

Promoting Indonesian EFL Students' Critical Thinking Skills through Reflective Learning

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ABSTRACT

Reflective learning is used to improve writing skills, and track the learning process regarding what students understand and what they do not understand. However, little research has explored the impact of reflective learning on students' critical thinking, especially in higher education. This study aims to fill the gap by exploring Indonesian EFL students in the seventh semester of using reflective learning in improving critical thinking skills and identifying their development of critical thinking skills through reflective learning. Questionnaires and students' reflective learning are provided for data collection. The result reveal that from the questionnaire, reflective learning has an impact on students' critical thinking of 79.99%. Furthermore, it is also found that from students' reflective learning participated in this study employed three development of critical thinking skills: 1) identify the strength, 2) recognize the weaknesses, and 3) find out the solution. Finding suggest that strategic use of reflective learning may enhance EFL critical thinking skills as well as maximize the achievement of their learning goals.

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1. INTRODUCTION

In many educational programs, students are required to develop their thinking skills. This can be seen in the current education system, where developing each individual's thinking skills is considered very important because the level of individual thinking skills will determine the future of society, and efforts must be made at every level of school so that students can acquire thinking skills (Tican & Taspinar, 2015). Thinking skills are important for every individual to find solutions to the problems they face, both in terms of education and in social life. Therefore, higher order thinking skills (e.g., critical thinking, logical, reflective, metacognitive and creative thinking abilities) need to be learned and applied by each individual. One of the high-level skills that must be taught to students is critical thinking (Szabo & Schwartz, 2011).

Critical thinking is considered a tool for acquiring knowledge (Barnes, 1992). According to Draissi et al. (2021), critical thinking is the ability to consider information obtained from various sources, then manage this information in a logical way, challenge and analyze it, until arriving at a conclusion that can be defended and justified. Almulla (2023) states that critical thinking is a high-level thinking talent that can help in finding the right solution according to considerations for a problem. Critical thinking is considered important because it impacts cognitive processes related to problem solving (Aein et al., 2020; Almulla, 2023; Saputro & Prodjosantoso, 2018; Whitten & Brahmasurene, 2011)

Critical thinking is related to human cognitive processes so it is necessary to focus thinking that can encourage the development of knowledge so that it can provide information to produce conclusions or make decisions about something (Facione & Facione, 1996). Critical thinking relates to mental processes and strategies used to solve problems and make decisions based on the information received. In connection with this, students are required to develop their critical thinking skills intellectually and psychologically to explore

and disassemble decisions taken and produce decisions that can justify their choices and actions (Bower, 2003). One way according to Bower that can help in encouraging students' cognitive exploration to think critically is by asking students to write reflections on their learning.

Reflective learning is a learning strategy that plays an important role in helping students analyze the extent of their understanding regarding the material they have studied. Learning that is not easily measured or observed through assignments given by teachers can be evaluated and analyzed through reflective learning, which in the process determines how and why they learn and analyses how students understand their own growth and development (Draissi et al., 2021; Or, 2018). Reflective activities that are commonly used in education to develop reflection are reflection journals or also called reflective diaries or learning logs (Moon, 2004; Veine et al., 2020).

As a student in higher education, it is important to analyze/track their learning achievements regarding what they understand and do not understand regarding their learning and what strategies they should use to overcome problems in their learning. Bower (2003) in his research revealed that, if students re-study what they have learned reflectively and try to analyze their learning from the writing process, then this will be useful for improving their skills as writers and thinkers. Reflective learning is a learning technique that is considered effective which allows students to learn while writing (Draissi et al., 2021; Farrah, 2012).

Moreover, implementing reflective strategies in the learning process can help students develop their writing skills and help students reflect on what they feel during learning. Reflection implemented in learning will focus more on evidence of learning, knowledge and skills in a particular field which is documented in written form (Heath, 1998). Apart from that, another impact of implementing reflective learning according to Draissi et al. (2021) which is related to students' thinking habits is critical thinking abilities.

Reflective learning improves students' analytical thinking skills because by reflecting on the tasks they have done they can question themselves, and by practicing it every day it can improve students' critical thinking skills (Akhmetova & Khaliullina, 2023). However, students need help and support in writing reflections, and it is important to remember that reflection is not something that students can do automatically, but support from teachers, supervisors and advisors is very important (Veine et al., 2020; Wedelin & Adawi, 2014).

