

Students' Critical Thinking on Argumentative Essay Writing through Cooperative Learning

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Abstract: Carried on in non-English major freshman students setting, this study aims to examine how critical thinking skills can be developed through cooperative learning in their argumentative essay writing. An experimental group (n=20) and a control group (n=20) were randomly set up, the students were pre-tested and post-tested to see if there is a significant difference in their assigned essay through the Illinois Critical Thinking Essay Scoring Rubric. The implementation of critical thinking rubrics was carried out by 1) supporting students in cooperation, 2) offering the objective 3) fostering students to develop their ideas in writing. The Paired Sample T-test was used to calculate the difference between the pre-and post-test results. Results confirmed that in the Paired Sample t-test, the mean score (-5000) of the experimental group is statistically higher than the mean of the control group's (-3900). It indicates that the implementation of the critical thinking strategy effectively develops and promotes students' critical thinking skills in argumentative essay writing. Through the implementation of five key elements of critical thinking by Sadeghi (2012), students were more open-minded, tolerant, objective, honest and concise, respecting others, and interpreting situations differently. The research offered a different perspective on developing students' critical thinking strategy use by focusing on longer periods of research and the larger number of participants and also implied the integration of critical thinking scoring rubric and argumentative essay skill performance for future research.

Keywords: Cooperative Learning; Critical Thinking; Argumentative Essay Writing

Abstrak: Dilakukan di lingkungan mahasiswa baru jurusan selain Bahasa Inggris, penelitian ini bertujuan untuk menguji bagaimana keterampilan berpikir kritis dapat dikembangkan melalui pembelajaran kooperatif dalam penulisan esai argumentatif mereka. Sebuah kelompok eksperimen (n=20) dan kelompok kontrol (n=20) secara acak dibentuk, para siswa pra-tes dan pasca-tes untuk melihat apakah ada perbedaan yang signifikan dalam esai mereka ditugaskan melalui Essay Berpikir Kritis Illinois Rubrik Penilaian. Pelaksanaan rubrik berpikir kritis dilakukan dengan cara 1) mendukung siswa dalam bekerjasama, 2) menawarkan tujuan 3) membina siswa untuk mengembangkan ide-idenya secara tertulis. Paired Sample T-test digunakan untuk menghitung perbedaan antara hasil pre-test dan post-test. Hasil menegaskan bahwa dalam Paired Sample t-test, skor rata-rata (-5000) dari kelompok eksperimen secara statistik lebih tinggi daripada rata-rata kelompok kontrol (-3900). Hal ini menunjukkan bahwa penerapan strategi berpikir kritis secara efektif mengembangkan dan meningkatkan keterampilan berpikir kritis siswa dalam menulis esai argumentatif. Melalui penerapan lima elemen kunci berpikir kritis oleh Sadeghi (2012), siswa lebih berpikiran terbuka, toleran, objektif, jujur dan ringkas, menghargai orang lain, dan memaknai situasi secara berbeda. Penelitian ini menawarkan perspektif yang berbeda dalam mengembangkan penggunaan strategi berpikir kritis siswa dengan berfokus pada periode penelitian yang lebih lama dan jumlah peserta yang lebih banyak dan juga menyiratkan integrasi rubrik penilaian berpikir kritis dan kinerja keterampilan esai argumentatif untuk penelitian masa depan.

Kata kunci: Pembelajaran Kooperatif, Berpikir Kritis, Penulisan Esai Argumentatif

INTRODUCTION

Critical thinking has been widely and comprehensively examined in the teaching-learning context (Gelder, 2005; Willingham, 2008; Adeyemi, 2012; Tari & Rosana, 2019; Knight & Robinson, 2021). It implicates diagnosing, investigating, promoting view points, and evaluating problems (Willingham, 2008; Watson & Glaser, 2012) to conduct inductive and inferential reasoning and to formulate actual and or positive or negative judgmental assumptions based on certain belief with the goal of achieving appropriate results (Freeley and Steinberg, 2007; Suhartoyo, 2010). S. Ferrett (as cited in Eko, 2010) further explained the characteristics of critical thinker into categories such as asking related issues, assessing and regulating statements, opinions as well as discovering innovative solutions, being in a position to disclose a privation of grasp or evidence, having a logical interest, being involved willing to study opinions, beliefs, assumptions, and deliberate them in contrast to the facts, looking for verification and examining issues thoroughly, being able to decline mistaken or irrelevant information.

