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# INVESTIGATING INDONESIAN EFL LEARNERS' CRITICAL THINKING: CURRENT STATE AND FUTURE DIRECTIONS

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**Abstract:** This research aims to investigate the critical thinking skills of 86 Indonesian English as a Foreign Language (EFL) learners who are prepared to be English teachers using an adapted questionnaire measuring critical thinking skills. This research uses a descriptive quantitative research design to examine the critical thinking skills of Indonesian EFL learners. It reveals the ability of Indonesian EFL learners' critical thinking skills through a diagnostic test which results in a moderate level, implying that the strategies to embed critical thinking in an EFL classroom setting need to be improved. This eventually might lead to a wide gap between the existing teacher's competence and the expected qualities. This research argues the diagnosis of critical thinking state in Indonesia's pre-service English teachers and the future directions to leverage critical thinking skills.
**Keywords**: *critical thinking; developing country; English education; teacher development.*

## INTRODUCTION

The emerging collaboration opportunities around the globe due to globalization enable both developing and developed countries to work hand-in-hand leveraging the life qualities of their citizens. Numerous studies have been conducted and lead to the fact that there is a dire urgency of human development to maximize the existing potential of this era. The World Economic Forum listed the top 10 skills required for the job of the future. Among the 10, five are from problem-solving skill type, two from self-management, two from technology use and development, and one from working with people (Whiting, 2020). Analytical thinking, complex problem-solving, and critical thinking belong to the top required skills for everyone to possess, yet not everyone is ready, or even aware of this.

This does not only lead to opportunities but also challenges, specifically in terms of the medium of communication which is language. Although English has been determined as the lingua franca globally, English's position as the second or third language in some countries, specifically in developing countries, hinders non-native speakers from comprehending English well. Not only for the use of communication, the barrier in reading and listening also hinders non-native English speakers to learn critical thinking and any other specified skills that are available on the internet. As a result, a huge gap arises among people coming from developing countries.

Indonesia is one of the developing countries expected to become the largest economics in the world and part of the outer circle of World Englishes. They are positioned at 74 out of 100 countries worldwide and 15 out of 24 countries in Southeast Asia for English First English Proficiency Index (EF EPI). The considerably low level of English comprehension hinders the possibility to communicate among countries, discuss political, economic, social, legal, environmental, and technological issues globally. Since this situation might weaken the national growth in the global setting, it is urgent to add the notion of English

teaching for Indonesian students that facilitates critical thinking development.

English has been embedded as a compulsory part of the national curriculum starting from the secondary level. This implies that at least 78.2% of the Indonesian population who has enrolled in secondary schools have been introduced to English. However, the attempt done by educational institutions to leverage English skills has been considered unsatisfactory. According to Rahmawati (2018**),** one of the key factors of English comprehension is learners' ability to think critically. The fact that teachers' ability to possess critical thinking skills is essential for teaching students critical thinking leads to an unanswered question of how is the current state of Indonesian pre-service English teachers' critical thinking skills. This study is important to be investigated to showcase the existing pre-service English teachers' critical thinking skills that might give hints for the future direction of the teacher's development program.

Previous studies have shown that teachers perceive professional development positively (Nugraha, Maulida, 2021) as a sign of opportunity in developing their critical thinking skills (Syahrial, Kurniawan, Pratama, & Perdana, 2017). With the positive opportunity, future direction for teachers' critical thinking skills improvement is optimistically expected to be present in the future.

Critical thinking plays a pivotal role in learning and teaching activities. (Mustofa, Ubaidillah, & Harianti, 2020; Oktaviah, 2020) Implementing critical thinking development within the classroom aligns with what is being considered as one of the most prominent skills in the 21st century (Collins, 2014). Within the context of English as a Foreign Language (EFL) in the 21st century, teaching English is expected to be integrated with critical thinking development, despite no common agreement on how it should be implemented (Vaseghi, 2012).

