

THE EFFECTIVENESS OF SCIENTIFIC APPROACH AND CONTEXTUAL TEACHING AND LEARNING APPROACH IN TEACHING WRITING

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ABSTRACT

This research used a quasi-experimental design. The population was grade VIII students of SMP XX Yogyakarta that consisted of four classes. The sample consisted of three classes, namely class 8A using CTL approach and class 8B using the scientific approach as the experimental groups, while class 8D used the conventional approach as the control group. The instruments used were tests in the form of writing composition. The hypotheses testing were analyzed using ANCOVA test. The results are (1) there are significant differences in writing achievement among the students taught by using the scientific approach, CTL approach, and conventional approach. (2) The use of the scientific approach and the CTL approach are more effective than that of the conventional approach in teaching writing. (3) The use of the scientific approach is not more effective than that of the CTL approach in teaching writing.

Keywords: scientific approach, contextual teaching and learning (CTL) approach, teaching writing

INTRODUCTION

Writing is one of the four components in language skills; writing, reading, listening and speaking, that are grouped into two skills, namely receptive and productive skills. Reading and listening are receptive skills since the learners are required to understand and obtain information, whereas writing and speaking are included in productive skills because the learners are required to be able to provide ideas, thoughts, and their own opinion with proper language. Writing is also defined as a process of transferring thoughts, ideas, or even feelings of someone in order to be understood by others. In addition, Harris, Ansyar, and Radjab (2014) have stated that writing activity constructs the symbols of language into written form, and it is also a means to convey ideas. Therefore, through writing, people try to express their ideas in the form of sentences or even paragraphs into readable writing which have meaning.

Gelb, as cited in Siddiq (2013) has defined that writing is how people communicate their thoughts and feelings through visible signs, understandable not only for themselves but also for all other people. It means that when people write, they can express their feelings and thoughts from words into sentences and sentences into paragraphs that have meaning. Therefore, having a good writing skill can help people to express their idea, opinion, and feeling to other parties by means of written language, for example in

the form of articles, novels, short stories, journals, and many others. Furthermore, Hosseini et al. (2013) have stated that by having a good writing ability, it will give good impact in life. Through writing activity, people are required to read more from various sources and to think creatively in developing the insight of their knowledge widely. Hence, writing skill is considered an important skill to be mastered, especially by the second language learners (Javed, Juan, & Nazli, 2013).

The effective learning of writing allows the students to learn easily in learning to reach the learning goals. In consequence, this needs the teacher's roles to assist and guide the students in order to achieve the learning objectives. For instance, the teacher has the roles in choosing and in using an appropriate approach to the learning process of writing. As it is known that an approach is defined as someone's perspective toward the learning process (Rusman, 2014). Therefore, the selection of the right approach is expected that it can affect the process of teaching and learning of writing.

In practice, in Indonesia, the learning of writing that often occurs in the classroom is dominated by teachers (Antika, 2014). This viewpoint is usually called the learning using a teacher-centered approach or a conventional approach. According to Rusman (2014), the teacher-centered approach puts a student as an object of learning and a teacher as the only one source of learning whereby

it has classical learning activities. In consequence, learning activity in the classroom is spent by the teacher in explaining the lesson, whereas the learners take note and listen to the teacher (Chang, 2011).

This kind of learning generally uses a traditional approach that is based on the behaviorist theory. Ortega (2013) claims that behaviorism concept that recommends stimulus-response becomes a prominent paradigm in the learning system in the last third of the 20th century. Hence, Ellis (2009) calls this approach as 'focus on forms' approach. In fact, in the use of the conventional approach, the teacher can manage the students' activities in the classroom and recognize their characteristics (Al-Zu'be, 2013). Thus, this approach still has the magnetism to be used by some teachers in the teaching and learning processes. However, this approach also has weaknesses. It tends to make the learners passively receive information only from the teacher (Huba & Freed in Ahmed, 2013) and limits the students' ability to think creatively (Li, 2016). As a result, the students' achievement yields an unsatisfactory result and becomes ineffective learning. Hence, Kompa (2012) states that the traditional approach is not effective to educational solutions that should refer to active learning. Therefore, this perspective in the teaching and learning process should be changed from using a teacher-centered approach to a student-centered approach.

The student-centered approach means that the teacher puts the students as the subjects of the learning. The teacher should focus on the students' activities during the teaching and learning process and let them be active learners throughout the learning process, such as asking questions, building and exploring their knowledge, exchanging ideas, and having mutual interaction. Two types of learning approaches based on the student-centered approach are the scientific approach and the Contextual Teaching and Learning (CTL) approach.

The scientific approach is recommended in the implementation of Curriculum 2013. The scientific approach is an old and a new approach because it has been implemented in science, and it is newly used in all subjects including English. The scientific approach is based on the Bruner's theory which states that the learners study and construct the knowledge through the cognitive process (Hosnan, 2014). Furthermore, this approach emphasizes the students on the learning process to seek the knowledge rather than to transfer it. The learners are seen as the learning subjects who need to be involved actively in the learning process, and the teacher is as a facilitator who guides and coordinates the learning activities. Saefuddin and Berdiati (2014) add that in the scientific approach, the learning process aims to support and to assist the students' learning process in finding and using their knowledge. Therefore, Komariah (2016) says that in implementing this approach, the students are expected to be able to think critically.