Critical thinking is essential for university students (Adeyemi, 2012), particularly as tool of achieving academic success or when solving project or research problems (Gelder, 2005, Willingham, 2008). As Bloom states that when individuals achieve higher thinking levels, they will automatically be more critical to investigate, operate, integrate, and evaluate the elements around them for their academic purposes. It can enhance a student's ability to investigate a case, analyze data, and increase their intellectual capacity. Therefore, critical thinking is considered as an essential component of academic success (Masduqi, 2006; Klimovienè et al., 2006; Nord, 2017), thus, students' critical thinking development is a central concern in this research.

In the ELT classroom, argumentative writing involves grasping the subject, developing a clear statement, and expressing ideas in writing (Pei et al., 2017). Academics across disciplines agree that developing an argument is a key feature of successful writing (Lea & Street, 1998). Therefore, critical thinking either creates discussion or argument when it is reflected in writing outcomes. In terms of language, content, material standards Yang and Wu (2016); Qian (2015), and principles of critical thinking Moghaddam and Malekzadeh (2011), critical thinking skills significantly influence students' writing essay, especially in argumentative essays (Mirzraii, 2014; Zheng, 2012). The discussion in argumentative essay is often viewed as a series of relevant ideas that are proposed to work from one edge and result in different responses (Andrews, 2000; Scott, 2000) which require students to possess and to construct critical thinking into writing (Saito, 2010).

Responding to this issue, this research utilized collaborative learning to decentre teacher's lecturing role and encourage student-centred learning. Cooper (1995) said that conducting participants in some groups can increase students' critical thinking through their classroom experience. In 2019, Silva et al., reported a significant improvement of students' critical thinking skills through cooperative learning activities. The results of their study revealed that the students in the intervention group improved their critical thinking skills significantly, demonstrating that cooperative learning is very beneficial to students. Cooperative learning is an effective strategies of enhancing students' language acquisition, academic goals, and social development, and contributing to the development of critical thinking skills (Lie, 2012; Sadeghi, 2012). It aims to promote mutual helpfulness and active involvement of students by cooperating, interacting, and sharing to attain the learning objective (Elder & Paul, 2001; Lie, 2012; Sadeghi, 2012).

Furthermore, Sadeghi (2012) elucidated five key elements regarding to the successful cooperative learning in the classrooms. The first, the element of *positive dependence* relates to the achievement of individual goals. The second, *face-to-face communication*, students each other actively and positively contribute toward group goals. The third element is *individual and group responsibility*, despite being in a group, they are also responsible for their own learning. The fourth, *interpersonal and small group social skills*, managing different knowledge levels and learning styles effectively. And the last element is *group processing*, this elements relates to the group work evaluation, which needs to be modified and should be continued.

In order to measure students' critical thinking scale, the researcher utilized an Argumentative Essay since it requires students to formulate logical and critical arguments, present a reasonable judgment, persuade readers, form a clear discourse, and express ideas manifested in writing context (Saito, 2010; Kuek, 2010; Pei et al., 2017). This study attempts to examine the effectiveness of cooperative learning implementation in enhancing non-English majors' critical thinking skills in writing an argumentative essay. However, the implementation of cooperative learning strategy in the EFL classroom for the non-English department in Indonesia is still limited. Despite what has been researched and agreed upon, this new research is urgently needed. This is because circumstances and contexts surrounding learning are constantly evolving. A further reason for the importance of this research is that the topic is not exclusive to the Indonesian context, but rather it is a global issue.

METHODS

This study aims to answer two research questions: (1) Is Cooperative Learning strategy effective to develop students' Critical Thinking on an Argumentative Essay? (2) How is Cooperative Learning implemented in developing Critical Thinking on an Argumentative Essay in ELT classroom? Quasi-experimental and qualitative descriptive approach are both used to answer the research questions. Since it is a case study, it tries to investigate one particular instance of education (Nunan, 1992) in students' critical thinking by using the Illinois critical thinking rubrics developed by the leading scholar Finken and Ennis, (1993). The critical thinking skills include *focus, supporting reasons, reasoning, organization, and integration*. The Illinois critical thinking essay test is worldwide used to measure students' critical thinking skills (see appendix I). The design was conducted in an experimental group (EG) and a control group (CG). It will be further explained in details below.

