



IMPACT OF TEACHING CRITICAL THINKING TASKS FOR ENHANCING PARAGRAPH WRITING PERFORMANCE OF EFL LEARNERS

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ABSTRACT

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Critical thinking tasks can be useful in teaching and learning foreign or second languages, but they can be something innovative for some learning and teaching contexts. Therefore, the aim of this study is to explore how EFL learners behave toward these tasks. 42 non-English majors were recruited for the study. They were divided into two groups: experimental and control. Only the experimental group benefited from the application of critical thinking tasks to writing paragraphs. Both groups were engaged in learning how to write paragraphs in English for 15 weeks. The study mainly employed the pretest, posttest, the questionnaire and six treatment lesson plans to collect data. The result revealed that critical thinking tasks empowered these EFL learners in their paragraph writing. The experimental group had more significant enhancement. The result obtained from the questionnaire also indicated that most of the EFL learners had a positive attitude toward the use of critical thinking tasks supporting their paragraph writing. They also showed their satisfaction when they applied critical thinking tasks in their writing classes. Some implications were given for both language teachers and EFL students about the importance of applying critical thinking tasks to developing and teaching writing. Some recommendations for further research in the future were also discussed.

Contribution/Originality: This study is one of very few studies which have investigated a group of Vietnamese – speaking learners of English by applying critical thinking tasks in paragraph writing. This study attempts to fill the gap in the domain of writing skills, which though emphasized upon linguistic features but deemphasized the critical thinking aspect which positively influences EFL learners in their writing performance.

1. INTRODUCTION

1.1. Background

Writing is another communication skill in addition to oral communication in a language. In speaking, people are assisted with both linguistic and paralinguistic features such as signature sounds, gestures and signs, but writing relies only on linguistic representation. Writing, in this context, can be seen more complicated in terms of getting the message through and thus has to be addressed promptly and appropriately. Currently, many students in Vietnam encounter problems in English writing skills which require immediate action so that they can communicate better through their writing. This study, therefore, attempts to introduce critical thinking tasks of paragraph writing to help them write more reasonably. If Vietnamese students can enhance their writing ability, they will be offered better career opportunities in foreign agencies and institutions as a reasonable level of English proficiency for applying jobs is usually required.

Nunan (2003) considers English proficiency as a criterion for work promotion. Many people use English to communicate, though most of their daily interaction is verbal, a great deal of interaction requires writing, which plays an integral part in our life. It is also convenient for most people to communicate through writing. For example, in order to save energy, time and space, people use text messages and e-mails instead of telephone or in-person communication.

According to Hamed (2012) schools and universities use writing as a criterion to measure academic success, so writing teachers work hard to help their students enhance their English writing skills. Different methods for teaching EFL writing have been proposed by many scholars. In Gorjian, Pazhakh, and Parang (2012)'s study, the researchers wonder: "What are the best ways instructors can motivate and encourage students to discover ideas rather than simply learn them?". Similarly, Elbow (1981) asserts that writing needs critical thinking in choosing words and ideas. Assadi, Davatgar, and Jafari (2013) also observed that critical thinking instructions positively affected students' writing in their experimental group. Hashemi and Zabihi (2012) found that there was a significant effect of critical thinking on students' receptive skills in English language proficiency and that the students can improve the way they express ideas by thinking clearly and systematically.

With regard to achieving globalization in Vietnam, Vietnamese people need to improve English writing proficiency for business, employment and overseas studies. Nonetheless, according to recent test results from the Educational Testing Service (ETS), it is difficult for Vietnamese test-takers to pass the writing skill test because they face many difficulties (Trinh & Nguyen, 2014). One of the reasons for these difficulties is that the quality of English language teaching in Vietnam is low (Van, 2010) especially in teaching EFL writing (Nguyen, 2009). The EFL learners often fail an A2 English level test (Common European Framework) because their writing scores are not satisfactory. They usually tend to memorize model sentences of the same topic and copy these models without careful thought. As can be seen, Vietnam today has a vast number of people who need English to study, work and do research. Therefore, we hope our findings will be positive and that more English learners will feel motivated to apply the critical thinking strategy in their writings, and feel less worried about their writing papers and produce a more succinct language. Furthermore, we hope the results from our study will contribute to develop a positive attitude toward the use of critical thinking tasks in writing.

1.2. Aims and Significance of Research

1.2.1. Research Aims

The aim of the current study was to investigate the impact of critical thinking tasks (CTTs) on EFL learners' paragraph writing performance and examine EFL learners' attitudes towards CTTs in acquiring writing skills.

1.2.2. Significance of the Research

The study will help teachers to decide appropriate instructions for developing EFL learners' writing skills as well as finding solutions for motivating their students to write in English. The significance of this study lies in the fact that CTTs are capable of supporting EFL learners to improve their paragraph writing performance. Furthermore, EFL learners get more opportunities to practice writing English individually with CTTs once they have a positive attitude towards acquiring writing skills with CTTs. The results of the study will further help both teachers and students rethink about the essence of introducing CTTs in paragraph writing and writing in general.

2. LITERATURE REVIEW

2.1. Critical Thinking in Language Education

When students feel confident, they think more effectively and critically. Critical thinking skills also help students to organize their ideas and analyze the topic deeply. Buskist and Irons (2008) confirmed that the learners should see problem-based circumstances as opportunity to apply their critical thinking skills. When learners deal

with critical thinking task, they should know the aim of that task and how they should solve it. Sezer (2008) contended that students who are critical thinkers know how to solve the problem in an active way. Critical thinking will enable students to make an informed evaluation of knowledge, develop skills as independent learners and gradually decrease their reliance on university resources. Integrating critical thinking with current background can lead to creation of new pieces of knowledge.

According to Halvorsen (2005) issues that encourage critical thinking help create a more meaningful and cohesive classroom. Students who feel that they are working together will be more likely to attend classes and will be more involved while they are in class. In this study, the atmosphere of the experimental group was more positive and students' roles changed from passive learners to active ones, participating in class discussions and becoming responsible for their own learning. Ho, Nguyen, Nguyen, Ngo, and Nguyen (2018) believe that developing critical thinking for students is one of the central objectives that schools today need to help students become autonomous citizens in the 21st century. The Vietnamese government has put significant emphasis on the development of critical thinking for students in the new educational program. Importantly, development of critical thinking ought to become independent competence rather than being the sub-set of the creative and problem - solving competence and should be required in all subjects at school.

2.2. The Application of Critical Thinking Tasks in Language Education

In his study of "Task-Based Language Teaching", Nunan (1989) defined a task as "a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is primarily focused on meaning rather than form" (p. 10). According to this definition, learners have to understand the given task and familiarize themselves with the task. The ultimate goal is to help learners complete the task and learning the linguistic features is secondary. Van den Branden (2006) considered a linguistic task as "the activity in which a person engages to attain an objective, and which necessitates the use of language" (p. 4). The implementation of integrating critical thinking tasks in teaching of language skills can be noted as skills that should be taught or introduced to students. Halvorsen (2005) mentioned that critical thinking tasks can help teachers to organize more meaningful activities which facilitate students' improvement. Beaumont (2010) calls a sequence of critical thinking tasks is a flexible framework that acts as a practical tool for planning and developing level-appropriate classroom materials that encourage and advance critical thinking.

For some teachers, critical thinking tasks might come solely in the form of Wh- questions (e.g. What caused the woman's reaction? How are these two characters different?). Beaumont (2010) revealed that critical thinking plays an indispensable role in education. Teachers know the importance of critical thinking, so they work hard to help their students to practice critical thinking in their classrooms. Similarly, Dewey (1933) found that it is necessary for teachers to be thoughtful and conscientious to understand how their students acquire. He saw that "indirect" instruction through careful attention to students' learning is itself a good strategy for working on a critical thinking task. The students also realized the importance and the necessity of critical thinking.

In this context, Beaumont (2010) states that Numrich's sequence of critical thinking tasks provides a framework for teachers who want to integrate critical thinking into their lessons. However, the authors only mention one of his perspectives which focused on the text as it is closely related to writing skills. When focusing on the text, the classroom teacher can have his or students how to summarize, distinguish relevant details, order things (e.g. events), classify things, compare and contrast, and explain cause and effect. These tasks are very useful in teaching writing skills.