The scientific approach can be applied in the teaching and learning process in the English language, especially in writing class. According to Hosnan (2014), the scientific approach aims to train the students in communicating ideas, especially in writing. The scientific approach also develops the students' attitudes, knowledge, and skills. It means that this approach can promote the students' language skills, particularly in writing skill. However, as known, the process of teaching and learning writing is considered as a way of finishing the assignment and homework (Lally in Byrd, 2011). It means that the teaching of writing is only focused on the learning product. Actually, the teaching

of writing should be emphasized not only on the learning product but also on the learning process. By highlighting the process of teaching and learning writing, it will give a good impact on the students' achievement in writing. Through the learning process, the learners are active physically and mentally in generating and comprehending the knowledge (Sarwanti, 2016). The steps of the scientific approach, such as observing, questioning, exploring, associating, and communicating can help the students in the learning process become active learners. Moreover, the scientific approach is one of the effective approaches in the teaching, especially in the teaching of English language, so like Suharyadi (2013), it is revealed that the use of the scientific approach is more effective than that of the traditional approach. Therefore, the use of the scientific approach is expected to be able to affect the students' ability in writing and to make the process of teaching and learning writing becomes the effective learning.

The other approach oriented on the student-centered approach is the Contextual Teaching and Learning (CTL) approach. The CTL approach has been offered in the School-Based Curriculum or KTSP curriculum. Baker, Hope, and Karandjeff (2009) define the CTL approach as "A promising approach that actively engages students and promotes improved learning and skills development." In its aim, the CTL approach can make the learning process more relevant and effective (Baker, Hope, & Karandjeff, 2009). Thus, this approach establishes the students' learning through experience, not through verbalism manner. The CTL approach is supported by the theory of Dewey (Hosnan, 2014).

Dewey's theory states that learners will learn better if what they learn related to what they know and events around them. Therefore, the CTL approach is defined as a notion that focuses on the students' experiences in building their new knowledge. The CTL approach can help teachers and students to link between the materials being learned and the real-life situations and to encourage students to make connections between their knowledge to be applied in their lives as members of family and society. Satriani, Emilia, and Gunawan (2012) claim that the CTL approach encourages the students to have their learning and to connect their knowledge to their lives. In using this approach, the students are supposed to study the material through experiencing not by memorizing (Satriani, Emilia, & Gunawan, 2012).

There are seven components of the CTL approach that can be used as the guidance for the teacher in the implementation of it in the classroom; they are constructivism, inquiry, questioning, learning community, modeling, reflection, and authentic assessment (Rusman, 2014; Supinah, 2012; Yulianti, Warsiti, & Chrysti, 2016). Through constructivism, inquiry, and asking questions activity, the students will find the information about the material and develop their awareness. In the learning community, they learn together in the group and share their knowledge and ideas. Then, the teacher gives a model as an example to the learners in order to make them able to create and produce something creatively. Reflection and authentic assessment are very crucial to give feedback to the learners and to assess the students' improvement and progress in learning. Therefore, those components make the teaching and learning process successful and effective.

The CTL approach is focused on the students' experiences and interaction with others in building their knowledge. Thus, the learners learn the material related to their real world through interaction and experience, not

through drilling and memorizing. Hence, the CTL approach is suitable to be used in the process of teaching and learning the English language, especially in the teaching of writing. In addition, the CTL approach is declared as an effective approach to promote students' abilities in the English language, especially in writing skill (Satriani, Emilia, & Gunawan, 2012). Writing based on the relevant context will make the learners are easy to write paragraph or sentences. Therefore, Baker, Hope, and Karandjeff, (2009) call the CTL approach as 'a trusted approach' in which it involves students more active in developing the skills and the effectiveness of the learning process.

In addition, Satriani, Emilia, and Gunawan (2012) reveal that the CTL approach is convinced as the effective approach to associate new knowledge for the students' lives. Then, the learner's role changes, not as a receiver of meaning, but as a constructor of meaning (Baker, Hope, & Karandjeff, 2009). By relating the knowledge obtained from the inside and outside of the classroom, the learning becomes more relevant and meaningful for the learners to be used in their future lives (Hosnan, 2014). Therefore, the learning using the CTL approach is not only viewed from the product, but also from the process.

Although the effectiveness of the scientific approach and CTL approach has often been mentioned in literature, the comparison of their effectiveness specifically in the teaching and learning of writing is not explored fully yet. In the previous research, most of the researchers have not investigated the effectiveness of these two approaches in one research simultaneously, but these two approaches are usually examined in the separate/independent studies (e.g., Astuti, 2015; Ekowati et al., 2015; Hestiningrum, 2013; Kartikawati, 2015; Rusman, 2014; Muhlison, 2011; Oktarina, Kustianti, & Resnani, 2014). Hence, in this current research, the scientific approach and the CTL approach are investigated simultaneously to know their effectiveness in the teaching of writing. Therefore, this research aims to find out the effectiveness of the scientific approach and the CTL approach in the teaching of writing recount text to the eighth-grade students of SMP XX Yogyakarta.