There has been a lot of previous research discussing reflective learning which focuses on investigating the impact of reflective journals on students' learning and their challenges of using these journals to produce new understandings and interpretations of using reflective journals (Ahmed, 2020; Akhmetova & Khaliullina, 2023; Tan, 2021), and implementing reflective journaling to improve student learning (Draissi et al., 2021).

In Indonesian EFL context, reflective learning has also intrigued significant interest among many researchers in the past decade. However, these studies have mostly focused on students' academic development in higher education and their writing skills (Ahmed, 2020; Alt & Raichel, 2020; Veine et al., 2020). Relatively little empirical evidence reveals how reflective learning can develop students' critical thinking abilities in higher education. Because critical thinking is the kind of analysis time-consuming and confusing, especially when there are several options or avenues from which to choose (Bower, 2003). Driven by the empirical gap, the present study aims to explore and encapsulate the impact of reflective learning in improving students' critical thinking. This study is hoped to provide more in-depth information regarding the efforts of EFL students in higher education in Indonesia in uncovering the reflection process in their learning, which has an impact on the development of students' critical thinking skills, and contribute to the growing literature on this topic. This study was guided by the following questions:

1. How would Indonesian EFL students perceive the improvement of their critical thinking skills after the implementation of reflective learning?
2. What benefits do Indonesian EFL students get from implementing reflective learning in the dimension of critical thinking skills?

2. METHOD

2.1 Research Design

This research used descriptive qualitative approach. According to researchers, descriptive qualitative is the appropriate method used in this research to capture the comprehensive picture needed to analyze the application of reflective learning to improve students' critical thinking skills in higher education. Qualitative data analysis is an effort carried out in order to search for and discover patterns, find important things that must be understood in depth, and decide what should be conveyed to other people. This qualitative data analysis is carried out by working with the data, organizing it and sorting the data so that it becomes a unit that can be managed and synthesized (Iskandar, 2009). Specifically, this research aims to explore and summarize the impact of reflective learning in developing students' critical thinking abilities in higher education.

2.2 Participants and instructional context

This research was conducted at the State Islamic University of North Sumatra, Medan. Three students of seventh semester in English major were chosen to be participants in this research. They were chosen purposively because they had applied reflective learning in their learning. By using purposive sampling, along with meeting criteria (Silverman, 2001), participants voluntarily agreed to participate in this research. Table 1 provides demographic information for the three participants who used pseudonyms as their identities in this study.

Table 1: Students’ Demographics

Participant	Age	Sex	Mother Tongue	Education
Bunga	21	Female	Indonesia	Undergraduate student in English Education
Lili	21	Female	Indonesia	Undergraduate student in English Education
Mawar	22	Female	Indonesia	Undergraduate student in English Education

2.3 Data collection and analysis

Data from this research were collected from the results of questionnaires and students' reflective learning. The data consisted of rubrics of critical thinking skills measurement (CTR) to obtain indicators of the development of critical thinking skills (Dolapcioglu & Doğanay, 2022; Knobloch, 2003; Schwartz, 2006; Suh, 2010). The type of questionnaire used is a close-ended question, namely a questionnaire that has been provided with an explanation so that respondents only choose and answer directly (Sugiyono, 2008). Questionnaires were given to participants via Google Form. The student critical thinking questionnaire consists of ten statements containing four indicators (which taken from CTR): identifying, planning, monitoring and evaluating. The questionnaire using a four-point Likert scale (strongly disagree (SD), disagree (D), agree (A), strongly agree SA)). Next, data is taken from students' reflective learning that they have wrote (in English) in the previous semester. Before implementing reflective learning, the lecturer tells students how and what they should write in their reflective learning so that students can reflect critically.

The data from questionnaire were recorded in an Excel file to gain the quantitative calculation of the occurrences. While the data from students' reflective learning were analyzed using an exploratory approach. Preliminary themes that emerged during the analysis were coded thematically. Using a thematic content analysis approach (Ahmed, 2020; Miles & Huberman, 1994; Radnor, 2001), initial themes were confirmed when the researchers looked for other thematic examples that were similar and relevant. However, several different themes and sub-themes were added through the analysis.