Marin and Pava (2017) state that promoting critical thinking tasks (CTTs) in EFL requires teachers to think about teaching beyond grammatical structures and vocabulary, and focus on fostering thinking, creativity, autonomous learning, decision-making and self-evaluation. Likewise, educators should provide opportunities for students to be creative and study in a real communicative environment in which students freely express their points

of view about topics discussed in class. Task-based and project-based activities provide learning environments that foster autonomous learning, active participation, decision-making and reflection on one's own learning process and L2 progress.

2.3. The Role of Critical Thinking in Writing

Developing ideas in writing is one of the biggest challenges that students face. Developing ideas in writing refers to critical thinking – the ability to think clearly and form a judgment. People can learn a lot about someone from their writing. Students who have not learned to think critically often have a hard time developing ideas in writing. Schools and employers put a high value on critical thinking skills. The importance of critical thinking can be seen in standardized tests, such as the SAT with its “Critical Reading”, “Writing and Language” sections. Writing has been used as a strategy by teachers to improve conceptual learning and to help students organize their thoughts. Due to the lack of familiarity with appropriate strategies, a significant number of learners meet difficulties and have become passive in the writing process. Critical thinking is one of the cognitive strategies weaning students' dependency on teachers but helps produce active writing. Nevertheless, critical thinking has not been given sufficient attention by language teachers and researchers.

“Writing and critical thinking are seen as closely linked, and expertise in writing is seen as an indication that students have mastered the cognitive skills required for university work” (Weigle, 2002). Writing is claimed to be a higher form of critical thinking as well as a problem - solving activity where a combination of various skills are tapped. Clearly, writing proficiently necessitates gaining thinking and reasoning skills. Many researchers have attempted to study the impact of critical thinking instruction on specific language skills (e.g. listening, reading, speaking, and writing). Closely related to the project study, Fahim and Mizraii (2014) conducted an experimental study to examine the effects of dialogic CT instruction on Iranian EFL students' argumentative writing. The results of this experiment indicated that “The ability to write argumentatively crucially depends on EFL learners' being equipped with an intellectual capacity for thinking in a critical manner” (Fahim & Mizraii, 2014).

2.4. The Application of Critical Thinking Tasks in Teaching Writing

Recently, some universities have provided introductory units to support students in developing critical thinking skills. According to Ellis (2004) the “strong version of communicative language teaching” can provide the building blocks of task-based instruction. One of those building blocks, critical thinking, was acknowledged as one of the crucial parts of Task-Based instruction; and critical thinking tasks were well received as one of the feasible techniques for improving learners' skills such as writing (Bacha, 2010). Kellogg (2008) stated that thinking is so closely linked to writing which poses significant challenges to our cognitive systems for memory and thinking as well. Indeed, writers can use and assess what they acquire in a long-term memory.

Students' writing performance is affected positively by their critical thinking tasks (Assadi et al., 2013). Indah (2017) found that if one student achieves higher writing performance, he or she will obviously show better reflection on his critical thinking which conditions the writing process to take place easily and more beneficially. Likewise, Khodabakhsh, Jahandar, and Khodabandehlou (2013) comment that prior to writing paragraphs, EFL learners are usually asked to think about the topic in groups and in some cases complete some open-ended sentences. These kinds of tasks can enable the learners to show their own voice and opinion. In some other cases where EFL teachers are asked to teach a piece of writing or answer their peers' questions on the topic, they have to fully understand first themselves by looking at the topic from different perspectives. The learners are asked to discuss the problem - solving tasks with their peers, which can possibly help them to analyze the information and investigate the same topic from different aspects and finally incorporate these views in their writing. Hidayah, Gani, and Ys (2016) found that writing is an activity of communicating ideas effectively by producing correct words and

sentences. Besides, it is necessary for students to improve language acquisition in the process of communicating ideas and critical thinking in writing needs to focus on thoughts and intellectual capacities.

2.5. Six Treatment Lessons that Help EFL Learners to Develop Critical Thinking Skills in Writing Based on the Revised Bloom's Taxonomy

The authors in this current study designed six treatment sections based on these six levels of the revised Bloom's taxonomy because they can instruct EFL learners' cognitive process from lower-order thinking skills to higher-order critical and creative thinking (Noble, 2004). It was observed that teachers believe that Bloom's revised Taxonomy facilitated their students' success. They found that the taxonomy helped them to program tasks at an appropriate level of thinking for different students. They are Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. More details about the six levels of this revised taxonomy are described in Figure 1 which suggests critical thinking tasks require many hierarchies of cognitive process. As seen in the figure, the less demanding level is remembering when learners' job is to remember things they have just learnt. But learning can be like a rote-learning if they cannot understand things they have put in mind. Then the process moves higher when the task asks learners to apply what they have learnt or seen in their own contexts. Still higher is asking learners to analyze things (e.g. looking for similarities and differences). Superior to this is asking learners to use their gained knowledge to evaluate their own task or someone's task based on some certain knowledge or criteria. Finally, the highest level is creating. This is when learners use their gained knowledge to critically create their own one or have their own idea about an issue. Therefore, this depends on the classroom teacher who will decide which hierarchy he or she expects students to require corresponding to students' levels of English proficiency and targeted tasks.

Bloom's Taxonomy (Revised)

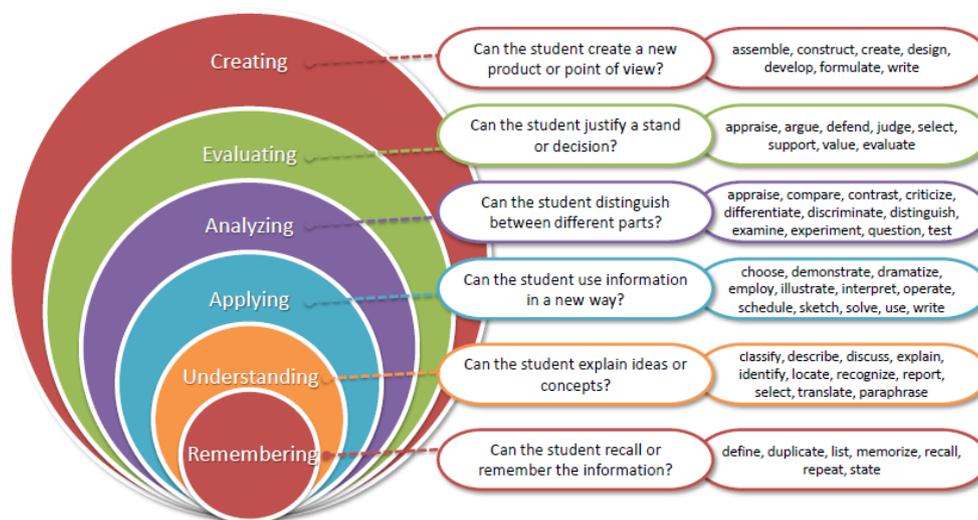


Figure-1. Bloom's taxonomy revised.

Note: Last edited by PCSelemliteracy 7 years ago.

2.6. Related Studies on the Impact of Teaching CTTs to Enhance Paragraph Writing Performance among EFL Learners

Khodabakhsh et al. (2013) conducted a study on the impact of CTTs on paragraph writing ability of Iranian EFL learners. Sixty EFL learners were equally divided into two classes in this study. Academic paragraph writing was taught in both classes, but only EFL learners in the experimental group received special treatment with CTTs. An ANCOVA test was run to analyze the posttest result conducted by the end of the term. A significant difference

between the control and experimental groups was seen. It could be concluded that using CTTs had a positive impact on the paragraph writing ability of Iranian EFL learners.

Miri and Azizi (2018) also attempted to find the effects of teaching critical thinking skills on Iranian EFL learners' essay writing ability. The Preliminary English Test (PET) was conducted to select 60 EFL learners to participate in this study. The participants were randomly divided into the control and experimental groups. Both groups were given pretest essay writing. 10 sessions of writing instruction was administered to both groups. Only the experimental group received additional instruction and practice regarding the techniques of critical thinking. Finally, an essay writing posttest was given to both groups. The researchers employed two raters using TOEFL rating scales to score the pretest and the posttest. Based on the results of the study, the researchers deduced that critical thinking can ameliorate the essay writing ability of EFL learners.

Assadi et al. (2013) investigated the effect of teaching critical thinking on enhancing writing among Iranian EFL learners. The participants of this study were 60 students. The students were divided into two groups and given a pretest writing task (control and experimental). The experimental group received treatment about successful critical thinking strategies and Bloom's taxonomy of thinking skills. Then, both groups received 10 sessions of writing instruction. Both groups were given the posttest writing. The result showed that critical thinking instruction had an effect on the participants' writing performance; the students in the experimental group outperformed those in the control group.