Rigorous attempts have been made to foster critical thinking skills in Indonesia. The most prominent move was found in the enactment of the 2013 Curriculum, as stated in *Permendikbud* Number 58 Year 2014. Critical thinking has become one of the required skills that students need to possess that is expected to be fostered through scientific inquiry. Students are trained to be autonomous learners who perform intentional interactions with teachers, peers, and communities to build firm global understanding. Directive learning is no longer encouraged within the classroom setting to avoid the pitfalls that the former education system had faced. In consequence, critical thinking mastery among teachers is mandatory.

Past studies have shown a genuine interest in establishing critical thinking skill skill-driven English classes in Indonesia (Puspitasari, 2020). Mustofa (2020) elaborated the implementation of critical thinking skills in the classroom through intentional instructions that enable learners to sharpen their critical thinking skills specified through the four basic English skills: speaking, writing, listening, and reading. The context of Teaching English as a Foreign Language plays a central role by adding content-based instructions rather than pursuing fluency like how native speakers do. For example, teachers could invite students to read passages and discuss their comprehension instead of just pushing them to pronounce the vocabulary well. This is aligned with what Omar and Albakri (2016) have concluded, that the essential traits of critical thinking include reading because literature reading's mental process requires critical thinking skills.

The use of technology also gives teachers the opportunity to explore potential strategies and techniques in developing critical thinking skills within the EFL classroom. Learners might be able to reach a wide array of reading materials whilst learning the context, background, controversies, and critics through the internet. Teachers also could connect their classes to native English speakers that might benefit their classes. With the rich resources available, teachers and learners need to acquire an adequate judgment and inference ability which belong to critical thinking skills.

Critical thinking covers a wide array of subsets that each needs to be considered during critical thinking implementation in education. Past studies have shown various components of critical thinking that slightly differ from one another. Cambridge Assessment (Black, 2008) identified five processes that belong to the taxonomy: analysis, evaluation, inference, synthesis, and self-reflection. Mustofa (2020) pointed out similar processes with one extra component: interpretation, analysis, inference, evaluation, explanation, and self-regulation.

According to Assessment Day (2021), the most common critical thinking test used is the Watson-

Glaser Critical Thinking Appraisal (W-GCTA) that uses selected-response items such as multiple-choice or Likert-type items. diversified the components into analyzing arguments, assumptions, deductions, inferences, and interpreting information. The outline of these components are as follows:

Assumptions. Statements might or might not include assumptions. This component deals with the judgment of whether an assumption has been made or not from the provided statements.

Analyzing arguments. There are strong and weak arguments according to their relationship with questions. This component assesses how strong is the relationship between the argument with the question. The argument might be considered as strong if it directly aligns with the question or statement, and weak if it is not directly aligned with the question or statement.

Deductions. Comprehending information from a passage might need an evaluation if there is a deduction made in a form of a statement based on the passage. This ability to deduce should be entirely based on the passage and not on self-made conclusions based on one's own existing knowledge.

Inferences. True, false, and the possibilities in between are the elements of inferences. This component assesses one's ability to infer truth and false facts based on the information provided.

Interpreting information. Conclusions can be made from different perspectives based on one passage. This component involves someone's ability to interpret the information and decide whether some conclusions follow the presented information or not. Like the previous points, interpreting information should not be intruded on with existing knowledge.

Conducted on the basis of critical thinking implementation in the EFL classroom setting, this research aims to investigate the current state of Indonesian EFL learners' critical thinking and formulate the future directions that will be a prominent assistant for the fulfilment of the vision to upscale the human resource quality of Indonesia intellectuals. This research discusses the possibilities of critical thinking improvement through teaching strategies in the EFL classroom, particularly in higher education.

## METHOD

This research used a descriptive quantitative research design to examine the critical thinking skills of Indonesian EFL learners. Descriptive quantitative has been widely used in educational research (Nazri, Wijaya, & Zainurrahman, 2020; Dabbagh, 2017; Hasbi, 2013; Husin & Nurbayani, 2017). Through this method, this research aims to define the characteristics of the Indonesian EFL learners' population in terms of critical thinking skills, particularly in pre-service English teacher classrooms to forecast the quality of Indonesian English teachers in the upcoming years.