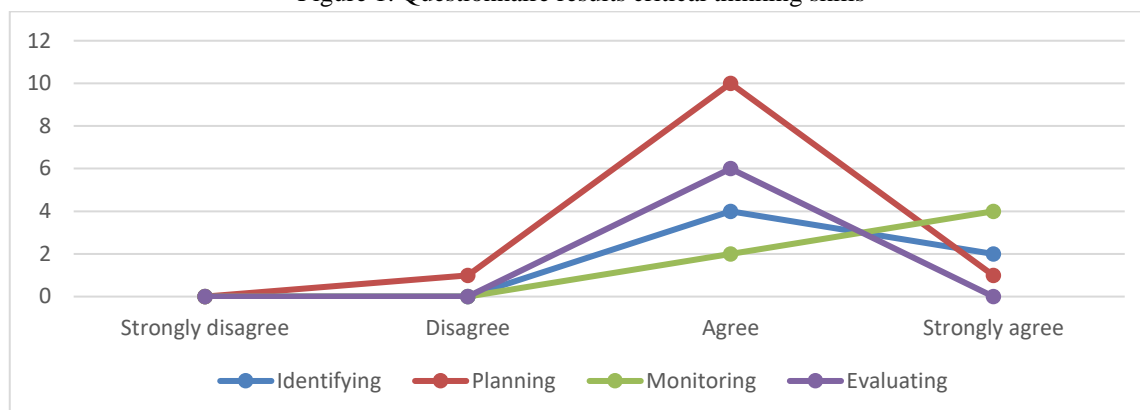
3. RESULTS AND DISCUSSION

Analysis collected through questionnaires and students' reflective learning shows that students are able to develop their four critical thinking skills through reflective application: identifying, planning, monitoring, and evaluating. These findings are discussed below in connection with the primary data and will be divided into two: Perceive the improvement of students’ critical thinking skills after the implementation of reflective learning, Benefits of reflective learning on students in the dimensions of critical thinking skills.

3.1 Perceive the improvement of students’ critical thinking skills after the implementation of reflective learning

In order to determine the level of development of students' critical thinking skills in higher education through reflective learning, the critical thinking skills assessment rubric (CTR) contains statements in the form of a close-ended questionnaire which involves students learning activities while using reflective learning in their learning which is distributed to students via Google form. The indicators of critical thinking skills measured in this research are the way students in higher education identify problems experienced in learning, then plan to be able to find solutions to the problems experienced, furthermore monitoring and evaluating whether the solutions obtained can really be achieved to resolve the problems experienced. The results of the data collected from the questionnaire are presented in Figure 1.

Figure 1. Questionnaire results critical thinking skills



The result of the analysis regarding the indicator from rubric of critical thinking disclosed that all four indicators were implemented by students in their learning process. In identifying, the frequency that all participants got from the Likert scale was 6, planning 12, monitoring 6, and evaluating 6, with the total frequency of all indicators is 30. The percentage obtained from SD answers from the Likert scale was 0% because none of the participants answered SD in each statement from the questionnaire given. Furthermore, from answer D, 1.66% was obtained, A was obtained 55%, SA was obtained 23.33% of all indicators. And the total percentage obtained from all indicators is 79.99%, which is included in the good category. This was concluded from the results of a questionnaire created based on indicators from CTR that had been carried out and supported by the results of the researchers' analysis of students' reflective learning which supports students' development in identifying, planning, monitoring and producing during their learning process.

This shows that the application of reflective learning is thought to be able to improve the critical thinking abilities of students in higher education. Reflective learning will help direct and guide students to be able to learn independently by forming appropriate thoughts based on understanding the experiences they have gone through (Gray, 2007).

3.2 Benefits of reflective learning on students in the dimensions of critical thinking skills

The analysis of the data collected through reflective learning that used thematic content analysis revealed three themes: identify the strength, recognize the weaknesses, and find out the solutions. The themes in these findings are related to the critical thinking skills indicators used in the previous questionnaire.

3.2.1 Identify the strength

Writing reflective learning can be useful for students to reflect on all the knowledge they have gained and can help them understand the situation they are facing. In this case, participants are able to understand what their learning needs are. The participants were exposed to the process of reflection by, for instance, being able to think about the strength even though they have to study by themselves. This can be seen from the excerpt 1 taken from one of the participants, as follows.

“... our lecturer gave us some examples of restaurant reviews that we can use for our project. There are so many words in it but I must read it no matter what so that I can imagine what kind of format that I want to use. I think that giving a direct example of the review format really helped me, because I'm the type of person that if I want to do something, I have to have an example of what I'm going to do so I can be more confident while doing it.” (Excerpt 1, RL, Lili)

In the sample of reflective learning from Lili, it can be seen that she was only given the material by her lecturer and asked to studied independently. In the excerpt above, the participant expressed her feelings of being reluctant to read the material given because there were too many words in it. However, she put that aside and realized the needs she needed to complete the tasks given. In this case, reflecting on what he experienced in learning made her aware of her own needs and understand what actions she should take to face her learning problems.

