Wiki. We share resources in one, easy to access place. We included charts that listed our rotation revision for each chapter. We were able to upload multiple files (e.g., images, charts, graphs, text) because of the storage space allotted to us in the Wiki. (Wright, Burnham, & Hooper, 2012, p. 45)

The quotation shows the effectiveness of using Wiki as an alternative to improve students' writing through online learning. Based on the previous studies, it is obvious that Wiki is a flexible application that enables the online learners to engage in the writing process collaboratively. The current research focuses on the use of Wiki integrated in Moodle in order to apply the principles of reviewing, editing, and revision. The principles are in line with the principles of a process-based approach in which the learners

can optimize their writing process to produce their final writing. In its implementation, the tutors need to introduce collaborative technology to support the group projects being assessed, perceptions of acceptability and the needs of students and tutors must be carefully considered. In other words, the use of Wiki for collaborative writing should consider its effectiveness for both teachers and learners.

Method

This article focuses on the implementation of the online collaborative writing technique (OCWT) for writing argumentative essays by using Wiki that is integrated with Moodle. The implementation of the OCWT was conducted as a part of developing the model of online-based collaborative writing for English argumentative essay writing, consisting of five stages, namely construction, internalization, discussion, collaboration, and expansion (CIDCE).

Participants

As an open and distance learning (ODL) institution, Universitas Terbuka (UT) has different expectations of its students, as compared to those in face-to-face universities in which learners can meet lecturers in person. In relation to applying online learning, one of the challenges faced by UT is improving the academic quality offered to learners. A strategy to meet this challenge is by delivering a variety of teaching materials in both printed and non-printed formats, so that the learners' self-learning process is engaged supported and developed. The online tutorial (tuton), a form of online learning assistant service at UT, is reaffirmed by Zuhairi, Adnan, and Thaib (2007) as additional assistance for written tutorials, radio, and television. Tuton has become one of UT learners' learning alternatives. During the last decade, UT has offered tuton for all courses in order to help learners in their self-guided study process. Moreover, UT learners must be encouraged to become independent, autonomous, and self-directed learners (Phi, 2017; Wang, 2011; Warring, 2017). Therefore, the design of teaching materials and the online learning process becomes important in meeting the needs of the learners.

The implementation of OCWT was conducted asynchronously during a week by involving a group consisting of 29 students from the English Education Study Program at UT and who were enrolled in PBIS4313/Writing III Course that discusses genre-based essay writing, including narrative essays, descriptive essays, and argumentative essays. All the participants were in-service English teachers living in various parts of Indonesia, such as Batam, Pekanbaru, and Lampung (Sumatera Island), Bogor, Semarang, Surakarta, and Malang (Java Island), Denpasar (Bali Island), Samarinda (Kalimantan Island), and Makassar and Majene (Sulawesi Island). The participants were the prospective students of the Writing III course. They were selected by using a purposive sampling technique through an online survey based on three criteria, i.e. The participants 1) had never taken the Writing III Course before, 2) had passed the Writing I Course, 3) had passed the Writing II Course. There were two learning specialists (LS) involved as the tutors in this class with the responsibility to direct the learning process as well as give feedback on the learners' writing. The learning process was conducted over approximately two weeks at the end of February up to March 2018.

Instruments and Data Analysis

This study applied a descriptive method. In order to find out the effect of teaching material models on improving students' English writing skills, two types of instruments were used by researchers, namely test and non-test. The test contains several questions to find out the extent of the research subject's level of knowledge about PBIS4313/Writing III teaching material, i.e. in the form of pretest and post-test, while the non-test questionnaire is related to aspects of changes in attitude, which are the objectives of the study. An observation was conducted to describe the process of implementing the OCWT and an online

questionnaire was used to obtain data and information related to the learners’ and tutors’ perceptions towards the implementation of OCWT applied in the Writing III course.

The effect of the learning model on improving students’ writing skills or the effectiveness of the OCWT was measured by using a paired t-test. The t-distribution is a distribution for the probability of a small sample (≤ 30). W.S. Gosset found this distribution in 1908 under the pseudonym Student. Therefore, t-distribution is known as student t-distribution (Kadir, 2015, p. 109). Another definition states that paired students’ t-test is “a hypothesis test that is used to compare the means of two population when each element of a population is related to an element from each other” (Dodge, 2008, p. 409).