Sham (2016) had a study on "Teaching and Learning ESL Writing by Critical Thinking" to see if critical thinking tasks would help develop writing skills. In a traditional ESL writing class, the students are required to write essays individually after receiving a topic from their teacher. In this study, the researcher instructed the participants to write creatively by applying the taxonomy describing the critical thinking stages. As a result, the participants widened their scope with more fun after brainstorming and bettered their learning outcomes in writing. Although the EFL learners did not know that their critical thinking had been built underlying the procedure of revised Bloom's taxonomy in the first method, most of them enjoyed and benefited from brainstorming and group discussion in IELTS writing, which is apart from the traditional formats. On the other hand, the adult learners agreed that group discussion and brainstorming help foster critical thinking through the hierarchy - Remember, Understand, Apply, Analyze, Evaluate, and Create in the study.

Nguyen (2016) furthermore made an investigation into the implementation of critical thinking in EFL writing educational contexts. In this study, fifty English non-major participants attending the third Basic English at universities in Mekong Delta, Vietnam were introduced to the concept and activities of CT. This study concentrated on analyzing the students' writing attitude and performance affected by CT. The findings showed that students had a positive attitude on writing weekly reflection, an introduction, a survey, and the final part of a story; however telling a story was not their favorite.

In short, all these studies agree that CTTs are an essential tool for EFL learners to improve their writing performance. Importantly, previously related studies about the impact of CTTs on EFL learners' paragraph writing performance are fully documented. The presented literature serves as the theoretical foundation of the current study. The results of these studies reveal that critical thinking tasks have a bright impact on EFL learners' writing ability. Therefore, the researchers of the present study wished to find out whether CTTs helped improve EFL learners' writing performance.

3. RESEARCH METHODOLOGY

3.1. Research questions

- (1) What are the effects of critical thinking tasks on EFL learners' paragraph writing performance?
- (2) What are EFL learners' attitudes toward the use of critical thinking tasks in their paragraph writing performance?

Question 1 aimed to investigate the impact of CTTs on paragraph writing performance of non-English major students sampled for this study. Question 2 attempted to explore these students' attitudes towards the use of critical thinking in their writing. This question is extremely crucial since positive attitude leads to performance of necessary tasks.

3.2. Hypotheses

Based on the previous studies, two hypotheses were proposed for this study:

- (1) Critical thinking tasks can help EFL learners improve their paragraph writing performance.
- (2) EFL learners have a positive attitude towards using critical thinking tasks to acquire writing skills.

3.3. Research Design

This study adopted a mixed method approach, combining quantitative and qualitative design to examine the impact of CTTs on EFL students' paragraph writing performance. A questionnaire was used to explore EFL learners' attitude towards the implementation of using CTTs in learning paragraph writing in each lesson.

The study was conducted with two groups: an experimental group (EX group) and a control group (CON group). Each group had the same pretest at the beginning of the course and the same posttest at the end of the course. During the eight – week period of the study, the EFL learners in experimental and control groups were taught the same writing topics. However, the EFL learners in the experimental group had opportunities to practice critical writing tasks in the pre-writing stage of each writing lesson before they were ready for writing paragraphs. One writing task was given to them each week and writing topics were selected from the prescribed course book and from the A2 exam preparation guide. During the course, the experimental group received six sessions of treatment. Only the experimental group participated in writing English paragraphs with the support of critical thinking tasks. The control group was guided to write paragraphs without the support of critical thinking tasks.

3.4. Participants

The participants chosen for the study were 42 non-English majors, divided into 2 groups: one experimental group (21) and one control group (21). Their English proficiency level was pre-intermediate. Only 42 students were selected as the researchers, first, wanted to focus on one class to ensure the reliability of group unification. For example, what they have taught in their class prior to this study. In this context, these students need to pass the B1 level English test to qualify for college graduation. The teachers focus on the four skills: Listening, Reading, Writing, and Speaking as required in the B1 English examination. Their aim is to help students reach a higher grade rather than acquire language skills. Before taking part in this study, they had finished the A2 level course with 60 hours offered by the university for non-major English students. The EFL course mentioned in this study is of second B1 level which also requires 60 hours out of which writing lessons account for 18 hours. During the first A2 course, the EFL learners are asked to write an 80-word paragraph on a given topic. When they take the B1 course, they are instructed to write a 100-word paragraph on a given topic. Secondly, the researchers thought of feasibility and reliability of carrying out the plan, so 21 experimental students would be enough to implement, explain and check critical thinking tasks in class were hard, so it should be better to choose a small-sized sample. Then, this is testing if critical thinking tasks had an impact on students' paragraph writing performance, so 21 samples allowed researchers to look for improved criteria more carefully.

3.5. Instruments

The research material used in this study was selected from the textbook of Hashemi and Thomas (2010). *Objective Pet* was the paragraph writing lesson used from this textbook. Other supplementary material were also supplied which included some writing topics from the B1 exam preparation course composed by the Schools of

Foreign Languages of the university and CTTs designed by Hughes (2014) and Puchta (2012). These six treatment lesson plans were designed carefully to align with the six levels of Bloom's Revised Taxonomy.

Thus, in this research study, a pretest and a posttest, a questionnaire and six treatment lesson plans were used as main instruments. The two writing tests (pretest, posttest) and the questionnaire were used to collect the data for this study. The writing tests were employed to measure EFL learners' writing performance while the questionnaire was utilized to investigate EFL learners' attitude towards the implementation of CTTs in the writing classroom. The six treatment lesson plans were used to help the participants in the experimental group to apply critical thinking tasks in their examination.

3.5.1 The Writing Tests

A pretest and posttest was used to examine EFL learners' writing performance. The same writing topic of the pretest and posttest was taken from the writing part of the textbook (Objective Pet) mentioned above. This topic was chosen because it was believed to be appropriate to the participants' English proficiency level. The two writing tests shared the task requirements in common and aimed to measure the EFL learners' ability to produce an English paragraph in 50 minutes. After eight weeks of instruction, the posttest was given to the participants.

The paragraph writing rubrics of Oshima and Hogue (2007) was chosen to measure EFL learners' writing Pretest and Posttest. Five components were employed in the marking scales. The total score of the marking scale was 100 in which 5 was awarded for Format, 5 for Punctuation and Mechanics, 20 for Content, 35 for Organization, and 35 for Grammar and Sentence Structures. The researchers chose this scale for scoring as the criteria of the scale were clear with many sub-criteria and easy for rating. To ensure the validity of scoring, the researchers also invited two other teachers to rate the participants' papers. The scores of the pretest and posttest of the two groups were compared to find out how the CTTs affected EFL learners' paragraph writing performance. The mean scores of the pretest and the posttest indicated the degree of the EFL learners' paragraph writing improvement after the intervention. One sample t-Test was conducted to analyze statistically the pretest and the posttest. To assess the significance of this study, a Pair samples t-Test was used to compare the scores of the pretest and posttest.

3.5.2 The Questionnaire

The questionnaire was administered to 21 EFL learners of the experimental group after the final test. The questionnaire was designed and adapted from the work of Fraenkel, Wallen, and Hyun (2011) and Sham (2016). The questionnaire comprised two parts with 55 items in total. The first part (15 items) asked about the demographics of the participants. The second part (40 items) was forty scaled questions based on the five-point Likert scale including (1) = SD (Strongly Disagree), (2) = D (Disagree), 3 = N (Neutral), (4) = A (Agree), (5) = SA (Strongly Agree). 40 items of the second part were categorized into six sections aligned with the six levels of Bloom's revised taxonomy and an overall section. Each section based on Bloom's revised taxonomy consisted of five independent statements. The last section overall contained ten isolated sentences. The questionnaire was written in both English and Vietnamese. The questionnaire was piloted with 20 second-year students to test the reliability of the questions ($\alpha = 0.876$). The primary purpose of the piloting was to ask the participants to check spelling, grammar, punctuation, time spent answering the questionnaire, and to make sure that the items were comprehensible to the actual participants. The questionnaire was also read by an experienced lecturer in the field of research. The questionnaire employed the Descriptive Statistics Test with the hope that they could investigate the effects of CTTs on the EFL learners' writing performance from students' perspectives.