The same but slightly different thing was also experienced by other participants. She expressed the emotions and feelings she felt during the class. This can be seen from Excerpt 2, as follows.

“When the Zoom meeting started, I left the Zoom meeting several times because the network was very bad, and I became annoyed. but my feelings were a little better because I saw examples of Jakhongir's poetry books. I had an idea of how I would design my poetry book in the future, and I got a little excited.” (Excerpt 2, RL, Mawar)

Even though the participant experienced unpleasant things during the online learning process, she reflected on the changes in feelings she experienced at that time, and realized things that made her feelings better and became enthusiastic again.

From the two excerpts above, it can be concluded that reflective learning is useful as a tool to help students get to know themselves and improve their learning. Reflective learning helps students to identify positive and negative aspects of themselves in relation to their learning process. This shows that students who have implemented reflective learning are able to develop greater awareness of their learning and make them think more critically in dealing with problems in their learning.

This finding conforms Tan (2021) claim that "Through reflection, students more easily identify what to focus on (or not), including the pros and cons at that time." Experience in reflective learning writing can help students realize their own learning was also reported in Fullana et al. (2016), found that reflection helps students identify positive and negative aspects within themselves regarding their learning process. In this regard, reflective learning writing can help students set goals and integrate their learning and this is supported by Alt & Raichel (2020), in their research revealing that reflective learning can encourage students to think and write about their learning process.

3.2.2. Recognize the weaknesses

One of the benefits of reflective learning is that someone can identify their weaknesses. This was also seen in the participants in this study. Participants, in their reflective learning, conveyed their experiences when they were unable to understand the learning at that time. In the reflective learning they wrote, they mentioned the reasons why they could not understand the lesson. This is as seen in the following Excerpt 3 from Bunga.

“I agree when Mam said that she likes poetry that ends in a rhyme, because it's better to hear and it's just aesthetically pleasing. But for me, whose vocabulary mastery is not that rich, to be honest, this is very difficult. I feel that rhyme is a bit of a challenge for me, because to create rhythmic poetry you need to master more vocabulary.” (Excerpt 3, RL, Bunga)

As seen in the excerpt above, Bunga wrote in her reflective learning that she had difficulty writing rhyme poetry, and was aware of the weaknesses she faced. This can prove that by reflecting on the learning process, students will be able to realize their weaknesses in learning. By realizing their weaknesses, students can find solutions to overcome their problems in learning.

The same thing was also mentioned by another participant, Mawar, who expressed in her reflective learning about her awareness of the weaknesses she faced during her learning process, as seen in the excerpt 4 below.

“Even though I already prepare some vocabulary, it is still hard to find the right vocabulary when I am writing the poem. Sometime the vocabulary I prepared before not fit in for the content of my poems. So, it still difficult to find the vocabulary.” (Excerpt 4, RL, Mawar)

In the sample above, she indicated her weaknesses while reflecting her learning. She was able to recognize her problems critically in the learning process, which is that in reflecting on weaknesses when learning, can help students evaluate what they need to improve and prepare learning plans that will be carried out in the future to achieve their learning goals.

Ahmed (2020) in his research, claim that reflective learning is a useful tool for exam revision, which can help students recognize their weaknesses in the material they are studying. Furthermore, Tan (2021) in his research prove that reflective learning is a tool to help revise or track learning, and is considered as something that can create awareness of their own learning. The reflection process discusses matters related to obstacles which can encourage students to find ways to develop and complete goals as well as stimulate critical thinking and start to resolve problems that are obstacles (Draissi et al., 2021).

In conclusion, one of the benefits students get from writing reflective learning is being able to understand the weaknesses and shortcomings faced in the learning process. From several excerpts from

reflective learning above, they recognize that there are things they don't understand or things they haven't mastered so that this hinders their learning process. Being able to realize what the problem is in learning is included in one of the indicators of critical thinking, namely identifying.