Procedure

The implementation of the OCWT was conducted as a part of developing model of online-based collaborative writing for English argumentative essay writing, consisting of five stages, namely construction, internalization, discussion, collaboration, and expansion (CIDCE). The OCWT was implemented using Wiki integrated in Moodle, a course management system applied at Universitas Terbuka. Rice (2011) explains that related to its utilization, Moodle is in line with its design principles that were created to support the social constructivist learning style, which prioritizes interactions in the learning process. The philosophy of this learning style is that “students can achieve the best learning process when students interact with teaching material, construct new material/concepts from learning outcomes, and also interact with tutors and other participants in their learning process” (Rice, 2011, p. 11). The following is the model of online-based collaborative writing for English argumentative essay writing.

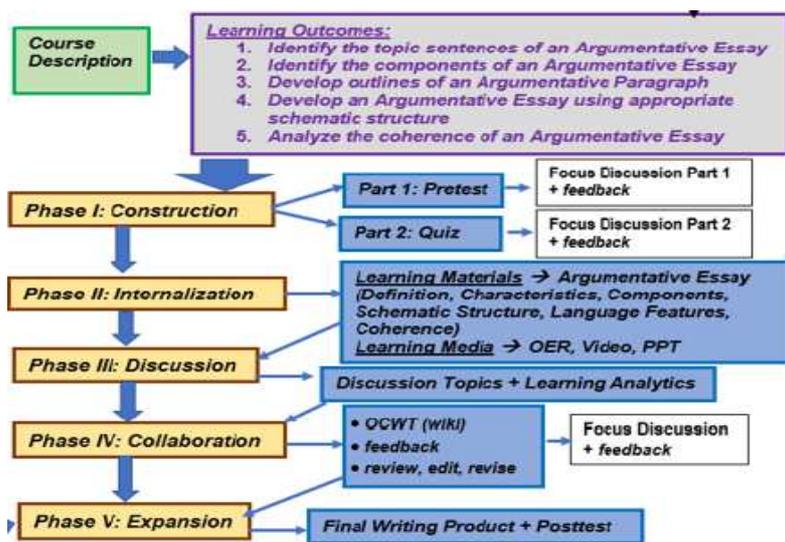


Figure 1. Model of online-based collaborative writing for English argumentative essay.

OCWT is a writing technique developed as a part of Phase IV: Collaboration. Moodle enables tutors to provide online collaborative learning facilities in enhancing the learners’ writing skills. The OCWT is developed to direct learners to effective collaborative learning activities in order to achieve optimal results in their writing process. Twenty-nine participants were divided into five groups. This grouping enables the participants to focus on the review and edit other learners' writing in their own groups. It is expected that the OCWT process can be conducted effectively and optimally through the grouping system. In relation to the utilization of Wiki for writing collaborative activities, the researchers decided to arrange the pages for each learner.

The researchers provide an instruction about the OCWT activities through Wiki. In order to support the editing process, there are various menus for editing posts, i.e. view, edit, comments, history, map, files,

and administration. Here are the instructions. Firstly, learners are asked to copy the writing from each file in the Doc file. then paste it into their own page and end the process by clicking the "control V" button. To edit the writing on each page or learner, click the "Edit" menu and edit it. Editing can vary, including using **bold**, *italic*, underlined, ~~crossed~~, **blocked/ highlighted**, **colored**, as well as other effects that make it easier for the owner of the text to know the edited part. On the upper left side, one button functions to minimize and maximize the menu. Make sure the learners click "Save" to end the editing process.

Furthermore, the tutor directs learners to refer to a self-assessment guideline for writing English argumentative essays, which serves as a parameter in providing input or correction to the writing of other learners. In the process of revising their own writing, they can also refer to this guideline. The guideline is available in PDF format and can be either viewed or downloaded by the learners. Not all aspects of this guideline must be applied since this guide functions to help participants to be more selective and careful in choosing important points for improvement or for review of other learners' writing.