This study took the 82 second-year students of English Language Education in a public university in Indonesia as the respondents of the research. The sample choices were taken based on the criteria as follows: (1) the second-year students were considered knowledgeable in decoding words well due to the development of critical thinking that takes place largely after decoding becomes automatic and (2) they were considered as adult learners with a possibility to be the future English teachers. Thus, they have the tendency to comprehend more properties of critical thinking than the beginning learners.

A set of critical thinking diagnostic tests using Watson-Glaser Critical Thinking Appraisal (W-GCTA) by Assessment Day (2018) was used to measure the initial level of the student's critical thinking skills. The instrument used comprises five sections. Each section measures different aspects of critical thinking: analyzing arguments (6 questions), assumptions (9 questions), deductions (6 questions), inferences (10 questions), and interpreting information (7 questions). Some of the questions were dropped off due to the validity result.

Internal Consistency Reliability has been conducted with the Alpha Cronbach score of .652 which indicates that the score is acceptable at a moderate level (Taber, 2018; Ursachi, 2015). Validity coefficients results show that most of the items are valid, yet, there are invalid items that have been dropped out during the data.

The data analysis utilizes the summary of the calculation using descriptive statistics that include mean, median, mode, standard deviation, minimum and maximum scores. A histogram is used to distinguish the distribution of the score in each component, determining the critical thinking ability that the learners possess.

## RESULTS AND DISCUSSION

A diagnostic test was circulated among the (N) 82 respondents that consist of 62 females and 20 males. In order to measure the initial level of critical reading. A diagnostic test adopted from Assessment Day (2018) has been implemented to measure EFL Students' critical thinking skills with 33 questions in total consisting of 6 questions measuring students' skills in evaluating arguments, 8 questions measuring students skill in evaluating assumptions, 3 questions measuring students skills in deduction reasoning, 10 questions measuring students skills in induction reasoning and 6 questions measuring students skills in interpreting information that has met the validity and reliability criteria.

### *Students' general critical thinking*

Table 1 shows the general descriptive statistic of EFL students Critical thinking skills (N=82) with the mean score (M= 17.232), median (Mdn=16), Mode (15), standard deviation (SD=5.414), minimum score 9 of 33, and the maximum score is 33 of 33. +

Table 1. *Students critical thinking*

| | **Score** |
|---|---|
| Valid | 82 |
| Missing | 0 |
| Mean | 17.232 |
| Median | 16.000 |
| Mode | 15.000 |
| Std. Deviation | 5.414 |
| Minimum | 9.000 |
| Maximum | 33.000 |

Figure 1 shows the histogram that describes the distribution plot of the critical thinking score. It shows that the distribution of the scores was right-skewed that indicates most of the students' scores are relatively below the mean. Most of the students' scores are in the range 9-17 (N-50) while (N=32) students are having scores above the mean (M=17.232).

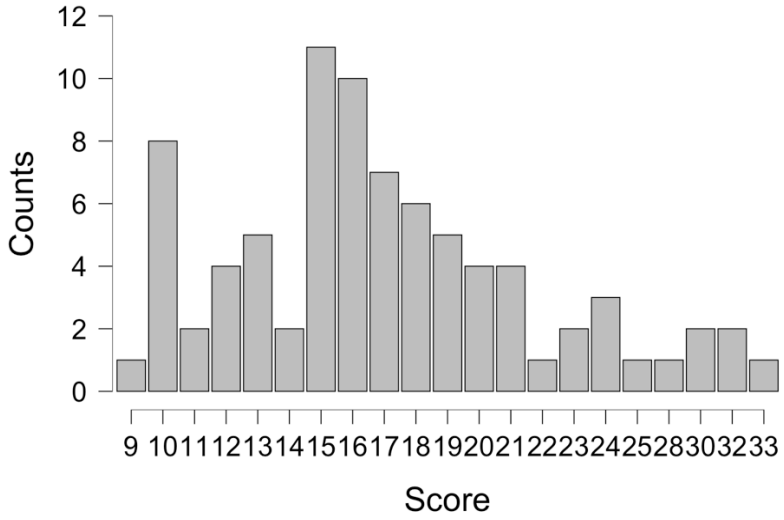


Figure 1. *Distribution plot of critical thinking score*

*Students' critical thinking in evaluating argument*

Table 2 describes the detailed data of each skill. It shows that the students' mean score in evaluating arguments is (M=4.2), median (Mdn=4), the mode is 4, standard deviation (sd=1.2), and the maximum score is 6.