3.5.3. Experimental Treatment Lesson Plans

After the pretest, EFL learners in the experimental group received six treatment lessons using CTTs. Each treatment section lasted 90 minutes and employed six topics. CTTs were delivered in the pre-writing stage of each

treatment lesson to assist the participants in collecting and organizing ideas for their writing tasks. The lesson plans integrating CTTs of the six treatment lessons were designed and developed. The researchers also used the CTTs by Hughes (2014) and Puchta (2012). When designing the six treatment lesson plans, the researchers focused on six principles of Krulatz (2014). First, the lesson was guided by clearly specified objectives. Second, the activities in the lesson followed a logical sequence. Third, the comprehensible input was provided. Fourth, multiple opportunities for communicative practice were conditioned. Fifth, scaffolding and strategies were provided to enable students to maximize their performance. Sixth, ongoing assessment informed lesson design and implementation. The lesson began with solid doses of comprehensible input, stimulated students' schemata and offered appropriate scaffolding to prepare the students for meaningful interaction.

3.6. Research Procedure

The treatment lasted for eight weeks implemented in eight class meetings (100 minutes for each). The procedure of this study included five stages. In the first stage, the researchers delivered pretest to both the groups (control group and experimental group) with their consent. A pretest is to be given to examine students' writing performance before any intervention or experiment; hence no instructions were given to groups. In the second stage, the researchers delivered six treatment sessions based on the six levels of Bloom's revised taxonomy to the experimental group. The third stage was conducted in the eighth week. The researchers gave both groups the posttest. The questionnaire was designed and piloted in the fourth stage. In the fifth stage, the questionnaire was delivered to the EFL learners only to the experimental group one week after taking the posttest. Finally, all data was synthesized for results and discussion.

3.7. Data Analysis Procedures

The quantitative data of the first research question was collected from the two writing tests with a specific writing rubric and which were analyzed using the Statistic Package for the Social Science (SPSS) 22.0 so as to understand the results of the EFL learners' writing performance. The quantitative data of the second research question was captured from the questionnaire after finishing the treatment and was analyzed based on the seven criteria used in paragraph scoring rubric. They included format, punctuations, mechanics, content, organization, grammar, and sentence structures on the seven main parts of the questionnaire.

4. RESULTS

4.1. Effects of CTTs on EFL Learners' Paragraph Writing Performance

A pre-test and a post-test were analyzed to answer the first research question "To what extent do CTTs affect EFL learners' paragraph writing performance?" In this study, firstly, the researchers observed minimum (Min), maximum (Max), mean scores (M), and standard deviation (SD) of the two tests with the Descriptive Statistics Test. Secondly, the mean scores of the two tests between the two groups were compared by running the Independent Sample t-Test. Finally, the Paired Sample t-Test was computed to compare the mean scores of the two tests and of the five deep features within the experimental group before and after the study. The Cronbach's Alpha of the writing tests is $0.824 > 0.6$, which is proved strong to use.

4.1.1. The EFL Learners' Writing Performance between the Two Groups

First, the Descriptive Statistics Test was run to analyze EFL learners' writing performance of the two groups before and after the study. Next, the Independent Samples t-Test was used to compare the mean difference in EFL learners' writing performance between the two groups. The test was performed at the level of .5 as illustrated in Table 1.

Table-1. The EFL learners' writing performance of the two groups before and after the study.

Writing tests	Group	N	Min	Max	Mean	MD	SD
Pre	Control	21	4.2	7.8	5.762	.0238	.9019
	Experimental	21	4.0	7.9	5.738		.9179
Post	Control	21	5.1	7.5	6.119	-.5905	.7393
	Experimental	21	4.5	8.3	6.710		1.0578

In [Table 1](#), the total mean score of EFL learners' writing performance of the experimental group ($M = 5.738$) and that of the control group ($M = 5.762$) were over average in the ten-degree scale. The mean scores of EFL learners' writing performance between the control group and the experimental group ($MD = .0238$) were not significantly different, which proved that the initial level of the EFL learners' writing performance between the two groups before the study was the same ($t = .085$, $df = 40$, $p = .933$) and above average.

It can be seen in [Table 1](#) the mean score of the EFL learners' writing performance of the experimental group ($M = 6.710$) was much higher than that of the control group ($M = 6.119$) after the study. The mean difference ($MD = -.5905$) in the EFL learners' writing performance between the two groups was statistically significant ($t = -2.097$, $df = 40$, $p = .042$). The result of the post-test between the two groups was significantly different; the post-test result of the experimental group was higher than that of the control group. The results indicated the EFL learners in the experimental groups achieved more in their writing performance after the study.

4.1.2. The EFL Learners' Writing Performance within the Two Groups

The Descriptive Statistics Test and the Paired Sample t-Test were run to compare the mean scores of the EFL learners' writing performance within the control group and the experimental group before and after the study as seen in [Table 2](#).

Table-2. The EFL Learners' Writing Performance within the two Groups before and after the Study.

Group	Writing tests	N	Min	Max	M	MD	SD
Control	Pre	21	4.2	7.8	5.762	-.3429	.9019
	Post	21	5.1	7.5	6.119		.7393
Experimental	Pre	21	4.0	7.9	5.738	-.9714	.9179
	Post	21	4.5	8.3	6.710		1.0578

As can be seen in [Table 2](#), the mean scores of the pretest of the control group ($M = 5.762$, $SD = .9019$) and of the experimental group ($M = 5.738$, $SD = .9179$) were observed to be over average in the ten-degree scale. The results from the posttest show that the mean scores of the control group ($M = 6.119$, $SD = .7393$) and the experimental group ($M = 6.710$, $SD = 1.0578$) were above average, and slightly higher than the mean scores of the pretest.

As shown in [Table 2](#), a change in writing performance of EFL learners in the control group after the study can be observed. The mean score of EFL learners' writing performance of the control group after the study ($MeanPostCON = 6.119$) was higher than that of the same group before the study ($MeanPreCON = 5.762$). This mean difference ($MD = -.3429$) was statistically significant ($t = -2.427$, $df = 20$, $p = .025$). The results brought to the conclusion that the participants' writing performance in the control group was enhanced.

[Table 2](#) also shows that EFL learners' writing performance in the experimental group changed after the study. The mean score of EFL learners' writing performance of the experimental group after the study ($MeanPostEX = 6.710$) was higher than that of the same group before the study ($MeanPreEX = 5.738$). This mean difference ($MD = -.9714$) was significantly different ($t = -7.317$, $df = 20$, $p = .000$). It could be concluded that there was a significant enhancement in EFL learners' writing performance in the experimental group after the study. The maximum was also higher, leading to the fact that the students learned better with the treatment. Learners in both groups achieved significant improvement in paragraph writing after the study. The initial level of the EFL

learners' writing performance between the two groups before the study was the same ($t = .085$, $df = 40$, $p = .933$) and over average. However, the post mean scores indicated that the EFL learners in the experimental group (MeanPostEX = 6.710) gained more than those in the Control group (MeanPostCON = 6.119). Thus, it could be concluded that the EFL learners' paragraph writing performance enhanced in the two groups, but the EFL learners in the experimental group appeared to greatly outperform those in the control group.

One sample test was also run to consider whether the mean score of pretests of the control group and the experimental group were different from the test value (5.8) and the mean score of posttests of the control group and the experimental group was different from the test value (6.7). In terms of the pretest, no difference between the mean score of pretests of the two groups and the test value was observed ($t = -.194$, $df = 20$, $p = .848$), ($t = -.309$, $df = 20$, $p = .760$). The mean scores of the pretests of both groups were under the test value of 5.8. In terms of posttests, no difference between the mean score of posttest of the experimental group and the test value was observed ($t = .041$, $df = 20$, $p = .967$). Otherwise, the result also showed that a significant difference between the mean score of the posttest of the control group with the test value was seen ($t = -3.601$, $df = 20$, $p = .002$). In other words, the mean score of the posttest of the experimental group was slightly higher than the test value, but the mean score of the posttest of the control group was much lower than the test value (6.7). To sum up, from these figures, the intervention of the experimental group had a positive impact on the students' writing performance.

4.1.3. EFL Learners' Writing Performance on the Specific Features

An Independent Sample t-Test was run to compare the mean scores of the five specific features between the two groups after the study. Table 3 below illustrates that the mean scores of the EFL learners' writing performance on the five specific features of the experimental group were higher than those of the control group.