This research contributes to theoretical and practical significances. For theoretical significance, this research might provide additional information on the literature on the effectiveness of the learning approaches in English language teaching and learning, especially in the Indonesian context. It can also serve as a reference and contribute to developing knowledge in teaching writing by using the scientific approach and CTL approach. For practical significance, this research provides information and guidance for the teachers, especially English teachers who are interested in using the scientific approach and CTL approach in the teaching of writing. By using different learning approaches, teachers can help learners to enhance their learning ability. In this way, students can be more active in the classroom. For other researchers, this research may give and provide information for the next researchers who are interested in conducting research on a similar topic in a different context.

METHODS

This research uses a quasi-experimental design with a type of nonequivalent control group design with pretest and posttest. It can be seen in Figure 1.

The population is 121 grade VIII students of SMP XX Yogyakarta (pseudonym). The sample is 91 students that are

established using the cluster random sampling technique to take the sample not based on an individual but based on the existing/intact classes (Fraenkel, Wallen, & Hyun, 2012). It is divided into two experimental groups (class 8A and class 8B), and one control group (class 8D). They are illustrated in Table 1.

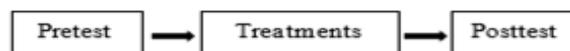


Figure 1 Research Design Framework

Table 1 Sample of the Research

Classes	Groups	Treatments
8A	Experiment	CTL
8B	Experiment	Scientific
8D	Control	Conventional

The data collection technique used is the tests in the form of writing composition that aims to measure the students' ability in writing recount texts. The tests are given before (pretest) and after (posttest) treatments to each group.

The research procedures consist of several stages. Firstly, the preparation stages where the researcher determines population and sample creates the lesson plans and develops the pretest and the posttest. These have been consulted with the researcher's supervisor and the teacher. In addition, the researcher also explains to the teacher who will teach concerning the learning approaches used in the class and train the teacher to apply the learning approaches. Next, the pretest stage is conducting the pretest to determine the students' prior knowledge, both of the control class and two experimental classes before the treatments start. Then, the stage of the implementation of the learning approaches which is the use of the learning approaches in the learning activities, where the control group (Class 8D) applies the conventional approach, and two experimental groups (Class 8A and Class 8B) use the CTL approach and the scientific approach.

The learning approaches in each group are implemented for nine meetings by the teacher referring to the lesson plans. Finally, the posttest stages are doing a final test to determine the students' scores both in the control class and in the experimental classes and to find out the effectiveness of the treatments on the learners' achievement.

The instruments of the pretest and posttest are created differently but still on the same topic. The instruments made by the researcher have two tasks, namely writing a simple recount text based on the available pictures and writing a recount text based on the students' experience.

To obtain the scores of the students' writing, two raters (the English teacher and researcher) use a writing rubric. The writing rubric included five aspects; they are content, organization, vocabulary, language use, and mechanic. Each rater assesses the students' writing (pretest and posttest) with the rubric guidance. After each rater gets the scores, then the scores are summed and divided by two. Thus, the final scores of the students are obtained.

The validity of the instruments is obtained through content validity. Content validity refers to the content and format of the instrument (Fraenkel, Wallen, & Hyun, 2012). It means that the content of the tests must contain the overall material to be tested. Therefore, the researcher asks an

expert's judgment to verify the validity of the instruments.

For reliability, inter-rater reliability is selected to assess the learners' writing. Two raters chosen are the English teacher of SMP XX Yogyakarta and the researcher. After the raters give the scores, then the scores, both the pretest and posttest, are calculated by using Intraclass Correlation (ICC) in SPSS 22 for Windows. According to Domholdt as cited in Volistiana, Widodo, and Kurniawan (2014), ICC is divided into 5 levels: small (0,00-0,25), low (0,26-0,49), moderate (0,50-0,69), good (0,70-0,89), and excellent (0,90-1,00). Furthermore, the results of ICC on the pretest and posttest can be seen in Table 2.

Table 2 The Results of ICC

		ICC
PRE	Single Measures	0,941
	Average Measures	0,969
POST	Single Measures	0,968
	Average Measures	0,984

(Source: SPSS for Windows)

The results of ICC on the pretest and posttest get high values of ICC (i.e., 0,941, 0,969, 0,968, 0,984) with the excellent correlation rate. Azwar in Sujarwanto and Rusilowati (2015) state that the high-reliability coefficient of rating shows that the results of each rater are consistent or reliable in giving scores. Therefore, based on the results, the raters give the consistent/reliable scores in assessing the students' writing.

RESULTS AND DISCUSSIONS

After the whole data are collected, the raters score the students' writing to get the final scores. Then, the data are analyzed statistically through descriptive statistic and inferential statistic to test the hypotheses. Furthermore, they are explained in Table 3. Descriptive analysis of the pretest and posttest results have been shown in the statistical data in Table 3.

Table 3 The Description of Pretest and Posttest Scores

		Min	Max	Mean
Pre	8A	43,5	72,75	56,13
	8B	40	68,75	51,22
	8D	35	69,25	50,98
Post	8A	82,50	95,75	88,55
	8B	83	95,5	89,66
	8D	65,25	83,25	74,94

(Source: SPSS for Windows)

Referring to Table 3, it presents the differences between pretest and posttest scores of three classes. In the pretest, for the minimum scores, the students from class 8D get the lowest score of 35, followed by class 8B and 8A with the score of 40,00 and 43,5 respectively. For the maximum scores, it is yielded by class 8A of 72,75, followed by class 8D of 69,25 and class 8B of 68,75. For the mean scores,

class 8A achieves 56,13, followed by class 8B of 51,22, while the lowest mean score is received by class 8D of 50,98. It means that the class 8A gets the highest score than the two other classes.