Participants

The participants were 40 non-randomly chosen Indonesian non-English majors from an Islamic university who took *Intensif Bahasa Inggris* (intensive English program). *Intensif Bahasa Inggris* is a year long and required general English class for freshmen. All the participants in this study were from *Basic 1* level who were required to learn and submit an argumentative essay as part of their course work at the end of their 1st semester. The student supposed to learn argumentative essay topic for two weeks (4 meetings). When composing an argumentative essay, students were expected to express their critical ideas. The participants were divided into the experimental group (N=20) and control group (N=20) and were expected to work in small group discussions.

Instrument and Data Collection

The data collection of the current experimental study was carried out through three main stages. They are: Firstly, the participants of the two groups were given a pre-test through writing an Argumentative Essay. The test was given before the treatment of integrating cooperative learning strategy while writing an Argumentative Essay. In this stage, the participants were asked to write an Argumentative Essay where they had to represent their position with regard to the topic "Government should ban schools and universities to have an offline meeting during Covid19". This pre-test was controlled for a limited duration, participants were allocated to write the Argumentative Essay for 30 minutes in both the Experimental and Control Group. Secondly, the participants were taught the writing subject for 4 meetings but under different teaching approaches between both two groups. In the Experimental Group, the instructor not only focused on teaching writing skills but also integrating cooperative learning in the activity; the participants were taught the Argumentative Essay lesson together with cooperative learning implementation. However, in the Control Group, the instructor focused only on writing skills without any

orientation to cooperative learning. All participants experienced the same writing lessons but in the Control Group, they did not receive any implementation of cooperative learning. Thirdly, after the end of the course, the participants were given a post-test through writing an Argumentative Essay test, the same test rubric but different topic from the pre-test. This post-test was implemented after the classroom design had been finished. The participants were asked to compose an Argumentative Essay to support their positions with respect to the topic "Should we consume vaccine to protect our body from Coronavirus attack?".

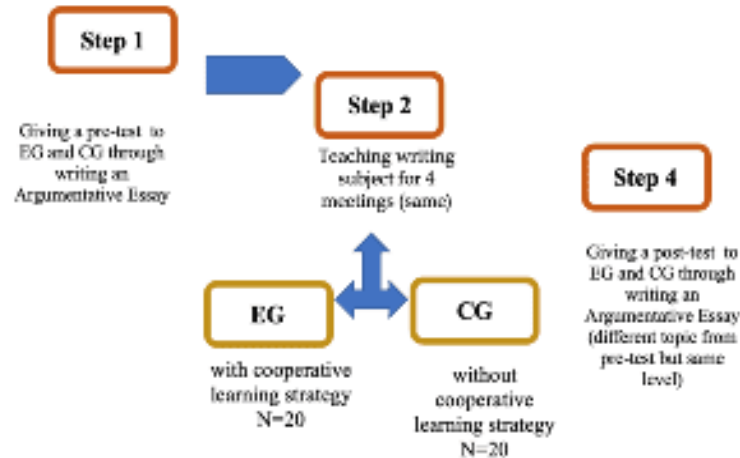


Figure 1. Data collection Technique

The researcher selected these two topics to be included in the pre-test and post-test since they were deemed to be the same level of knowledge. It was expected that the two topics would require students to use background knowledge in a real-world context where they would be experiencing that condition today. They were therefore expected to respond to the two issues and express their opinions.

This data was taken during covid-19 outbreaks. In this way, the classroom design was organized effectively through *Zoom Meeting*, in which a breakout room could be used to facilitate cooperative learning. As in a classroom, *Zoom* provides video and audio so participants can directly see and interact with each other as in a conventional meeting. The *breakout room* allows participants to meet in small and large groups. It is designed to be the ideal platform for having the best conference room experience, optimized for modern use cases (Zoom Video Communication, Inc, 2020).