As shown in Table 3, the EFL learners' writing performance in the experimental group ($M = 0.443$, $SD = .0507$) in terms of format was very slightly better than that in the control group ($M = 0.414$, $SD = .0573$); $t(21) = -1.711$, $p = .095$. Next, in terms of punctuations and mechanics, the control group ($M = 0.324$, $SD = .0831$) was also slightly lower than the experimental group ($M = 0.381$, $SD = .0680$); $t(21) = -2.439$, $p = 0.19$. In regard with content, the experimental group ($M = 1.414$, $SD = 2.435$) outperformed the control group ($M = 1.233$, $SD = .1932$), $t(21) = -2.688$, $p = 0.11$. Next, regarding to organization, the two groups did not show much difference (Control: $M = 2.119$, $SD = .3473$; Experimental: $M = 2.262$, $SD = .4500$); $t(21) = -1.152$, $p = .256$. Finally, when looking at grammar and sentence structures, the two groups experienced a much difference. While the control reached ($M = 2.029$, $SD = .3408$) the experimental obtained ($M = 2.210$, $SD = .4036$); $t(21) = -1.570$, $p = .124$.

Table-3. Independent Sample t-Test comparisons for the five specific features between the two groups after the study.

Measure	Group	N	M	SD	t	df	p
Format-post	CO	21	.414	.0573	-1.711	40	.095
	EX	21	.443	.0507			
P&M-post	CO	21	.324	.0831	-2.439	40	.019
	EX	21	.381	.0680			
Content-post	CO	21	1.233	.1932	-2.688	40	.011
	EX	21	1.414	.2435			
Organization-post	CO	21	2.119	.3473	-1.152	40	.256
	EX	21	2.262	.4500			
G & SS-post	CO	21	2.029	.3408	-1.570	40	.124
	EX	21	2.210	.4036			

4.1.4. For the Control Group

Table 4 below shows the mean scores in EFL learners' writing performance of all of the five specific features in the control group. The difference between the mean scores on the two specific features of writing tests in terms of Format (Pretest: $M = 0.386$, $SD = .727$ and Posttest = 0.414, $SD = .057$; $t(21) = -2.828$, $p = .010$), Grammar and Sentence

Structure (Pretest: $M=1.887$, $SD=.369$ and Posttest: $M=2.039$, $SD=.332$; $t(21)=-2.779$, $p=.011$) before and after the study was observed. In other words, the mean scores on specific features of EFL learners' writing performance after the study were statistically different except the mean scores in *Punctuation and Mechanics* (Pretest: $M=0.314$, $SD=.0727$ and Post: $M=0.324$, $SD=.0995$; $t(21)=-0.698$, $p=.493$), *Content* (Pretest: $M=1.148$, $SD=.254$ and Posttest: $M=1.233$, $SD=.193$; $t(21)=-1.888$, $p=.074$), and *Organization* (Pretest: $M=2.019$, $SD=.400$ and Posttest: $M=2.119$, $SD=.351$; $t(21)=-1.328$, $p=.199$). Of the five features, the EFL learners in the control group made significant progress in *Format* and *Grammar & Sentence Structure* while *Content* witnessed a very slight change. Similarly, the EFL learners did not improve their *Organization*, *Punctuation and Mechanics* after the study. In summary, although the five features in the control group were found higher, only *Format* and *Grammar and Sentence Structure* experienced great progress.

Table-4. Descriptive statistics of five specific features in controlled group

Features	Test	N	Minimum	Maximum	Mean	Std. Deviation	t	df	p
Format	Pretest	21	.3	.5	.386	.727	-2.828	20	.010
	Posttest	21	.3	.5	.414	.057			
Punctuation and Mechanics	Pretest	21	.2	.4	.314	.0727	-0.698	20	.493
	Posttest	21	.1	.4	.324	.0995			
Content	Pretest	21	.8	1.5	1.148	.254	-1.888	20	.074
	Posttest	21	.9	1.6	1.233	.193			
Organization	Pretest	21	1.2	2.8	2.019	.400	-1.328	20	.199
	Posttest	21	1.4	3.1	2.119	.351			
Grammar and Sentence Structure	Pretest	21	1.4	2.6	1.887	.369	-2.779	20	.011
	Posttest	21	1.3	2.8	2.039	.332			

4.1.5. For the Experimental Group

Table 5 below shows the mean scores in EFL learners' writing performance of the five specific features in the experimental group. All the mean scores of the five categories including *Format* (pretest: $M=0.39$, $SD=.0625$ and posttest: $M=0.443$, $SD=.0507$; $t(21)=-4.690$, $p=.000$), *Content* (pretest: $M=1.176$, $SD=.2567$ and posttest $M=1.414$, $SD=.2435$; $t(21)=-5.713$, $p=.000$), *Punctuation & Mechanics* (pretest: $M=0.348$, $SD=.0873$ and posttest: $M=0.381$, $SD=.68$; $t(21)=-2.320$, $p=.031$), *Organization* (pretest: $M=1.862$, $SD=.4068$ and posttest: $M=2.262$, $SD=.45$; $t(21)=-5.104$, $p=.000$), *Grammar & Sentence Structure* (pretest: $M=1.962$, $SD=.3278$ and posttest: $M=2.21$, $SD=.4036$; $t(21)=-4.995$, $p=.000$) illustrated significant gains in EFL learners' writing performance.

As can be seen from Table 5, the difference between the mean scores of the five specific features of writing in terms of *Format*, *Content*, *Organization*, and *Grammar & Sentence Structure* before and after the research was observed. In other words, the mean scores on the specific features of the EFL learners' writing performance after the treatment were statistically different. Of the five specific features, the EFL learners in the experimental group made drastic progress. In other words, EFL's performance in the experimental group was much improved after the intervention.

Table-5. Paired Sample Test of five specific features in Experimental Group

Feature	Test	N	Mean	SD	t	df	p
Format	Pretest	21	.39	.0625	-4.690	20	.000
	Posttest	21	.443	.0507			
Punctuation and Mechanics	Pretest	21	.348	.0873	-2.320	20	.031
	Posttest	21	.381	.068			
Content	Pretest	21	1.176	.2567	-5.713	20	.000
	Posttest	21	1.414	.2435			
Organization	Pretest	21	1.862	.4068	-5.104	20	.000
	Posttest	21	2.262	.45			
Grammar and Sentence Structure	Pretest	21	1.962	.3278	-4.995	20	.000
	Posttest	21	2.21	.4036			

4.2. The EFL Learners' Attitude toward Using CTTs in Learning Writing

The questionnaire aimed at finding the participants' attitude towards using CTTs in acquiring writing. The Cronbach's Alpha of the questionnaire is $0.943 > 0.6$, proving strong to use. The participants' responses focused on the three main groups : (1) the EFL learners' attitude towards the effects of CTTs following the six levels of Bloom's revised taxonomy on EFL learners' writing performance, (2) the EFL learners' attitude towards the usefulness of CTTs assisting writing performance, (3) the EFL learners' self – reported achievement on writing performance after practicing CTTs. The Descriptive Statistics was run on the 40 scale questions in the questionnaire to observe these three main groups. In Table 6, the mean score according to each group is also calculated.

Table-6. Mean score of 3 groups clusters.

	Group 1	Group 2	Group 3
Mean scores	4.16 / 5	4.19 / 5	4.19 / 5

As can be seen in Table 6 above, the mean scores of the three groups were over 4.0 in the five-point Likert scale, showing that the EFL learners have positive attitudes toward using CTTs in learning writing. Moreover, EFL learners are aware of the usefulness of CTTs assisting their writing performance. Last but not least, the EFL learners also confirmed that CTTs contributed to their achievement in writing ability.

4.2.1. The EFL Learners' Attitude towards the Effects of CTTs Following the Six Levels of Bloom's Revised Taxonomy on EFL Learners' Writing Performance

Based on the result of the Descriptive Statistic of the first 30 scale questions in group 1, the researchers noted the EFL learners' paragraph writing improvement by using CTTs in terms of the EFL learners' evaluation. The number of the experimental participants was 21, as a vast majority of EFL learners strongly agree (maxi: 5), agree (mini: 4), or neither agree nor disagree (mini:3) that they had gone through the hierarchy including Remember (Questions (Qs) 1-5), Understand (Qs 6-10), Apply (Qs 11-15), Analyze (Qs 16-20), Evaluate (Qs 21-25), and Create (Qs 26-30) in revised Bloom's Taxonomy.

As can be seen from Table 7, while the means were all above 4.0, which were extremely high, it is significant that they confirmed every step in reasoning the disciplined manner of thoughts in the whole critical thinking process in writing. It is clear that the EFL learners recall, restate and/or relay information (Q1. M = 4.143) from their memory in the first stage of Remembering.