After giving the treatments, the posttest scores yield different results. In the posttest, for the minimum scores, class 8B has the score of 83,00, followed by class 8A and class 8D with the score of 82,50 and 65,25 respectively. For the maximum scores, the top score is 95,75 obtained by class 8A, followed by class 8B of 95,5 and class 8D of 83,25. Meanwhile, class 8B has the highest mean score of 89,66, followed by class 8A of 88,55 and class 8D of 74,94. It means that class 8B has the highest score than two others.

In brief, there are different results between the pretest and posttest, especially for the experimental groups, class 8A and class 8B. It means that the teacher applies the procedures of the CTL approach and the scientific approach correctly thus it gives good achievement to the students' ability in writing.

For the inferential statistic, the data are analyzed through the statistical tests; they are Normality Distribution test, Homogeneity of Variance test, and Analysis of Covariance (ANCOVA) to test the hypotheses. Furthermore, they are explained in Table 4. Normality distribution test aims to determine whether the data are normally distributed or not. The conclusions are drawn at level 0,05. The results of Table 4 show that the data distribution of the pretest and posttest of the control group and the experimental group are normal. This conclusion is drawn based on p-values that are greater than the sig. level (0,05) on the pretest and posttest scores of the control group and the experimental group.

Table 4 Normality Distribution

Kolmogorov-Smirnova			
		Sig.	Results
Pre	CTL	0,200*	$p > 0,05 = \text{normal}$
	SA	0,200*	$p > 0,05 = \text{normal}$
	Conv	0,200*	$p > 0,05 = \text{normal}$
Post	CTL	0,200*	$p > 0,05 = \text{normal}$
	SA	0,200*	$p > 0,05 = \text{normal}$
	Conv	0,170	$p > 0,05 = \text{normal}$

(Source: SPSS for Windows)

Then, homogeneity of variance test purposes to determine whether the groups have a homogeneity variance or not. The conclusions are drawn at level 0,05.

Based on the result of Table 5, the sig. value is greater than the sig. level (0,05). It can be concluded that the variances of the groups are homogeneous.

Table 5 Homogeneity of Variance

Levene Statistic		
	Sig.	Result
Posttest	0,588	Sig. > 0,05 = homogeneous

(Source: SPSS for Windows)

The results of two previous tests have been met, where the data are distributed normally, and the groups are homogeneous. Thus, it can be continued to test the

hypotheses through Analysis of Covariance (ANCOVA) in SPSS 22 for Windows with significant level 0,05. Table 6 shows the output of ANCOVA. From Table 6, the sig. value_(p-value) for 'APPROACH' = 0,000 is less than Sig. level_(α)(0,05). In conclusion, there are significant differences in the students' achievement in writing of recount text among the students taught by using the scientific approach and the CTL approach, and those taught by using the conventional approach to the eighth-grade students of SMP XX Yogyakarta.

Table 6 The Result of ANCOVA

Source	Sig.	Result
Approach	0,000	Sig. < 0,05 = significant difference

(Source: SPSS for Windows)

To determine which groups have significant differences, it has proceeded to the *Post Hoc* test where the output is presented in Table 7. From Table 7, the column 'Mean Difference' shows the mean difference between groups. The negative mean differences show that the mean (I) is less than the mean (J). The asterisk sign (*) indicates that there is a significant mean difference between groups. The mean score of the CTL approach is significantly different from the mean score of the conventional approach with the mean difference by 13,61, and also the scientific approach has a significant difference to the conventional approach by 14,72 and vice versa. Meanwhile, the mean difference between the CTL approach and scientific approach is 1,11. It is interpreted that there is no significant difference between the CTL approach and scientific approach and vice versa.

Table 7 The Result of *Post Hoc* Test

GROUPS (I)	GROUPS (J)	Mean Difference (I-J)
CTL	SA	-1,11102
	Conv	13,61667*
SA	CTL	1,11102
	Conv	14,72769*
Conv	CTL	-13,61667*
	SA	-14,72769*

Referring to Table 7, the scientific approach and the CTL approach has significant differences to the conventional approach, and vice versa, which are marked with an asterisk. Thus, the use of the scientific approach and the CTL approach are more effective than that of the conventional approach in the teaching writing. However, since the mean difference between the scientific approach and the CTL approach is not significant, and vice versa, it can be concluded that the use of the scientific approach is not more effective than that of the CTL approach in the teaching writing.

In this research, the researcher has investigated the effectiveness of the scientific approach and the CTL approach in teaching writing at the eighth-grade students of SMP XX Yogyakarta. These approaches theoretically are believed as the effective approaches. Therefore, the next section discusses the findings to verify the theories

of the effectiveness of the scientific approach and the CTL approach.