In practice, the researchers took a long time to equate perceptions with the learners. However, because the learners were very enthusiastic in following the OCWT trial, they could immediately adapt and were active in the collaborative writing process. Here is one example of the OCWT implementation.

However, there are some ~~weaknesses~~disadvantages and advantages between public schools and homeschooling. ~~if there is a statement that homeschooling is more effective than public schools, so my answer is disagree. (i think it is better to put this sentence in paragraph one as the thesis statement) -- (the following paragraph is to support your thesis statement) One of my reasons is to remember the weaknesses of the homeschooling program.~~ The ~~weakness~~ disadvantages of homeschooling course certainly makes the statement that "homeschooling is more effective than public schools", is not ~~right~~true. Because when compared with public schools, it is more effective public schools than homeschooling. My opinion is also reinforced from some articles written by the authors, one of which is Mrs. Dewi Hapsari and which can be accessed at https://www.kompasiana.com/hapsariidewi/sschool-formal-vs-home-schooling_59272ce76423bdcf2d8bc469. In the article mentioned some weaknesses and advantages of public schools and homeschooling. ~~Below I will also mention what are the disadvantages and advantages of public schools or formal schools and homeschooling.~~ The advantages of public schools are {1}]students can learn in the discipline time, {2}]students tend to be more critical and competitive in learning process, {c}]students learn how to socialize with many people or their friends, {d}]means of self-development and creativity. While the ~~weakness~~ disadvantages of public schools are, {a}]rigid or stiff and inflexible to the character of learning. And then, the advantages of homeschooling are, {a}]flexible learning schedule, {b}]students can learn with the people they love, {c}]students can avoid things

Figure 2. Example of reviewed and edited writing on OCWT.

The picture shows a review and editing activity on the page belonging to one of the learners. In accordance with the design of this model, the researchers provide the opportunity for learners to give feedback or corrections directly onto the writings of other learners. Several learners as well as the tutor provided editing and this can be seen in the History menu. In this menu, the history of the changes or editing done on the uploaded writing can be seen. There are also the details of the changes that have been made on the results of those posts. Here are examples of changes that can be recorded from the feedback by the tutor until the revision of writing by the writing's owner.