Table 2. *Students critical thinking in evaluating argument*

| | **Score Argument** |
|---|---|
| Valid | 82 |
| Missing | 0 |
| Mean | 4.232 |
| Median | 4.000 |
| Mode | 4.000 |
| Std. Deviation | 1.240 |
| Minimum | 1.000 |
| Maximum | 6.000 |

Figure 2 illustrate that the score distribution is left-skewed which means that most of the students' score in evaluating the argument is above the mean score and close to the maximum score. The histogram shows that most of the students' scores are above the mean (N=61) and (N=21) students are having scores below the mean.

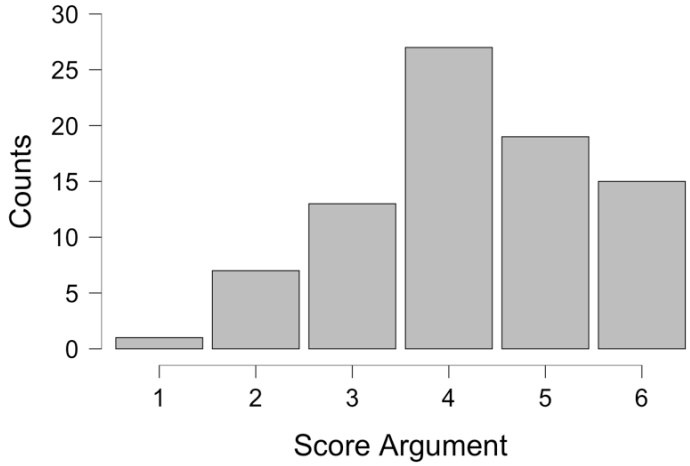


Figure 2. *Distribution plot of evaluating argument score*

*Students' critical thinking in evaluating assumption*

In evaluating assumption, the mean score is (M=3.78), the median score is (Mdn=4), the mode is 4, the standard deviation is 2.2 and the maximum score is 8 of 8.

Table 3. *Students critical thinking in evaluating assumption*

| | **Score Assumption** |
|---|---|
| Valid | 82 |
| Missing | 0 |
| Mean | 3.780 |
| Median | 4.000 |
| Mode | 4.000 |
| Std. Deviation | 2.272 |
| Minimum | 0.000 |
| Maximum | 8.000 |

The histogram as shown in figure 3 describes that the score distribution plot is fairly distributed as the frequency of the students' scores above the mean are (N=47) and the students' scores below the mean are (N=35).

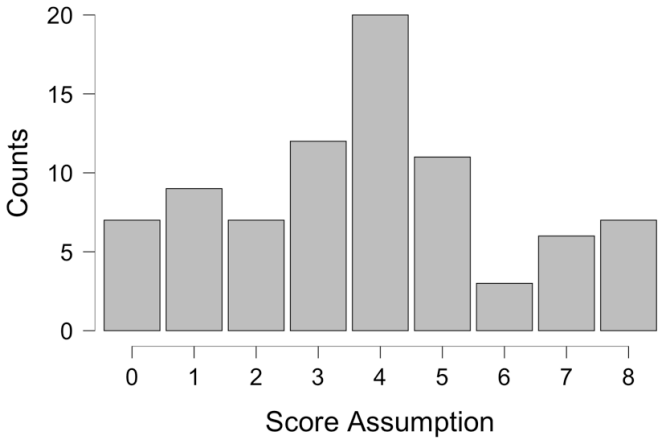


Figure 3. *Distribution plot of evaluating assumption score*

*Students' critical thinking in deductive reasoning*

Table 4 illustrates the descriptive statistics of students' critical thinking skills in deductive reasoning. It shows that the mean is quite high with the score (M=2.11) of the total score of 3. The median is (Mdn=2), the model is 3 and the standard deviation is 0.81.