Based on the results of the pretest score of the students in Table 3, it points out that the students' learning is less effective. As stated by Syahid and Tuharto (2015), the learning is effective if 75% of students reach the score of predetermined Minimum Criteria of Mastery Learning or KKM. In this research predetermined KKM is 75. In the pretest, the scores of the students indicate that over 75% of students do not reach predetermined KKM value. This causes the students of three classes to have low mean scores, i.e., class 8A (51,23), class 8B (56,13), and class 8D (50,98). It means that less than 75% of the students do not reach the predetermined minimum criteria score; thus their learning is not effective fully yet.

After giving the treatments, the results of the posttest score show that more than 75% of the students from the experimental groups, class 8A and class 8B, have reached minimum criteria score. The mean scores of class 8A are 88,56, and class 8B is 89,67. It means that the use of the CTL approach and the scientific approach affect the students' achievement in learning writing. Thus, the learning writing of class 8A and class 8B is effective. However, for the control group, class 8D, only half of the students reach minimum criteria score with the mean score of 74,94. It means that the learning writing of class 8D using the conventional approach is less effective.

Based on the data analysis result of ANCOVA in Table 6, the *p-value* is less than Sig. level_(α) (0,000<0,05), thus it confirms that the students' achievement in writing of recount text taught by using the scientific approach, CTL approach, and those taught by using the conventional approach have the significant differences. Therefore, the result of *Post Hoc* test in Table 7 indicates that there is a significant difference in the students' achievement in writing of recount text taught by using the scientific approach and the conventional approach, with the mean difference of 14,72. This is in line with the research result conducted by Astuti (2015) who has stated that the scientific approach is significantly different from the conventional approach, with the mean difference of 11,97. Therefore, the use of the scientific approach is more effective than that of the conventional approach in teaching writing of recount text.

Furthermore, based on Table 7, the students' achievement in writing of recount text taught by using the CTL approach and the conventional approach is significantly different with the mean difference of 13,61. That is similar to the research result of Hestingrum (2013) which has stated that the CTL approach and the conventional approach have a significant difference with the mean difference of 13,4. In addition, Muhlison (2011) has found that the CTL is a good approach than non-CTL. Hence, the use of the CTL approach is more effective than that of the conventional approach in teaching writing of recount text.

Meanwhile, Table 7 also points out that there is not a significant difference in the students' achievement in writing of recount text taught by using the scientific approach and the CTL approach with the mean differences of 1,11. Thus, it confirms the research result of Syahid and Tuharto (2015) who have found out that there is no a significant difference of the effectiveness between the scientific approach and the CTL approach, with the mean differences of 1,16. It means that the use of the scientific approach is not more effective than that of the CTL approach in teaching writing of recount texts. Briefly, the significant differences are only found on the students' achievement in writing of recount text between

the students taught by using the scientific approach and the conventional approach, and between those taught by using the CTL approach and the conventional approach. Whereas the students' achievement in writing of recount text taught by using the scientific approach and the CTL approach have no significant difference.

Theoretically, the use of the scientific approach is expected to produce independently students who know and understand about the various lessons and also can find information from the various sources without depending on information from their teacher only (Hosnan, 2014). Hence, Tang et al. (2009) have assumed that 'doing science' in the scientific approach becomes magnetism in learning as an easy innovation to do. In this research, the implementation of the scientific approach is done by the teacher who can involve the students in building good mutual interactions with other students. In addition, the implementation of the scientific approach also make changes to the students' behavior where they become more active in the classroom and able to learn independently.

The scientific approach avoids verbalism concept in the learning activity (Hosnan, 2014) because this approach has a principle of the learning process for the students from 'be informed' to 'actively find out' (Saefuddin & Berdiati, 2014). It is in line with a learning theory underlying the scientific approach that is Bruner's theory. As stated by Hosnan (2014), the theory of Bruner deals with the cognitive development of learners or usually calls as 'discovery learning theory'. Based on Bruner's theory, the learners study and construct their knowledge through the cognitive process. Cognition is the way people acquire and process the knowledge from their thought (Ortega, 2013).

In learning writing, the scientific approach assists the students to participate more actively in the teaching and learning process which develops the students' affection, skill, and knowledge. This is in line with Oktarina's research (2014) who say that the scientific approach can improve students' learning activities and develop their characteristics of responsibility. This is reinforced by the statement of Rusman (2014) who argues that the students have the opportunities to promote their potential and creativity. In this research, initially the class situation is very noisy, the students are passive learners, and the teacher cannot control them well. They even cannot create a recount text and do not understand what recount text is. However, after applying the scientific approach through some activities, they change to be active learners, have mutual interaction among them, and can produce a recount text with the higher scores. Thus, the learners are participated physically and mentally in developing knowledge (Sarwanti, 2016). Hence, Hosnan (2014) has claimed that the scientific approach can promote the learners' traits, express their thoughts, acquire satisfactory achievements, and have the chance to train their writing ability. Therefore, Suharyadi (2013) and Astuti (2015) say that this approach is more effective than the conventional approach or teacher-centered approach.