Table-7. Descriptive Statistics (N=21; Min 3.0; Max 5.0)

	Mean	Std. Deviation
Q 1: After watching the photo (your classmate's favorite picture), I can ask questions regarding the topic "Write about your favorite photo".	4.143	.7270
Q 2: By answering Wh-questions about the photo, I first recall, restate and/or relay information for writing.	4.190	.6016
Q 3: I like CTTs and answering sub-questions related to the topic because it helps me think with critical thinking more deeply.	4.143	.5732
Q 4: I have learned from the mistakes and comments of the previous writing tasks.	4.381	.5896
Q5: CTTs helps me practice simple cognitive skills such as observing and recalling information; knowledge of dates, events, locations; knowledge of the main idea; master the problem.	4.143	.5732
Q 6: Through CTTs "Developing a critical mindset" (Hughes, 2014) I was instructed in a number of languages to express my ideas and agree in class discussions. Then I can think critically about the topics I meet later.	4.095	.6249
Q 7: Through CTTs "Opinion and reason generator" (Hughes, 2014) I learned how to use the conjunction "because" to talk about my views and present the reason support the viewpoint in the sentence.	4.143	.4781
Q 8: Through CTs "Big Paper - Building a silent conversation" (Watanabe-Crockett, 2016) each group created a silent conversation by writing information in a driving question on the group's paper. This CTT helps me to train the concentration of thinking, remembering, understanding deeply and explaining a problem.	4.143	.7270
Q 9: Through group discussion, you understand the task from different views.	4.333	.5774
Q 10: CTTs help me to have the ability to interpret the writing task, compare, contrast, infer causes and predict consequences.	4.143	.3586
Q 11: CTTs "Is there a cause-effect relation in the following?" (Puchta, 2012) requires me to deduce consciousness by looking deeply into the specific situation, considering possible influences. Therefore, it helps me to improve the coherence in the writing task and express the ideas more interestingly.	4.143	.7270
Q 12: CTTs "Making connections between topics" (Hughes, 2014) helps me know to find ideas for new topics by relating to topics taught and use more relevant words for my writing tasks.	4.143	.7928
Q 13: I am able to employ the previously learned formats, information, and order in the present paragraph writing)	4.095	.5390
Q 14: When I think critically, I can use strategies, concepts, and theories to encounter a given situation.	4.190	.5118
Q 15: The knowledge from recall and understanding can be applied to the present task.	4.333	.4830
Q 16: CTTs "Identifying main arguments and supporting evidence" (Hughes, 2014) helps me to identify the main argument and supporting evidence in the paragraph. Hence, it helps me write to write the English paragraph more convincingly.	4.143	.5732
Q 17: CTTs "Identifying the main arguments and supporting evidence" (Hughes, 2014) also helps me to identify the discourse markers used to structure a paragraph. Since it helped me to use the correct discourse markers in my English text.	4.095	.6249
Q 18: CTTs "Find the expression" (Hughes, 2014) helps me to analyze the structure of a text. Since it helps to write the text in English with a clearer layout.	4.190	.5118
Q 19: CTTs "Identify the invalid conclusions and say why they are invalid" (Puchta, 2012) helps me to write an appropriate conclusion so that I can increase cohesion for my writing paper.	4.143	.4781
Q 20: I can write an English paragraph with evidence for my viewpoint.	4.143	.7270
Q 21: Two CTTs "Label each statement with Fact, Wrong or Opinion" (Puchta, 2012) and "Vague or accurate" (Hughes, 2014) help me identify whether the language in the English text is the fact or the writer's opinion, vague or accurate. Since they help me to select appropriate information to create reliability for my writing task.	4.190	.6016
Q 22: CTTs "Stance" (Hughes, 2014) helps me to have awareness about the importance of stance in my writing paper because a person's stance or position on a topic can greatly change the way they write or speak about it.	4.190	.5118
Q 23: Concerning an argument, I list the pros and cons in order to have a balance between both sides.	4.095	.6249
Q 24: In making judgments, you set up criteria for the defense of different views.	4.095	.7003
Q 25: I can make choices through evaluation based on the reasoned argument in group discussion.	4.286	.5606
Q 26: CTTs "Reading between lines" (Hughes, 2014) requires me to make the sentences positive by replacing the word in bold with a word in the box which has a similar denotation but a positive connotation. These CTTs helps me to know how to choose the appropriate words for my own writing purpose.	4.095	.6249
Q 27: CTTs "Change the sentences so they make sense" (Puchta, 2012) help me to recognize the meaningless sentences even though they are grammatically correct, therefore I know how to write sentences that make sense.	4.095	.6249
Q 28: CTTs "Divergent thinking - How many answers can you find?" (Puchta, 2012) can develop my divergent thinking that is the ability to think "outside the box" so that I can find many ideas for better writing papers.	4.095	.6249
Q 29: I am able to put the elements together when they think critically.	4.143	.7270
Q 30: I can create and hand in an original product finally in the ultimate stage of Creating.	4.048	.8646

In this lower order thinking skill hierarchy, the students were familiar with simple cognitive skills including observation and recall of information, knowledge of dates, events, places, major ideas and mastery of subject matter. Then the EFL learners interpret, discuss, compare and contrast to understand the writing task in the second level of Understanding. Most of the EFL learners (Q9 M = 4.333) strongly consented that they understand the task from different views through group discussion and brainstorming in the level of Understanding, and their critical thinking was fostered and their writing was enhanced overall; whereas just a small number (Q.3. M = 4.143) consented that they have the ability to interpret the writing task, infer causes and predict consequences (Q.5. M = 4.143) in the stage of Understanding.

From CTTs presented in this stage, EFL learners also transferred knowledge into a new context (Q.6. M = 4.095). Furthermore, the EFL learners employed the recalled information using strategies, concepts and principles and theories in a new given situation through brainstorming in the third level of Applying. In this stage, the EFL learners can use strategies, concepts, and theories to solve a given problem (Q.14. M = 4.190). Furthermore, they could find ideas for a new topic by relating the new topic to the given one (Q.7. M = 4.143).

Especially, EFL learners could use the knowledge from recall and understanding to apply for the present task (Q.15. M = 4.333). After practicing CTTs in the Analyzing stage, EFL learners could analyze the structure of a text (Q.2. M = 4.190); analyze a text with argument and supporting pieces of evidence in it (Q10. M=4.143), and dissect information to explore understandings and relationships. From CTTs in this stage, the EFL learners could identify discourse markers used to structure a paragraph (Q.14. M = 4.095), as well as write an appropriate conclusion (Q.11. M = 4.143) so that they could increase cohesion for their writing paper. Through debating pros and cons from different views (Q.13 M = 4.095), the EFL learners made judgments in the stage of Evaluating. After practicing CTTs, the EFL learners could make decisions based on in-depth reflection, criticism, and assessment. Through these tasks, the EFL learners could contrast fact with the writer's opinion (Q.18. M = 4.190) so that they could use the appropriate language they needed to express their opinion on their own writing. The EFL learners also know the importance of using accurate and detailed language in academic writing (Q.21. M = 4.190). Moreover, the EFL learners could be aware of the importance of stance in their writing papers so that they could have deep critical thinking about their viewpoint when they wrote about a topic (Q.22. M = 4.190). The EFL learners could generate new products, ideas or demonstrate new ways of viewing things in the Creating stage. Through CTTs, the EFL learners could identify connotation and denotation so that they knew how to choose appropriate words for their own purpose of writing (Q.6. M = 4.095). The EFL learners could use their logical thinking to write sentences that made sense (Q.28. M = 4.095). Besides, the EFL learners could develop their divergent thinking, an ability to think "outside the box", so they could find many ideas for their writing papers (Q.17. M = 4.095). However, a very small number of the participants, one or two, disagree (mini: 2) that they could create and hand in an original product in the ultimate stage of Creating (Q30. M=4.048). Finally, the farthest distance of the individual numeral from the mean is (Q30. SD = .8646) that they could create and hand in an original writing product at the last step in the level of creating again, but the closest is (Q.10. SD = .3586) that they had an ability to interpret the writing task in the stage of Understanding.

4.2.2. The EFL Learners' Attitude towards the Usefulness of CTTs Assisting EFL Learners' Writing Performance

The results of the Descriptive Statistics of the next 5 scale questions in group 2 depict the advantages of CTTs in improving EFL learners' writing performance [Table 8](#).

Table-8. Descriptive Statistics (N=21; Min 3.0; Max 5.0).