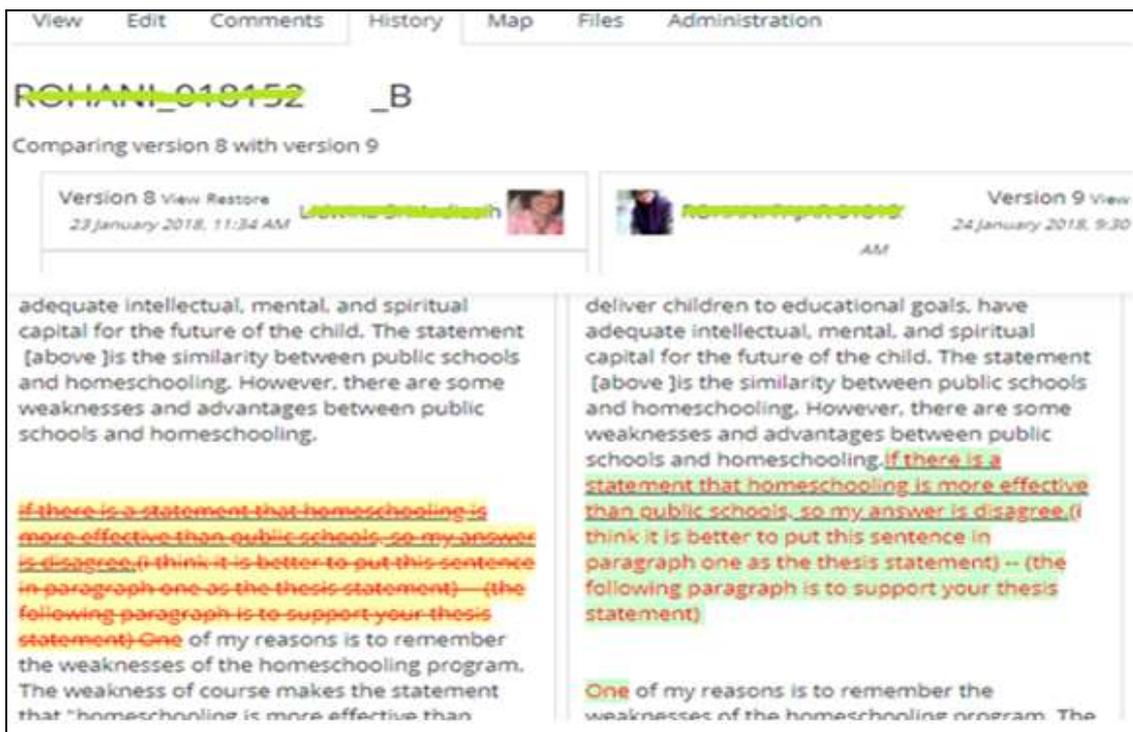


Figure 3. The compared changes on OCWT.

During implementation, learners were very enthusiastic about the review and revision process. At first, they felt uncomfortable editing the writing of other learners. However, they became more confident after the tutor explained that the most important aspect of OCWT is how to share ideas and feedback on the writings of other learners.

Results

The use of Wiki to implement the OCWT shows quite good results. It has been proven effective in improving learners' English argumentative essay writing skills in the PBIS4313 / Writing III Course. This can be seen from three sources of information: the observation report of the implementation of the learning model, learners' and tutors' perceptions on the model being tested, and from the results of the final score (post-test) showing a significant increase in learners' writing skills.

The observation reports using a learning analytic tool, namely GISMO, were used to monitor the process of the OCWT. GISMO (2014) is a graphical interactive monitoring tool that provides useful visualization of learners' activities in online courses to instructors. The analysis of using the GISMO application in relation to learners' access and activity in the OCWT shows that 14% of the learners were not active at all in this activity. Those learners provided information to the researchers and tutors that during the OCWT process they experienced internet network constraints, while 86% accessed various activities. During four to five days, the learners' access reached 318 times. There were 72% carried out activities more than ten times. However, there were only 28% of the learners accessing the OCWT more than ten times. The researchers found that although the implementation of OCWT has not been optimal, the learners showed their efforts to participate actively in this activity.

Of the 29 learners involved in the OCWT, 19 learners or 66% of them submitted the post-test. The researcher used a paired t-test with the reason that the data groups followed normal distribution.

Therefore, a normality test must be carried out as the previous step in the implementation process. The following are the results of the normality test.

TABLE 1
Case Processing Summary on Normality Test of the Pre-test

| Case Processing Summary | | | | | | |
|-------------------------|-------|---------|---------|---------|-------|---------|
| Pretest | Cases | | | | | |
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| | 19 | 100.0% | 0 | 0.0% | 19 | 100.0% |

TABLE 2
Normality Test Using Kolmogorov-Smirnov and Shapiro-Wilk of the Pre-test

| Tests of Normality | | | | | | |
|--------------------|---------------------------------|------|------|--------------|------|------|
| Pretest | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| | | .105 | 19 | .200* | .963 | 19 |

* This is a lower bound of the true significance.

a. Lilliefors Significance Correction

From the output above, the statistics for Kolmogorov-Smirnov are 0.105 and the p -value is .200 or above .05. It means that H_0 is accepted or not significant. Thus, the data on the implementation shows that the student population is normally distributed. The results of the analysis also show that the Statistics for Shapiro-Wilk is .963 and the p -value is .624 or above .05, giving the same conclusion.

The normality test on the posttest assessment data was also carried out in the same way as testing the pretest assessment results. The following is the output of the analysis of the posttest assessment data in the implementation.