Moreover, the scientific approach has five steps; they are observing, questioning, exploring, associating, and communicating (Saefuddin & Berdiati, 2014). In this research, the steps of the scientific approach are listed in the lesson plans and are run well by the teacher and the students; thus the process of teaching and learning writing can be successful. Through the steps of the scientific approach, the students can develop their knowledge during the learning through sharing opinion or idea. They are participated actively to find out their knowledge and to understand the

lesson. In addition, in this research, in its implementation, the teacher has some obstacles at the beginning. Although the researcher has trained the teacher, the teacher is still nervous. Eventually, in the first meeting, the scientific approach is not fully implemented by the teacher, where the teacher still unconsciously mixes the steps of the scientific approach to the conventional approach. This is as revealed by the research results of Kartikawati (2015) who states that it is difficult for the teacher in understanding every step in the procedures of the scientific approach. However, at subsequent meetings, the teacher begins to understand the stages of the scientific approach and fully apply it during the process of teaching and learning writing. Therefore, the scientific approach can promote the teacher's motivation.

Besides the effectiveness of using the scientific approach, the CTL approach is also effective in teaching writing. The CTL approach is based on the constructivist learning theory. This theory is supported by Dewey's theory (Hosnan, 2014). Dewey's research concludes that if what the students learn connected with their knowledge and environment, they will learn better. In addition, the CTL approach is intended for learners to actively build their knowledge through interaction and experience with others. In this research, day by day the learners actively construct information and create their knowledge from their experiences. Therefore, Satriani, Emilia, and Gunawan (2012) say that the students learn through 'experiencing' not by 'memorizing'.

As stated by Saefuddin and Berdiati (2014), this approach has released students from boredom and produced learners who love the environment. Hosnan (2014) has defined the CTL approach as a concept of learning that assists the teacher to relate the material to the students' real situation. Hence, the CTL approach is the approach used in the teaching and learning process to help the students connecting the material being learned to their real life by experiencing, thus they can apply their knowledge to the environment. Based on this research, the students are able to learn and connect it to their life, like experiences or events. Hence, the CTL approach is trusted that it can effectively associate new knowledge to the students' lives (Satriani, Emilia, & Gunawan, 2012).

As in this current research, in using the CTL approach, at first the teacher occasionally still uses the conventional approach, and the teacher is still as the informer, and it causes the learning condition is a little bit stiff and tense. However, as time goes by, the teacher is getting used to apply the CTL approach in teaching writing, and it makes situation and condition are more fun and interesting. Hence, the CTL approach changes the teacher's role into a motivator and a facilitator. It conforms the research conducted by Ekowati et al. (2015) who have found out that the use of the CTL causes the alternation of the teacher as an active and creative facilitator and mediator.

By doing the steps of CTL approach correctly, it can develop communication skills and promote self-confidence and creative thinking of the students. For instance, in this research, at the beginning of the meeting, only a few of the learners are active, while the others look passive during the learning writing process. They still depend on the information from the teacher only. Nevertheless, at the next meetings, the students start to be motivated and engaged actively in the writing activity, they try to create their writing. It corresponds to one of the advantages that is involving the learners in the learning writing activities (Satriani, Emilia, & Gunawan, 2012). Other than that,

the students also have mutual interaction among teacher-students, students-students, and students-material. It is in line with Satriani, Emilia, and Gunawan (2012) who have found that the CTL approach makes the learners participate in writing class and help them to communicate with others.

Furthermore, Hestiningrum (2013) has stated that the CTL approach constructs the students' interest to learn and let the students have meaningful learning. The successful learning is perceived if the learners can apply and implement their knowledge in the reality of life. In this research, during its application, the students have the courage to start interacting with other students and tend to be more active compared to when the teacher uses the conventional approach before. Hence, the use of the CTL approach is more effective than that of the conventional approach to teaching writing. It verifies the result of Muhlison's research (2011) who states that the CTL approach is better than non-CTL as the conventional approach. It also confirms the result research of Ekowati et al. (2015) who conclude that the CTL approaches affect the students' activities and improve motivation, and also the learners can master the material.

In this research, the result of the use of the scientific approach and the CTL approach bring the insignificant difference that is 1,11 (see table 7). Theoretically, the effectiveness of the scientific approach and CTL approach has been mentioned earlier, where they are indeed effective to apply in the teaching of writing. It is also proven that the use of the scientific approach and CTL approach gives good impacts to the teacher and the students in the process of teaching and learning of writing, and the use of them also yields satisfactory achievements of the students' writing ability. In addition, it is also found the changes in the students' affection during the teaching and learning processes, where they are involved together in learning and become more active students. Hence, the use of the scientific approach is not more effective than that of the CTL approach in the teaching writing of recount texts. It is in line with the research finding of Syahid and Tuharto (2015) where the use of the scientific approach is not more effective than that of the CTL approach. Therefore, the scientific approach and CTL approach are proven effectively applied in teaching writing.

Unlike the scientific approach and CTL approach, the conventional approach is based on the teacher-centered approach. In this research, the conventional approach is less effective to teach the writing of recount text. This approach does not have particular steps in its implementation. In practice, the teacher only uses the textbooks and note (Li, 2016). It means that the traditional approach has minimal activity where the students only sit and listen to the teacher. For instance, in this research, the teacher comes to the class and explains the material, then the learners only listen, imitate, and rewrite into their notebooks what the teacher says and writes on the whiteboard, and also they do some assignments given to them. It causes one-way communication only from teacher to the students, and the students are not involved in the learning actively (passive learner), thus the learning of writing is less meaningful for them. Thus, in this research only half of the students' achievement in the control group (class 8D) taught by using the conventional approach is successful. Therefore, the use of the conventional approach is less effective to teach the writing of recount text.