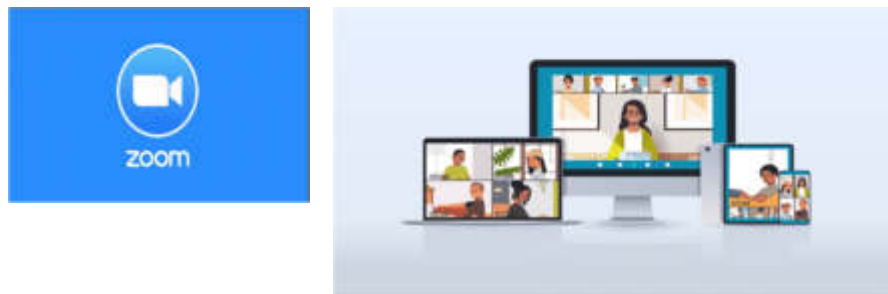


Figure 2. Classroom design using Zoom application

Data analysis

In order to answer whether the implementation of the CL strategy is effective to develop students' CL, *the Illinois Critical Thinking Essay Scoring Rubric* (Finken and Ennis, 1993) was

firstly used to evaluate and score their writings. In this study, the researcher used five of six rubric criteria since the fifth criterion was not regarded as CT skills. They are Focus, Supporting, Reasoning, Organization, Conventions, and Integration. As the fifth criterion, conventions focus on language proficiency, not CT skills (i.e., sentence construction, punctuation, spelling, word usage, paragraph format). Then, the participants' writing scores were processed through the Paired Samples t-test to reveal the significance of the difference between pre-test and post-test means between the Experimental and Control Group.

To observe how a cooperative learning strategy is implemented into the classroom, the learning process which was conducted using the *Zoom application* was recorded. It was then evaluated based on the elements of CL in facilitating students' Critical Thinking. The CL elements include *Positive interdependence, Face-to-face promotive interaction, Individual accountability, Small group and interpersonal skills, and Group processing*. In addition, this study also analyses the assistance of students' Critical Thinking in CL implementation through the steps of critical thinking; *the encouragement of student-student interaction, the provision of group purpose, and the stimulus to the development of thought and ideas*. This analysis was used based on the theory developed by Sadeghi (2012), the five key elements regarding to the successful cooperative learning in the classrooms.

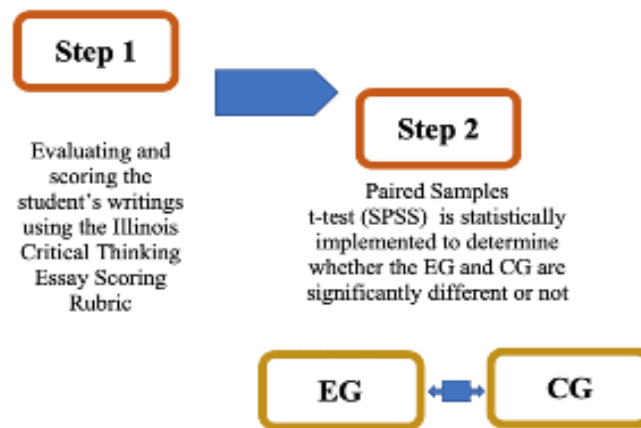


Figure 3. Data analysis technique for RQ1

RESULT AND DISCUSSION

The Result of Students' Written Tests

The students' written test was intended to reveal the development of students' CT score in Argumentative Essay writing. It involves pre-test and post-test. In examining the data, paired T-test was employed to reveal the significance of the difference between the means of pre-test and post-test between EG and CG. The following table shows the statistical computation of the scores. *Sample Characteristics*

Table 1: Pre-test Scores

It presents the distribution of the means and standard deviations of pre-test both EG and CG.

Groups	Mean	Standard Deviation
Experimental	18.300	3.8402
Control	19.450	3.2843

The data shows that the pre-test and post-test mean score in the EG reached (18.300) while in the CG obtained (19.450). It can be calculated that the difference between the two scores is slight, only (1.15). It tells that students' CT in writing Argumentative Essay, both two groups, is almost equal or similar before the treatment given to one of the groups; implementing CL strategy in the EG. In addition, the Standard Deviation (SD) of the EG is (3.8402) while the CG is (3.2843) with different (0.55). The difference between the two scores is moderately slight, it indicates that the student's scores of the two groups are slightly clustered around the mean.