3.2.3. Find out the solution

After identifying the problem, looking for a solution is what must be done so that the problem that occurs can be resolved. In the reflective learning written by the three participants, apart from identifying the problems they faced during the learning process, they also looked for solutions so that they could overcome their learning problems. And this is included in one of the indicators of critical thinking, in the planning section, where students are required to analyze a problem and then find the right solution to overcome the problem. The following is an Excerpt 5 of reflective learning from Bunga:

“I feel like this rhyme is a bit of a challenge for me, because to make rhythmic poetry you need to master more vocabulary. But fortunately on Google we can search for words that sound the same so we can make poetry that rhymes.” (Excerpt 6, RL, Bunga)

From the excerpt above, it can be seen that the participants who are EFL students experienced difficulties because they did not master the vocabulary. However, she was able to find solutions to the problems she faced. She found a solution that was more practical and could help her make completing her tasks easier. In this regard, it shows that reflecting on experiences in learning can help students deepen their understanding of the situations they face, and considers that writing reflective learning can be an aid to better connecting theory and practice, and clarifying the problems faced to find appropriate solutions. appropriate.

The same thing was also experienced by another participant (Lili). In her reflective learning, she reflects on the shortcomings she experiences in learning. Similar to the excerpt above, the participant who was an EFL student experienced challenges in mastering his vocabulary. However, she was able to find a solution to solve the problems she faced. This can be seen in the excerpt 6 below.

“I reflect that I have to practice more and more so that my vocabulary will be richer and my writing will be great to read. For the inspiration I still get the inspiration at night, but now I can also get the inspiration from any song. If I found a song that related to my experience, it brings me back to the memory so I can write a poem that related to the story.” (Excerpt 6, RL, Lili)

The reflection from the participant above shows that she was able to overcome and find solutions to the learning problems she faced. Reflective learning writing has many benefits, and one of them is as a strategy to improve the learning process.

From the reflective learning samples written by the participants, it can be seen that, even though they have difficulty in accepting and carrying out their tasks, they try to find solutions and try to think positively which makes them open-minded in responding to problems. By writing down everything they feel and the problems they face, they become more aware of the problems they have to solve and find solutions, rather than just realizing there is a problem without doing anything. And with this, it can be seen that reflective learning can help students, especially those in higher education, to think more critically in identifying and solving the problems they face.

Reflective learning is considered a useful self-assessment tool in the student learning process, and Draissi et al. (2021) in their findings revealed that writing reflective learning can increase motivation, self-confidence, self-cognition, improve student learning and academic writing skills, and encourage students to overcome the challenges (obstacles) they face in learning. In connection with this, Tan (2021) in his research said that reflective learning is carried out so that students do not repeat mistakes, and make changes to learning strategies to improve academic achievement.

In addition, the application of reflective learning has a positive impact on self-correction (Dao et al., 2021). Self-correction has an important role in providing opportunities for students to modify their knowledge, and previous research has also emphasized the need to encourage student self-correction to facilitate student learning (Dao et al., 2021; Shehadeh, 2001). To find solutions to achieve certain goals, students are required to reflect on their learning to dig deeper into students' abilities in resolving the challenges (obstacles) they face during the critical learning process (Akhmetova & Khaliullina, 2023; Raber Hedberg, 2009; Yang, 2015).

4. CONCLUSION

This research was conducted to investigate how three Indonesian EFL students used reflective learning to achieve their learning goals from a cognitive perspective. From a cognitive point of view, the findings revealed that the application of reflective learning has a positive impact in developing students' critical thinking skills in higher education, and this is supported by Bower (2003) who stated in his research that to encourage cognitive abilities related to critical thinking skills can be done by asking students to participate in reflective writing in each of their learning processes.

In addition to shedding a light on how reflective learning impacts students' critical thinking, the findings in this study have a number of pedagogical implications. Firstly, this study can show that by writing reflective learning, it is not only help students in improving their learning progress, but also help improve students' writing skills, and can be a bridge in improving their English language skills if the reflective learning is written in English, or other target languages that they learn. Secondly, the reflective learning written by students can also help teachers to reflect and develop their teaching plans related to what strategies should be done so that students can understand the learning taught, because in reflective learning written by students contains students' voices to express their processes in receiving the learning they get from the teacher. Third, this finding can also increase the awareness of EFL students and EFL educators on how important it is to reflect on learning progress through reflective learning, which in this case can foster and explore students' cognitive abilities in improving their critical thinking skills. And realize that critical thinking is an ability that every individual needs throughout their lives (Dolapcioglu & Doğanay, 2022).









In spite of being an exploratory endeavor, this study has limitations in several ways. The researchers only conducted the study with three students majoring in English education in the seventh semester, of which all three were female, as participants. In addition, collecting data in this study only used questionnaires and students' reflective learning which might be a limitation. In the future, the researchers proposes that more research on the use of reflective learning in the classroom involving lecturers' perceptions of the impact of reflective learning using different types of data collection and with a larger number of participants, including lecturers and students.

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