Moreover, Schon in Kompa (2012) has explained that the implementation of the conventional approach (e.g., drilled method and memorized the lesson) causes limited

students' knowledge. Hence, the effect of its application certainly produces the students who become passive learners because it does not give the room for the students to share and exchange ideas and knowledge with other students. In reality, Zohrabi, Torabi, and Baybourdiani (2012) add that the students need practice rather than sit and listen to the teacher. Ahmed (2013) also adds that the students need rooms for their personal growth.

On the other hand, the positive side of the conventional approach lies on the teacher who entirely controls the class and activities in an orderly fashion (Al-Zu'be, 2013). This statement is in contrast with the reality of this research whereby during the process of teaching and learning writing, the students are very noisy, and the class situation is difficult to manage by the teacher. When the teacher explains the material, the students take note of what the teacher writes on the whiteboard. Then, when the teacher instructs them to do the assignment, they disturb with each other. Therefore, the result indicates that the use of the conventional approach is less effective to teach writing. It is in agreement with Kompa (2012) who claims that the conventional approach is an inefficient approach to solve problems in education, and it is contrary to the active learning concept. It also is supported by Zohrabi, Torabi, and Baybourdiani (2012) who have mentioned that the conventional approach which emphasizes on teacher-centered approach is not efficient compared to the student-centered approach.

In a nutshell, teaching and learning writing need a creative teacher and active learners. A creative teacher surely chooses and uses a good approach to make students interest and want to learn writing. It requires special procedures in teaching writing to the eighth-grade students, like the implementation steps of the scientific approach and CTL approach. The selection of an appropriate approach in the process of teaching and learning writing affects the students' achievement and behavior. By focusing on the students or commonly known as a student-centered principle, the students are able to develop their whole abilities and potential through meaningful and useful activities, such as building and exploring the knowledge and also giving ideas and opinion. Thus their knowledge will be more worthwhile for their life.

CONCLUSIONS

This research is only focused on the effectiveness of using Scientific Approach and CTL approach in the teaching of writing at grade VIII students of SMP XX Yogyakarta. Based on the results, it can be concluded that (1) There are significant differences in the students' achievement in writing of recount text among the students taught by using the scientific approach and the CTL approach, and those taught by using the conventional approach to the eighth-grade students of SMP XX Yogyakarta. (2) The use of the scientific approach and CTL approach are more effective than that of the conventional approach in teaching and learning writing of recount texts. (3) The use of the scientific approach is not more effective than that of the CTL approach in teaching writing of recount texts. It means that the scientific approach and CTL approach are indeed proven effective in the teaching of writing. Therefore, in this research, the scientific approach and CTL approach are the effective approaches in the writing classes at grade VIII students of SMP XX Yogyakarta. For the future research,

the researcher is interested in investigating and developing different kind of studies with various contexts and topics.