The result of pre-tests of both EG and CG clearly describes that the students' CT in writing Argumentative Essay is gaining almost high since the total score of the Illinois Critical Thinking Essay Scoring Rubric used in this study is 30, after omitting one aspect.

Table 2: Post-test Scores

It displays the distribution of the means and standard deviations of post-test both the Experimental and the Control Group of this study.

Groups	Mean	Standard Deviation
Experimental	22.250	4.3149
Control	19.950	3.7623

The mean score of the EG in the post-test increased to (22.250), contributing (3.95) higher than the pre-test score. While the CG achieved (19.950) which only increased (0.5) from the pre-test. The Standard Deviation (SD) of the EG is (4.3149) while the CG is (3.7623), with different (0.55).

From this calculation, the improvement of the scores of pre-test and post-test between EG and CG are highly different. The EG contributes a high increase while the CG contributes a very small increase. This significant difference gives the assumption that students' CT performance in writing an Argumentative Essay of EG is much better than the students of CG. Furthermore, to strengthen this assumption, it requires the examination of the inferential statistics achieved through the operation of the Paired Samples t-test. This Paired Samples t-test is used to determine whether the difference of the score between the mean scores in the pre-test and post-test between the two groups is statistically significant. However, before operating the Paired Sample t-test, it is important to first examine the assumptions of normal distribution.

Normality Assumption

Table 3. Normality test

It describes the assumption of normal distribution

	Groups	Skewness	Kurtosis
Pre-test	Experimental	.575	-.960
	Control	.744	.506
Post test	Experimental	-.268	-1.310
	Control	.300	-.391

This result shows the assumption of the normal distribution in this experimental study is satisfied since the Skewness and Kurtosis levels are less than the maximum acceptable values for a t-test (i.e., Skewness $<|2|$ and Kurtosis $<|9.0|$; Posten, 1984 cite in Nabila Nejmaoui 2019). It is calculated that the result of the pre-test in the EG contributes Skewness (.575) and Kurtosis (-.96) while the CG experiences Skewness (.744) and Kurtosis (.506). Additionally, the result of the post-test in the EG achieves Skewness (-.268) and Kurtosis (-1.310) while the CG reaches Skewness (.300) and Kurtosis (-.391). Hence, from the results of this Paired Samples t-test, it can be clearly stated that the scores of pre-test and post-test in both groups are normally distributed during the four interpretations.

Table 4. Paired Samples correlation

It points out the correlation between the pre-test and post-test scores in both groups

Groups	Correlation	Sig.
Experimental (Pre to post-test)	.726	.000
Control (Pre to post-test)	.649	.002

The correlation between the pre-test and post-test scores in both groups are estimated at r (.726) for the EG and (.649) for the CG which means extremely significant for EG at (.000) and for CG at (.002). This correlation indicates that the participants tend to have the same ranking or level of CT skill in Argumentative Essay writing both the pre-test and post-test; the group with higher scores in the pre-test was connected with higher scores in the post-test and the group with lower scores in the pre-test was linked with lower scores in the post-test.

Table 5. Paired t-test on EG's pre-test and post-test

It points out the pre-test and post-test scores in EG

Pre from pre – post test	Mean	SD	t	Df	Sig.
	-3.950	3.0517	-5.788	19	.000

The participants of the EG contribute the score of pre-test and post-test to a t-value (-5.788). This score means that it is significant at (.000). Consequently, the mean of the post-test is statistically higher than the mean of the pre-test. Therefore, it is clearly proven that the implementation of CL can successfully develop students' CT in Argumentative Essay writing.

Table 6. Paired t-test on CG's pre-test and post-test

It points out the pre-test and post-test scores in CG

Control Group from pre – post test	Mean	SD	t	Df	Sig.
	-.5000	2.9824	-.750	19	.463

The participants of the CG contribute the score of pre-test and post-test to a t-value (-.750). This score confirms that it is significant at (.000). Consequently, the mean of the post-test is not statistically higher than the mean of the pre-test. Therefore, it is clearly proven that the group without CL strategy is contributing to low improvement of CT.