	Mean	Std. Deviation
Q 31: CTTs make developing English writing in the classroom easier and more interesting.	4.190	.6016
Q 32: CTTs make me feel more motivated to develop writing.	4.333	.5774
Q 33: CTTs help me write English paragraphs more creative.	4.095	.6249
Q 34: I like CTTs presented in this course because they help me to a write better paragraph in English.	4.143	.5732
Q 35: CTTs help me to establish and improve my critical thinking when I write English text.	4.238	.7003

Questions from 31 to 35 asked EFL students about their attitude toward using CTTs in their writing and Table 8 above illustrates their results. The mean score of up to 4,190 (Std.= 6016) for Q31 means that EFL learners like CTTs presented in this course because CTTs make learning English writing easier and more interesting. Q32 had M= 4,333; Std. = .5774, meaning that EFL learners agreed that CTTs help them feel motivated to write. Q33 (M=4,095; Std. = ,6249) showed that CTTs not only help them to establish and improve their critical thinking when they write English text but also help them to write English paragraphs more creatively. Q34 with M= 4,143; Std.=,5732 revealed that they preferred the classroom teacher using CTTs in their writing class and finally, Q35 with M=4,238; Std.=,7003 was also a positive sign to prove that CTTs help them build their critical thinking which was enhanced gradually through writing.

4.2.3. The EFL Learners' Self-Reported Achievement on their Writing Performance after Practicing CTTs

The results of the Descriptive Statistics of the last 5 scale questions Q No 36 to 40 Table 9 in group 3 show that CTTs contribute to EFL learners' achievement in writing ability. The quantitative results of the EFL learners' questionnaire also unveiled a good achievement towards CTTs, which re-emphasized the effectiveness of CTTs to EFL learners. The following Table 9 shows the EFL learners' attitude on achievement when using CTTs.

Table-9. Descriptive Statistics (N=21; Min 3.0; Max 5.0)

	Mean	Std. Deviation
Q 36: I understand the concept of the CTTs totally.	4.143	.5732
Q 37: I now find myself capable of developing ideas for a certain topic related to CT.	4.238	.5390
Q 38: After being instructed to practice CTTs, I am able to present more coherently when writing English texts.	4.238	.5390
Q 39: I can think and present clearly and reasonably about a subject matter when I think critically.	4.190	.7496
Q 40: I will continue using CTTs in future writing tests as well as applying them in other skills (Listening, Speaking, Reading) if applicable.	4.190	.5118

When EFL students were asked to report on their achievement in using CTTs in their writing class, they tended to give positive responses (All questions with the mean score over 4.0) to all questions. This report contained 5 questions. Q36 received the mean score of 4,143 with its standard deviation of .5732, meaning that EFL students were confident to concept of CTTs. Then Q37 with M=4.238; Std.=.5390 demonstrated that EFL students were proficient at using CTTs for familiar topics, so they could write critically when they were assigned to write paragraphs about such topics. Q38 (M=4; Std.=5390) unveiled that EFL students could write their paragraphs more coherently, sticking to the same topic after receiving the training of using CTTs. Q39 also had a mean score of 4,190 with its standard deviation of ,7496, indicating that EFL students could provide clear reasoning ideas throughout the paragraph. Finally, Q40 had the same mean score as Q39, with a slight difference in the standard

deviation (Std.=,5118) supported that EFL students had preference for CTTs in their class and expected to apply such tasks in other skills.

5. DISCUSSION, CONCLUSION, AND PEDAGOGICAL IMPLICATIONS

5.1. Discussion

This section discusses the findings of the current study based on the two research questions: (1) *What are the effects of critical thinking tasks on EFL learners' paragraph writing performance?* (2) *What are EFL learners' attitudes toward the use of critical thinking tasks on their paragraph writing performance?*

The results of the first research question are aligned with those of many of the previous researchers. Khodabakhsh et al. (2013); Miri and Azizi (2018); Assadi et al. (2013); Sham (2016) and Nguyen (2016) who agree that using CTTs has a positive impact on EFL learners' writing ability because CTTs are an essential tool for EFL learners to improve their writing performance. The current study indicated that the two groups gained their English paragraph writing performance, however, the experimental group had more significant enhancement – the mean scores for paragraph writing performance gain in the two groups before and after the intervention were (M = 5.7, M = 6.7) for the experimental group and (M = 5.7, M = 6.1) for the control group. These results showed that the participants in the experimental group outperformed the control group.

The results of the present study also revealed a statistically significant difference of EFL learners' writing performance within and between the two groups. EFL learners' writing performance of the experimental group in terms of Content and Punctuation & Mechanics was better than that in the control group while no difference of the EFL learners' writing performance on the other specific features in terms of Format, Organization, and Grammar & Sentence Structure between the two groups was observed. Of the five features, the EFL learners in the experimental group made big progress in all the five specific features used in this study EFL learners in the control group made progress only in Format and Grammar & Sentence Structure, and underwent a very slight change in Content and Organization. In other words, the EFL's performance in the experimental group gains much after the intervention.

With regard to the second research question, it was found that the participants advocated the use of critical thinking tasks in writing and this supported other previous findings. According to Sham (2016) the adult learners agreed that group discussion and brainstorming help bloom critical thinking through the hierarchy - Remember, Understand, Apply, Analyze, Evaluate, and Create. Although the ESL learners did not know that their critical thinking had been built underlying the procedure of the revised Bloom's taxonomy in the first method, most of them enjoyed and benefited from brainstorming and group discussion in IELTS writing.

Moreover, the findings of Nguyen (2016) indicate that the EFL learners showed a quite positive attitude towards CT in writing. The most favorite is weekly reflection about issues in their student's life or their family; the second is writing an introduction about their family or their boarding room or their hometown; the third is a survey about their opinion about their life – partner; the fourth is writing the final part of a story, but the two least favorites are giving an advice to their classmate and making a booklet about their own introduction and a story with their comments. Obviously, the basic and easy levels of CT tasks are preferred to the complex ones.

Based on the research data analysis, it is concluded that critical thinking tasks helped EFL learners improve their paragraph writing performance. The questionnaire's results also indicate that most of the EFL learners had a positive attitude towards the use of critical thinking tasks on powering their paragraph writing. They also expressed their satisfaction with using CTTs in their developing writing. After the intervention, the EFL learners understand the concept of critical thinking totally, and they could find themselves capable of developing ideas for a certain topic related to CT. They also reported that they became faster in generating, organizing ideas for their writing. After being instructed to practice CTTs, they were able to present their writing more coherently.

5.2. Conclusion

The current study was designed to examine the impact of teaching CTTs on enhancing the EFL learners' paragraph writing performance and their attitudes towards using CTTs in acquiring writing. The findings of the study revealed that the EFL learners in the experimental group significantly improved their writing performance on specific features after the intervention program while in the control group the EFL learners' writing performance on specific features was not significantly different. In other words, CTTs affected the EFL learners' writing performance in terms of Content and Punctuation & Mechanics. At the beginning of the study when the participants were told about the concept of critical thinking explicitly, they found it really interesting and soon started to expand their ideas to their daily lives. Later they not only became faster in generating, organizing ideas for their writing papers but also were able to present a more coherent writing text. Moreover, they could think and present their ideas more clearly and reasonably about a subject matter when they began to think critically. It is suggested that the EFL learners continue using the CTTs in their future writing tests as well as applying them in other English language skills. In short, CTTs provided benefits to EFL learners' writing performance and EFL learners had a positive attitude towards CTTs.

5.3. Pedagogical Implications

In light of the mentioned findings, the following implications in terms of EFL teaching are given to teachers. First, using CTTs in an EFL classroom does improve writing performance of EFL learners. Since critical thinking techniques are teachable and learnable, EFL teachers should help their students to improve their critical thinking ability. Second, EFL teachers would need to change their attitude toward teaching writing. They should design tasks that require students to think depending on their English proficiency and lesson goals. If the goal of the task is to complete the task, then the teacher should prioritize this and look for improvement of students' linguistic aspects secondarily. Linguistic requirement for the task can matter, so the teacher should use the instruction and required content of task simply and clearly if their English is still limited. Only when the teacher is aware of these things, the application of CTTs can be optimal. Finally, in all different learning situations in general and EFL learning in particular, efforts should be made to create a positive and stress-free atmosphere in which learners can easily express themselves and comfortably talk to their teacher and peers as such classroom can foster the use of critical thinking tasks more easily and effectively.