TABLE 3
Case Processing Summary on the Normality Test of the Posttest

| Case Processing Summary | | | | | | |
|-------------------------|-------|---------|---------|---------|-------|---------|
| Posttest | Cases | | | | | |
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| | 19 | 100.0% | 0 | 0.0% | 19 | 100.0% |

TABLE 4
Normality Test Using Kolmogorov-Smirnov and Shapiro-Wilk of the Posttest

| Tests of Normality | | | | | | |
|--------------------|---------------------------------|------|------|--------------|------|------|
| Posttest | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| | | .141 | 19 | .200* | .966 | 19 |

* This is a lower bound of the true significance.

a. Lilliefors Significance Correction

From the output above, the statistic for Kolmogorov-Smirnov is .141 and the p -value is .200 or above .05. It means that H_0 is accepted or not significant. Thus, the learners' data on the implementation are normally distributed. The results of the analysis also show that the price of the Statistics for Shapiro-Wilk is .966 and the p -value is .695 or above .05, which means giving the same conclusion. The results of the analysis of the two normality test values indicate that the pretest data is normally distributed because the significance value of the test is greater than .05.

The homogeneity test of the data from the results of the pretest and posttest assessment in the implementation process is one of the requirements for the paired t-test conducted in this study. The homogeneity of the data in this study means that the data has the same variation or diversity of values or statistically the same. The following is the result of the analysis carried out using the SPSS application.

TABLE 5
The Results of the Homogeneity Test

| Test of Homogeneity of Variances | | | |
|----------------------------------|-----|-----|------|
| Values | | | |
| Levene Statistic | df1 | df2 | Sig. |
| .565 | 1 | 36 | .457 |

The output shows that the result of the calculation of the difference variance test between the pretest and the posttest is at the significance level α of .05, while the significance value of the results of the comparison of the pretest and the posttest is .457. It means that the two data have the same variant or it can be categorized homogeneous. After testing the normality and homogeneity of the values in which the results of the sampling are normal and homogeneous, the researcher tested the effectiveness of the OCWT by using a paired t-test as shown below.

TABLE 6
Paired Samples Statistics

| Paired Samples Statistics | | | | | |
|---------------------------|-------------|--------|----|----------------|-----------------|
| | | Mean | N | Std. Deviation | Std. Error Mean |
| Pair 1 | Total Score | 65.447 | 19 | 10.4906 | 2.4067 |
| | Total Score | 74.711 | 19 | 9.0390 | 2.0737 |

In the paired samples statistics table, the data show that the average of the learners' learning outcomes before participating in the learning process on the OCWT is 66.45 and the standard deviations are 10.4906. After following the learning process on the OCWT, the average is 74.71 with the standard deviation of 9.0390. This means that descriptively there are differences in the average results of the learners' argumentative essay assessment before and after following the learning process through the OCWT.

TABLE 7
Paired Samples Correlations

| Paired Samples Correlations | | | | |
|-----------------------------|-------------|----|-------------|-------|
| | | N | Correlation | Sig. |
| Pair 1 | Total Score | 19 | 0.304 | 0.205 |

Based on the Paired Samples Correlations table, a score correlation coefficient obtained from the assessment of learners before and after following the implementation of the OCWT is .304. This correlation shows that the assessments of the two tasks have a strong and positive relationship. This correlation shows that the assessment of both tasks on the OCWT shows a strong and positive relationship. Furthermore, the difference between the two methods is significant. This is indicated by the p-value at .003 or lower than .05 as shown in the following table.

TABLE 8
Paired Sample Test of OCWT

| | | Paired Samples Test | | | | | | <i>t</i> | <i>df</i> | Sig. (2-tailed) | |
|--------|----------------|---------------------|-------------------|--------------------|--------------------------------|---------|--------|----------|-----------|--------------------|--|
| | | Paired Differences | | | | | | | | | |
| | | Mean | Std. Deviation | Std. Error Mean | Interval of the Lower Upper | | | | | | |
| Pair 1 | Total Score | -9.2632 | 11.5775 | 2.6561 | -14.8433 | -3.6830 | -3.488 | 18 | 0.003 | | |

In the paired sample test table, the difference in Mean is -9.2632. It means that there is a difference in the scores of the learners' learning outcomes before and after following the OCWT. Furthermore, the table also shows the standard Mean error rate of the average difference. The test results show the statistical price is at -3.488 with the degrees of freedom (*df*) of 18, and the *p*-value is 0.003 or lower than 0.05. It means that H_0 is rejected. Thus, it was concluded that there were significant differences between, before and after following the OCWT process through Wiki integrated in Moodle. In other words, the use of Wiki is effective in improving students' argumentative English essay writing skills.