These findings indicate that the implementation of CL strategy effectively helps ELT students in developing their CT in Argumentative Essay writing. The students who were taught with CL strategy successfully present higher performance in the post-test than students who were taught without CL strategy. It clearly shows that CL strategy is effective to enhance students' CT skill in Argumentative Essay writing. This result is in accord with the study taken by Sadeghi in 2012. He finds that CL is beneficial not only for enhancing students' language acquisition, academic achievement, and social skills but also for helping students to foster their CT skill (Sadeghi, 2012). This finding also supports the other previous study handled by Devi et al. (2015). She presents that CL activities have successfully increased students' CT.

On top of that, this result is also in line with the current study done by Silva et al. (2019). Their study was taken in the middle of that year. The result indicates greater improvements in students' CT after the intervention of the CL strategy in their classroom. This study was organized with 19 students in the EG and 22 students in the CG. The participants here were students at a public university in the North of Portugal who were studying at the 3rd year college. One undergraduate course in Psychology was decided in the CG with 22 students and the other in Basic Education was in the EG with 19 students. Critical Thinking Test (CTT) elaborated by the authors and already validated for the Portuguese higher education population was used in this study.

The way on how to implement Cooperative Learning in encouraging students in developing students' Critical Thinking in Argumentative Essay writing

Specifically, the data consisted of a video documentation of the classroom design process of the EG. The CG was not included in this analysis since the RQ 2 focuses only on how the CL strategy is implemented in developing CT in the ELT classroom. In this case, the researcher analyzed the process of the classroom design through CL elements in facilitating students' CT. The result shows that the implementation of CL (using Group Discussion) in this study encourages students to develop their CT and promotes CT dispositions in Argumentative Essay writing through the steps and through the five key elements of CL. The dispositions which are played and promoted in this study were open-minded; considering other points of view (tolerant), taking and changing position when evidence is sufficient (objective), presenting a position honestly and clearly, taking into account others' feelings and level of understanding, and viewing situations from different perspectives.

Cooperative Learning elements in facilitating students' Critical Thinking

Positive interdependence

Positive interdependence was fostered primarily by role interdependence, resource/material interdependence, and goal interdependence. By constructing positive interdependence during the classroom process, the students actively participated in the group discussions by being problem solvers and listeners. Further, they were responsible for learning from other students by sharing some sources dealing with the topic discussed in the class with other members of the group. A mutual goal was assigned to each discussion group to facilitate goal interdependence. Its purpose was to provide ideas or arguments regarding the shared discussion topic in response to the teacher's questions. The findings of this study showed that all group students enthusiastically participated in the group work discussion, which automatically benefited all students involved. This is consistent with the previous study held by Ryan (2003). According to him, classroom activities can be controlled to encourage students to engage in CT development.

Face-to-face promotive interaction

Face-to-face promotive interaction was set up in the lesson by giving the same goal for every group. So, they could freely discuss and share their ideas to support and assist each other based on the given topic and achieve their shared goal. It supports the previous result shown by Elder & Paul (2001). They present that providing group purpose could lead to promotive interaction between the students and promote students' CT. They also highlight that students can enhance their CT skills by introducing "purpose" into their classroom experiences since they consider that "CT is thinking to some purpose". In the discussion process, it could be investigated from the observation that each group member supported and assisted each other by conveying considerable efforts in learning the topic and reaching the same goal (Johnson & Johnson, 2009). The face-to-face interaction in the study was conducted through the Zoom meeting platform since the classroom was conducted through a *daring* class or a blended learning class (during the covid-19 pandemic). Although they were unable to meet in person, they were able to interact virtually through their zoom.

In a group discussion, the mutual goal was to answer the teacher's questions and meet an agreement about the best response or solution to the teacher's questions by sharing ideas and argumentations with the group members. In the process of group discussion, the CL activity was to achieve the same goal. Therefore, the students attempted to help and positively influence other members of the group, as well as make practical efforts to gain benefit and share mutual goals. Further, they provided feedback to each other on the ideas or arguments shared, pushed each other to provide logical reasons and clear conclusions, and explored each other's different perspectives comprehensively.