6. LIMITATIONS AND RECOMMENDATIONS

6.1. Limitations

The first limitation of the study was the small sample size (42 participants were divided equally into the control group and the experimental group). A larger sample may have yielded more persuasive results. In addition, although the majority of the EFL learners had positive feedback on using critical thinking tasks in developing writing, some of the participants made some writing mistakes that they had not made before the study. Therefore, if they had been given more practice, such practice would have given them an opportunity to correct their partners' errors. Finally, since the participants involved in this study were pre - intermediate level, having been exposed to English for about seven years, the results cannot be generalized to other population such as Beginners. Therefore, it was not possible to measure the impacts of CTTs on EFL learners' paragraph writing given to EFL learners before they developed mentally ready for it.

6.2. Recommendations

Though some positive findings were identified in this study about the impact of critical thinking tasks on EFL learners' paragraph writing performance, more research is recommended to further investigate this area. These include participants' gender and age groups, and other language skills. Since the participants of this study were all

adult EFL learners who were studying in a college; further studies can be done with participants of other age groups, for instance, young learners or teenagers to analyze the impact of using CTTs on their language learning. Moreover, as the participants were selected with mixed-gender classes, the results might not be generalizable to other categories. In this study mixed gender participants were under investigation; therefore, further research needs to be done with groups of male or female participants. In this particular study, the impact of CTTs on EFL learners' paragraph writing performance was investigated with time restriction of instruction and the participants' limited English proficiency. However, further research is needed to investigate the impact of using CTTs on other forms of writing, namely, essay writing or other types of academic writing such as argumentative writing and or cause and effect writing.

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REFERENCES

- Assadi, N., Davatgar, H., & Jafari, P. (2013). The effect of critical thinking on enhancing writing among Iranian EFL learners. *International Journal of Scientific & Engineering Research*, 4(3), 1-7.
- Bacha, N. N. (2010). Teaching the academic argument in a university EFL environment. *Journal of English for Academic Purposes*, 9(3), 229-241. Available at: <https://doi.org/10.1016/j.jeap.2010.05.001>.
- Beaumont, J. (2010). A sequence of critical thinking tasks. *TESOL Journal*, 1(4), 427-448.
- Buskist, W., & Irons, J. G. (2008). Simple strategies for teaching your students to think critically. In D. S. Dunn, J. S. Halonen & R. A. Smith (Ed.), *Teaching critical thinking in Psychology* (pp. 49-57): Blackwell Publishing Ltd.
- Dewey, J. (1933). *How we think*. Chicago: Henry Regnery.
- Elbow, P. (1981). *Writing with power: Techniques for mastering the writing process*. New York: Oxford University Press.
- Ellis, R. (2004). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Fahim, M., & Mizraii, M. (2014). Improving EFL argumentative writing: A dialogic critical thinking approach. *International Journal of Research Studies in Language Learning*, 3(1), 3-20.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2011). *How to design and evaluate research in education*. New York: McGraw-Hill Humanities/Social Sciences/Languages.
- Gorjian, B., Pazhakh, A., & Parang, K. (2012). An investigation on the effect of critical thinking (CT) instructions on Iranian EFL learners' descriptive writing: A case of gender study. *Advances in Asian Social Science*, 1(1), 114-118.
- Halvorsen, A. (2005). Incorporating critical thinking skills development into EFL/EFL courses. *The Internet TESL Journal*, 11(3), 1-2.
- Hamed, J. J. (2012). The effect of peer reviewing on writing apprehension and essay writing ability of perspective EFL teachers. *Australian Journal of Teacher Education*, 37(11), 60-84.
- Hashemi, M. R., & Zabihi, R. (2012). Does critical thinking enhance EFL learners' receptive skills? *Journal of Language Teaching & Research*, 3(1), 172-179.
- Hashemi, L., & Thomas, B. (2010). *Cambridge English – objective pet* (2nd ed.). United Kingdom: Cambridge University Press.
- Hidayah, T., Gani, S. A., & Ys, S. B. (2016). *Improving the students' ability in writing descriptive paragraphs by using questioning technique*. Paper presented at the Proceedings of English Education International Conference.
- Ho, T. N., Nguyen, T. L., Nguyen, T. T., Ngo, V. T. H., & Nguyen, T. T. (2018). The development of critical thinking for students in vietnamese schools: From policies to practices. *American Journal of Educational Research*, 6(5), 431-435. Available at: <https://doi.org/10.12691/education-6-5-10>.
- Hughes, C. (2014). Theory of Knowledge aims, objectives and assessment criteria: An analysis of critical thinking descriptors. *Journal of Research in International Education*, 13(1), 30-45. Available at: <https://doi.org/10.1177/1475240914528084>.

- Indah, R. N. (2017). Critical thinking, writing performance and topic familiarity of Indonesian EFL learners. *Journal of Language Teaching and Research*, 8(2), 229-236. Available at: <https://doi.org/10.17507/jltr.0802.04>.
- Kellogg, R. T. (2008). Training writing skills: A cognitive developmental perspective. *Journal of Writing Research*, 1(1), 1-26.
- Khodabakhsh, S., Jahandar, S., & Khodabandehlou, M. (2013). The impact of CTT on paragraph writing ability of Iranian EFL learners. *Indian Journal of Fundamental and Applied Life Sciences*, 3(3), 639-648.
- Krulatz, A. (2014). Teaching Norwegian to beginners: Six principles to guide lesson planning. *Journal of the National Council of Less Commonly Taught Languages*, 15(Spring), 1-14.
- Marin, M. A., & Pava, L. (2017). Conceptions of critical thinking from university EFL teachers. *English Language Teaching*, 10(7), 78-88. Available at: <https://doi.org/10.5539/elt.v10n7p78>.
- Miri, F., & Azizi, D. B. (2018). The effect of teaching critical thinking on Iranian EFL learners' essay writing. *Theory and Practice in Language Studies*, 8(5), 509-515. Available at: <https://doi.org/10.17507/tpls.0805.08>.
- Nguyen, T. H. H. (2009). Teaching EFL writing in vietnam: Problems and solutions – a discussion from the outlook of applied linguistics. *VNU Journal of Science*, 25(1), 61-66.
- Nguyen, T. K. (2016). Critical thinking's effect on vietnamese students' writing attitude and performance: Action research. *IORES Journal of Research & Method in Education*, 6(6), 38-43.
- Noble, T. (2004). Integrating the revised bloom's taxonomy with multiple intelligences: A planning tool for curriculum differentiation. *Teachers College Record*, 106(1), 193-211. Available at: <https://doi.org/10.1111/j.1467-9620.2004.00328.x>.
- Nunan, D. (1989). *Designing tasks for the communicative classroom*. Cambridge, UK: Cambridge University Press.
- Nunan, D. (2003). The impact of English as a global language on educational policies and practices in the Asia-Pacific region. *TESOL Quarterly*, 37(4), 589-613.
- Oshima, A., & Hogue, A. (2007). *Introduction to academic writing* (3rd ed.). New York: USA: Pearson Education.
- Puchta, H. (2012). Developing thinking skills in the young learners' classroom. Retrieved from: http://www.herbertpuchta.com/wp-content/files_mf/1337014114YL_Thinking_booklet.pdf.
- Puchta, P. (2012). Developing critical thinking skills. Retrieved from: http://www.herbertpuchta.com/wp-content/files_mf/1348160864Criticalthinking20Sept.pdf. [Accessed 12 May 2018].
- Sezer, R. (2008). Integration of critical thinking skill into elementary school. *Teacher Education*, 128(3), 349-363.
- Sham, D. P. L. (2016). Teaching and learning ESL writing by critical thinking. *American Journal of Education Research*, 4(12), 854-860.
- Trinh, Q. L., & Nguyen, N. T. (2014). Enhancing Vietnamese learners' ability in writing argumentative essays. *Journal of Asia TEFL*, 11(2), 63-91.
- Van den Branden, K. (2006). Introduction: Task-based language teaching in a nutshell. In K. Van den Branden (Ed.), *Task-based language education: From theory to practice* (pp. 1-16). Cambridge, UK: Cambridge University Press.
- Van, V. H. (2010). The current situation and issues of the teaching of English in Vietnam. *Research Gate*, 1-12.
- Watanabe-Crockett, L. (2016). 10 great critical thinking activities that engage your students. Retrieved from: <https://www.wabisabilearning.com/blog/10-great-critical-thinking-activities-that-engage-your-students>. [Accessed 12 January 2020].
- Weigle, S. C. (2002). *Assessing writing* (1st ed.). New York: Cambridge University Press.

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