Another source of information about the effectiveness of the OCWT is from the learners' perceptions towards the implementation of the OCWT during their learning process. According to 18 learners or 62% who completed the online survey, the use of the OCWT is appropriate to provide an opportunity for the learners to practice their critical thinking or knowledge construction through the available media. However, one learner said that he had difficulties in using the menus available on the OCWT. Tutors are considered to be active in providing feedback on the learners' writing. Regarding the value of the material contributions and exercises given in this online tutorial, all learners strongly agree that the materials and exercises contained in the online tutorial via online media have strongly supported the mastery and improvement of their writing skills.

In the first part of the questionnaire, there are forty statements related to the material and its presentation, the learning tools, and the learning process in Writing III Course. There were 94% of learners who chose between the options of strongly agree and agree to the statements that the tutor's instructions were delivered clearly, systematically, were easily understood, and easy to follow. However, one learner did not agree with some statements, including in understanding the instructions at the beginning of the online tutorial. One student stated that the guidelines have not been systematically arranged. Related to the material, one student stated that the material provided was not relevant to both the guidelines and the material discussed in the main material book (printed teaching material). Regarding the material delivery, only one learner did not agree that it was coherent, systematic, and logical. The illustrations given were also considered unclear and do not help students understand the concept. Two learners stated that the OCWT process had not been carried out optimally.

In the open questions section, there are only 3% of the learners who stated that they had participated in writing activities using the collaborative method, while 87% stated they had never had experiences in online collaborative writing. Regarding the constraints experienced during the implementation, 30% of them stated that they had problems, including the unavailability of a stable internet connection, and not always being able to work online because the time was too short, especially during collaborative writing sessions. The learners were not actively involved and could not interact with each other (R9), and one person stated that they were not proficient in ICT (R14), and the network is less supportive (R8).

Some learners who did not experience problems in the OCWT implementation also gave their comments as follows:

Besides getting input from tutors, I can also get input from friends for my writing improvement. (R17)

There are no obstacles in following the Writing III course, but I have not been able to follow the learning process optimally. (R24)

No, because during the online tutorial of the PBIS4313/Writing III course through the OCWT, I was able to follow it well supported by a very good response from tutors and other learners. (R10)

Because, the guidance is readable. (R12)

The things obtained are 1. increasing understanding of argumentative essays,
2. adding experience in socializing with friends. (R28)

I like being able to learn to write essays, so I understand the rules of writing essays, especially argumentative essays. (R13)

The effectiveness of the OCWT is not only seen from the results of the analysis of different pretest and post-test tests and the learners' perceptions, but it is also strengthened by the review results of the two learning specialists (LSs). They revealed that the OCWT has a positive impact on the development of the learners' skills. The positive impact can be seen from the increase in the learning outcomes, in this case seen from the quality of their writing, their motivation as well as their enthusiasm in participating in learning activities, and the interaction with other students. Following are the opinions of the two LSs.

In substance and series of activities, this online tutorial model is good (adequate). Clear substance and a series of logical activities. As an input, the appearance of tutor can be more detailed and more personal/communicative. The division of the "session" is made clearer. (LS2)

This opinion shows that the OCWT enables the learners of PBIS4313 / Writing III Course to explore their learning activities through collaborative learning. However, one other expert gave a note for the the OCWT below.

Researchers must understand correctly that writing skills are not easy. Writing needs a lot of practice and student writing skills are very heterogeneous. Although everything has been made so well and completely, it returns to the ability of students and the ease of students in accessing the internet. (LS1)

Discussion

Based on the observation reports, the results of the statistical tests, and the analysis of the learners' perceptions, the OCWT using Wiki integrated in Moodle has a significant influence in improving the learners' argumentative essay writing skills. In its application, the OCWT needs to be equipped with a discussion forum during the writing process so that learners optimize their critical thinking skills. The application of the OCWT can be optimally used to train the learners' critical thinking skills. Kalelioğlu & Gülbahar (2014) stated that one of the skills needed by students is how they train their critical thinking because it is in line with the principles of 21st century education where critical thinking is one of the skills students must possess. However, the use of online facilities or applications integrated with online learning management systems, such as Moodle, has not been done optimally. Meanwhile, technology has provided a great opportunity for online-based collaborative writing, such as e-portfolios, which can finally be integrated into foreign language teaching curricula (Zhu & Bu, 2009). Furthermore, It has given the tutors challenges in providing more authentic materials as well as more meaningful learning activities.