Individual accountability

During the discussion process, students were also evaluated individually based on their willingness to contribute ideas or arguments to the group. Students were given individual tasks to present and express their points of view in order to foster this element. Hence, when each performance is evaluated, individual responsibility or accountability is acknowledged (Johnson & Johnson, 2009). In addition, the students were encouraged to share their ideas before and during the group discussion to promote individual accountability. In the discussion, students had the opportunity to describe their ideas or arguments and to argue or debate the other members' ideas that contradicted their own. The CT fosters students' metacognition or the control of their thinking (Costa, 2003 as cited in Emilia, 2005). The students actively participated in the discussions and enthusiastically contributed to the group work by organizing this element.

Small group and interpersonal skills

Small group and interpersonal skills elements were constructed when the students discussed and shared ideas in their group. They learned how to work effectively in a group discussion with other members who have different proficiency levels and ideas since they were developed from different backgrounds of education and environment. During the discussion process, the students had the opportunity to listen wisely, conscientiously, and critically to their classmates as they expressed their points of view and took turns presenting ideas. According to the previous study, skills are essential in facilitating the student's critical thinking development since a critical thinker must perceive the world from multiple perspectives, not just from one perspective (Chaffee, 2009).

Furthermore, to attain their shared goal, the students also used interpersonal and social skills, such as decision-making skills, in order to choose the most appropriate response to the teacher's question. Furthermore, they also used conflict management skills when they had different opinions from other students about the issue being discussed. According to prior studies, using interpersonal and social skills such as decision-making and managing conflict are the skills developed through Cooperative Learning, which can be viewed as critical thinking elements (Johnson & Johnson, 2009; Sadeghi, 2012). Furthermore, this element was also applied when students were challenged to share each other's perspectives and defend their position. In this case, they learned how to agree with another's ideas.

Group processing

This key element, group processing, was set up by giving the students a chance to write a reflection regarding what had been learned in the classroom, what had been explained by the teacher and explained by other students from the group work discussion, and what they need to improve. Providing students with time to reflect on what they have learned in the classroom and what they need to improve for the next study can be considered a critical thinking process (Kagan & Kagan, 2009). This element was beneficial for students to practice their CT, specifically on Critical Thinking evaluation. Moreover, it was also demonstrated in every meeting that students' CT increased gradually, as reflected in their quality of reflecting what they had learned in class.

CONCLUSION AND SUGGESTIONS

This study reported on the implementation of cooperative learning (CL) strategies in enhancing students' critical thinking (CT) skills in argumentative essay (AE) writing. This research was intended to explore non-English major freshman students in an Islamic university in Indonesia. At the University level, students most often use critical thinking skills to solve problems and achieve academic success. Argumentative essay writing was chosen since it requires students to discuss, explore, and elaborate their ideas. To score argumentative essay writing involving critical thinking skills, the Illinois Critical Thinking Essay Scoring Rubric was used. The classroom observation was also used to see how CL enhanced students' CT. The

learning activity was conducted through Zoom Meeting Application due to the COVID-19 outbreak. The study used quasi-experimental qualitative approach and used non-random sampling method to assign 40 Indonesian university students. There were 20 students in the experimental group and 20 students in the control group.

Based on the findings, CL has been found to be effective in helping ELT students develop their CT skills in Argumentative Essay writing. The students who were taught with CL strategy successfully present higher performance in the post-test than students who were taught without CL strategy. A CL strategy is effective at enhancing students' CT skills in writing Argumentative Essays. Through 5 key elements developed by Sadeghi (2012), the students in the class were enthusiastically participated in the group work discussion, positively help, and influence each other, cooperative, open in any perspectives and agreements, and more reflective.

Since the result of this study demonstrates a positive effect of the implementation of cooperative learning strategies in enhancing students' critical thinking skills on argumentative essays, the practical implication of the study informs lecturers or instructors in universities to implement collaborative learning strategies in their ELT classroom in order to improve students' critical thinking skills. Thus, these findings can provide new learning strategies to other teachers, particularly as it relates to academic writing. Furthermore, it is recommended that the next researchers conduct a similar study in a longer period during which a larger number of participants will be involved in implementing CL. Moreover, the integration of the evaluation of an Argumentative Essay rubric is also proposed since this study evaluated students' works by using the Illinois Critical Thinking Essay Scoring Rubric, which evaluated only the CT skill performance without evaluating the Argumentative Essay skill performance.

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