REFERENCES

- Ahmed, A. K. (2013). Teacher-centered versus learner-centered teaching style. *Journal of Global Business Management*, 9(1), 22-34.
- Al-Zu'be, A. F. M. (2013). The difference between the learner-centred approach and the teacher-centred approach in teaching English as a foreign language. *Educational Research International*, 2(2), 24-31.
- Antika, R. R. (2014). Proses pembelajaran berbasis student centered learning (Studi deskriptif di Sekolah Menengah Pertama Islam Baitul 'Izzah, Nganjuk). *Jurnal BioKultur*, 3(1), 251-265.
- Astuti, D. (2015). Efektivitas pendekatan saintifik terhadap keterampilan menulis karangan narasi di kelas IV SD Jomblangan, Bantul. *Basic Education*, 4(3), 1-10.
- Baker, E. D., Hope, L., & Karandjeff, K. (2009). *Contextualized teaching & learning: A faculty primer*. California: Academic Senate for California Community Colleges.
- Byrd, D. R. (2011). Putting the writing process into action in the L2 classroom: Pre-writing techniques that work. *The Journal of Language Teaching and Learning*, 1(1), 64-77.
- Chang, S. C. (2011). A contrastive study of grammar translation method and communicative approach in teaching English grammar. *English Language Teaching*, 4(2), 13-24. <https://doi.org/10.5539/elt.v4n2p13>.
- Ekowati, C. K., Darwis, M., Upa, H. M. D. P., & Tahmir, S. (2015). The application of contextual approach in learning Mathematics to improve students motivation at SMPN 1 Kupang. *International Education Studies*, 8(8), 81-86. <https://doi.org/10.5539/ies.v8n8p81>.
- Ellis, R. (2009). Task-based language teaching: Sorting out the misunderstandings. *International Journal of Applied Linguistics*, 19(3), 221-246.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th Ed). New York: McGraw-Hill.
- Harris, A., Ansyar, M., & Radjab, D. (2014). An analysis of students' difficulties in writing recount text at tenth grade of SMA N 1 Sungai Limau. *English Language Teaching (ELT)*, 2(3), 55-63.
- Hestiningrum, A. D. (2013). *Keefektifan pendekatan Contextual Teaching and Learning terhadap pembelajaran materi sumber daya alam pada siswa kelas IV Sekolah Dasar negeri 02 Sidorejo Pemalang* (PhD thesis). Semarang: Universitas Negeri Semarang.
- Hosnan, M. (2014). *Pendekatan saintifik dan kontekstual dalam pembelajaran abad 21*. Bogor: Ghalia Indonesia.
- Hosseini, M., Taghizadeh, M. E., Abedin, M. J. Z., & Naseri, E. (2013). In the importance of EFL learners' writing skill: Is there any relation between writing skill and content score of English essay test. *International Letters of Social and Humanistic Sciences*, 6, 1-12. <https://doi.org/10.18052/ILSHS.6.1>. www.scipress.com/ILSHS.6.1.
- Javed, M., Juan, W. X., & Nazli, S. (2013). A study of students' assessment in writing skills of the English language. *Online Submission*, 6(2), 129-144.
- Kartikawati, Y. (2015). *The implementation of scientific approach in teaching English at the eight grade of SMP Muhammadiyah 10 Surakarta in 2014/2015 academic year: A naturalistic study* (PhD thesis). Surakarta: Universitas Muhammadiyah Surakarta.
- Komariah, E. (2016). The implementation of scientific approach in teaching writing: Teacher's teaching performance and classroom activities. *Proceedings of English Education International Conference*, 1(2), 164-168.
- Kompa, J. S. (2012). *Disadvantages of teacher-centered learning*. Retrieved from <https://joanakompa.com/2012/06/25/the-key-disadvantages-of-teacher-centered-learning/>.
- Li, Y. W. (2016). Transforming conventional teaching classroom to learner-centred teaching classroom using multimedia-mediated learning module. *International Journal of Information and Education Technology*, 6(2), 105-112. <https://doi.org/10.7763/IJiet.2016.V6.667>.
- Muhlison. (2011). *The effectiveness of contextual teaching and learning to teach reading comprehension (An experimental study at the eight grade students of MTs At-Thosari Kalirejo Ungaran Timur in academic year of 2010/2011)* (PhD thesis). Semarang: IAIN Walisongo.
- Oktarina, O., Kustianti, S. K., & Resnani, R. (2014). *Penerapan pendekatan scientific untuk meningkatkan aktivitas pembelajaran dan mengembangkan karakter tanggung jawab serta disiplin siswa yang berorientasi pada kurikulum 2013 (PTK, pada pembelajaran PKn kelas IVA SD negeri 69 kota Bengkulu)* (Undergraduated thesis). Bengkulu: Universitas Bengkulu.
- Ortega, L. (2013). *Understanding second language acquisition*. New York: Routledge.
- Rusman. (2014). *Model-model pembelajaran: Mengembangkan profesionalisme guru*. Jakarta: PT. Raja Grafindo Persada.
- Saefuddin, A., & Berdiati, I. (2014). *Pembelajaran efektif*. Bandung: PT. Remaja Rosdakarya.
- Sarwanti, S. (2016). Scientific method in English language teaching. *Transformatika: Jurnal Bahasa, Sastra, dan Pengajarannya*, 12(1), 60-75.
- Satriani, I., Emilia, E., & Gunawan, H. (2012). Contextual teaching and learning approach to teaching writing. *Indonesian Journal of Applied Linguistics*, 2(1), 10-22.
- Siddiq, A. (2013). The use of semantic mapping technique to improve writing skill in descriptive text. *JP3*, 1(12), 8-15.
- Suharyadi. (2013). Exploring "scientific approach" in English language teaching. *Prosiding 2 Seminar Nasional Exchange of Experiences*. Malang, Indonesia. pp. 1348-1355.

- Sujarwanto., & Rusilowati, A. (2015). Pengembangan instrumen performance assessment berpendekatan scientific pada tema kalor dan perpindahannya. *Unnes Science Education Journal*, 4(1), 780-787.
- Supinah. (2012). *Pembelajaran kontekstual? Mengapa tidak?* Retrieved from p4tkmatematika.org.
- Syahid, U., & Tuharto. (2015). Studi komparasi model pembelajaran Matematika dengan pendekatan saintifik dan pendekatan kontekstual ditinjau dari kemampuan pemecahan masalah matematika siswa kelas VIII SMP. *Jurnal Pendidikan Matematika dan Sains*, 5(2), 1-13.
- Tang, X., Coffey, J. E., Elby, A., & Levin, D. M. (2009). The scientific method and scientific inquiry: Tensions in teaching and learning. *Science Education*, 94(1), 29-47. <https://doi.org/10.1002/sce.20366>.
- Volistiana, R. N., Widodo, A., & Kurniawan, A. (2014). *Uji reliabilitas step test untuk keseimbangan anak usia 5-6 Tahun* (PhD thesis). Surakarta: Universitas Muhammadiyah Surakarta.
- Yulianti, D., Warsiti, & Chrysti, K. (2016). Penerapan model contextual teaching and learning (CTL) dengan metode eksperimen dalam peningkatan pembelajaran IPA siswa kelas IV SD. *Jurnal FKIP UNS*, 4(5), 1717-1722. Retrieved from jurnal.fkip.uns.ac.id.
- Zohrabi, M., Torabi, M. A., & Baybourdiani, P. (2012). Teacher-centered and/or student-centered learning: English language in Iran. *English Language and Literature Studies*, 2(3), 18-30. <https://doi.org/10.5539/ells.v2n3p18>.