Table 4. *Students' critical thinking in deductive reasoning*

| | **Score Deduction** |
|---|---|
| Valid | 82 |
| Missing | 0 |
| Mean | 2.110 |
| Median | 2.000 |
| Mode | 2.000 |
| Std. Deviation | 0.817 |
| Minimum | 0.000 |
| Maximum | 3.000 |

As shown in the histogram (figure 3) that the distribution of students' scores in deductive reasoning skills is left-skewed which indicates that most of the students' scores are around and above the mean (N=65) and only (N=17) students are having the score below the mean.

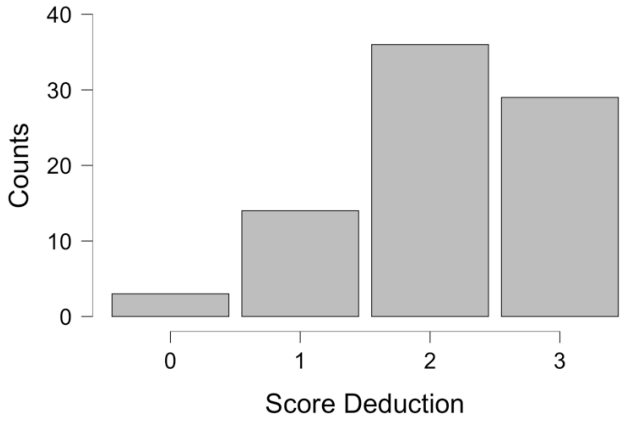


Figure 4. *Distribution plot of deduction score*

*Students' critical thinking in inferences (inductive reasoning)*

Table 5 illustrates the descriptive statistics of students' critical thinking skills in inductive reasoning. It shows that the mean is quite low with

the score (M=3.84) of the total score of 3. The median is (Mdn=4), the mode is 3 and the standard deviation is 2.247 with a total score is 10.

Table 5. *Students' critical thinking in inductive reasoning*

| | **Score of inductive reasoning** |
|---|---|
| Valid | 82 |
| Missing | 0 |
| Mean | 3.841 |
| Median | 4.000 |
| Mode | 3.000 |
| Std. Deviation | 2.247 |
| Minimum | 0.000 |
| Maximum | 10.000 |

The students' score of the inductive reasoning is skewed right as shown in figure 5 with 44 students are having a score around the mean, 38 students are having a score below the mean score, and only 16 students and only 1 student reach the perfect score.

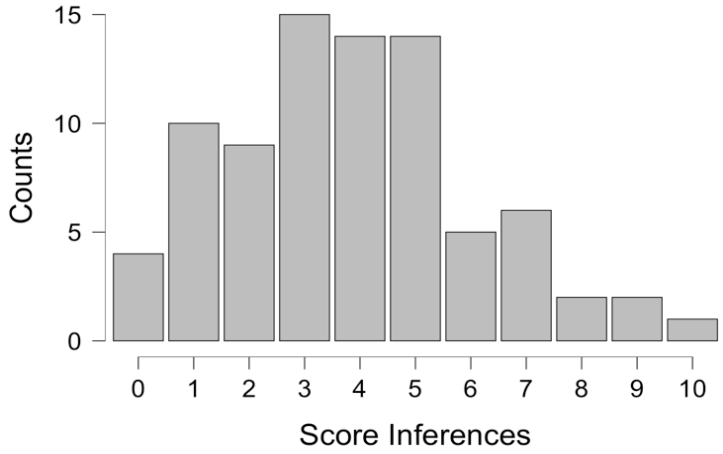


Figure 5. *Distribution plot of inferences score*

*Students' critical thinking in interpreting information*

The mean score of the student's critical thinking in interpreting information is (M=3.2), the median is (Mdn=3.00), the mode is 4 and the standard deviation is (Std=1.61) with the maximum score is 6.