By utilizing information technology in the OCWT implementation, communication has been proven to improve student essay writing skills and be more effective in online learning, i.e., intensive communication and active interaction between tutors and learners and among the learners themselves.

The peer review has given the learners experiences as well as improvement of their learning autonomy (Lee, 2007). The utilization of Wiki for the OCWT activities has also greatly helped researchers improve the learners' writing skills. Moreover, the application of OCWT using Wiki is considered important because the process of interaction and collaboration in improving argumentative essay writing skills becomes optimal. This was supported by the results of research on the effect of OCWT which had a positive impact on the improvement of the learners' writing (Sánchez-Gómez, Pinto-Llorente, & García-Peñalvo, 2017; Wright, Burnham, & Hooper, 2012). In addition to their academic improvement, the learners also experienced an increase in their confidence (Daniel & Christopher, 2018). This confidence is important because it is a factor that determines the success of students in interacting and collaborating. The results also show that during the process of the collaborative writing, teacher intervention was still needed to polish or edit students' work before it was considered final" (Sritrakarn, 2018).

The results of the observations that have been made on the learning process show that the tutors in online learning have not fully provided the learning experience of process-based writing skills to students. When revisiting the current learning paradigm shift in writing skills as presented by Shih (1986) in terms of a process-based approach, tutors have not fully applied the principles of writing skills based on the process, including giving students time to process more in writing, both individually and collaboratively. Meanwhile, Greene (2000) said that the process approach to writing skills is a non-linear activity in which the learners need to go through the steps of planning, drafting, editing and revision. Therefore, the learning process needs to be emphasized on ongoing interactions with tutors and other learners during the writing process. Based on the results of observations on online-based collaborative writing classes that have been running so far, the tutors have not implemented the process approach optimally. This can be seen from the lack of collaborative practice activities during the learning process.

In line with Greene, Al-Shaer (2014) also emphasized the process of writing argumentative essays starting from the development of concept mapping as a pre-writing strategy to help students generalize the argumentative essays of English students. However, the observation reports indicate that the learners' writing skills were only expressed in the discussion forum activities and only a small number of them were active in the forum. It has not been able to describe the extent to which the development or progress of students' English argumentative essay writing skills. The skill of writing argumentative essays in English has not gone through a continuous process from the initial draft to the final draft. Therefore, researchers need to reconsider online learning activities that provide a process experience of argumentative essay collaborative writing to learners by utilizing online facilities available on Moodle, such as Wiki. The acceptance of Wikis by learners is one of the factors in the success of collaborative online-based writing processes (Altanopoulou & Tselios, 2017). Wiki is a flexible application in which to do the writing process collaboratively by applying the principles of review, editing, and revision. However, the Wiki is not the main product in this research. Wiki is an application that supports the process of the learners interacting and collaborating in writing.

Conclusion and Implications

OCWT using Wiki integrated in Moodle is an appropriate technique to enhance learners' writing skills. It also provides an opportunity for the learners to practice their critical thinking or knowledge construction through an online platform. Moreover, the instructor's feedback and other learners' review and editing are important to enrich the learners' writing process. The application of the OCWT is very important for teachers to apply a systematic learning process by taking into account the development of learners' writing skills at each stage. In addition, the Moodle application is increasingly sophisticated with the availability of facilities that make it easier for teachers or learners to use it for the online learning process.

As this study is limited to a certain institution, i.e., Universitas Terbuka as an open and distance learning institution, it is recommended that further investigation would have more respondents or English

learners of other institutions delivering online learning platforms. In distance learning practice, the model of online learning based on the constructivist approach is very appropriate to hone learners' independence. Learners can collaborate while developing their own skills using the available guidelines. For example, a self-assessment guide can be used by learners to measure the extent of their writing skills.

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