Table 6. *Students' critical thinking in interpreting information*

| | **Score of interpreting information** |
|---|---|
| Valid | 82 |
| Missing | 0 |
| Mean | 3.268 |
| Median | 3.000 |
| Mode | 4.000 |
| Std. Deviation | 1.618 |
| Minimum | 0.000 |
| Maximum | 6.000 |

The students score in interpreting information is also skewed right as shown in figure 6 with 27 students are having the score below the mean, 19 students are having the score around the mean, and 20 students are having the score of mode (4), while 16 students reached the score above the mean score including 12 students reach the perfect score.

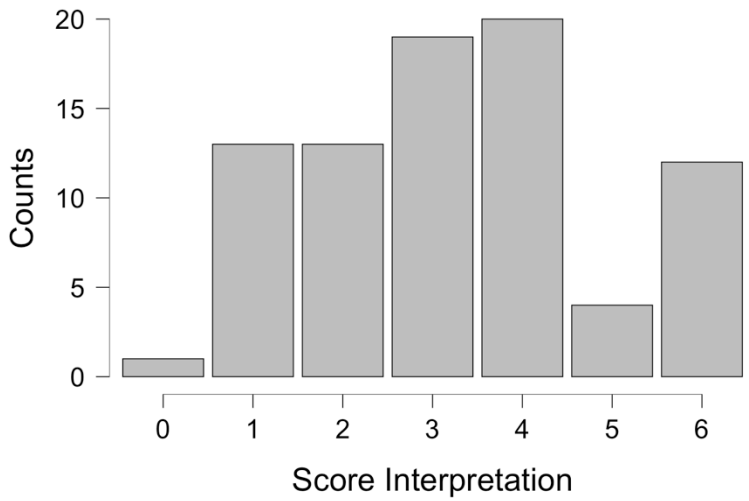


Figure 6. *Distribution plot of inferences score*

The findings indicated that an intentional attempt to foster critical thinking skills among EFL learners who happen to be aspiring English teachers is urgently needed to be implemented effectively. Among the five components measured in the diagnostic test, the result indicates that deductive reasoning is the hardest component with the lowest result. Intentional practice on deductive reasoning in the classroom might be a significant assistance for the learners.

Learning critical thinking skills could be done through reading, writing speaking, listening, viewing, and visual literacy in the English language classroom to assist learners (Omar & Albakri, 2016). Each of the items has its own strengths and weaknesses in leveraging critical thinking skills.

Teaching speaking skills in the EFL setting relies on the students' motivation (Astuti, 2019). On the other hand, teaching writing skills requires the scaffolding technique, specifically among learners with low to moderate English skills (Faraj, 2015). Reflecting on what previous studies have concluded, critical thinking is highly impacted by the activity of critical reading in the classroom (Par, 2018).

Critical reading involves synthesizing, evaluating, interpreting, and selectively using the information provided in the passage. It bears a close resemblance to the critical thinking components. EFL learners are expected to be able to not only comprehend texts in a proper way but also to evaluate the accuracy of the information through critical reading. The information gained from the reading activities will develop the learners' critical thinking (Delfi, Diah, & Jismulatif, 2018).

Conducting critical reading activity requires careful planning and execution as it is part of learning. Learning includes the cognitive, social, and emotional processes (National Academies of Science, 2018). Learning might be incomplete if the learners fall short in one of the specified processes. In other words, critical reading activity needs to facilitate cognitive, social, and emotional processes.

Reading discussion group was found as one way to leverage learners' confidence in using English that includes all three processes of learning (Moeljono, 2020). The activity commences with an extensive reading done by the learner, followed by a reflection-in-action, then continued to the discussion. These three activities foster cognitive, emotional, and social processes respectively. However, the implementation has not been commonly talked about among adult learners, specifically in higher education (Fenton-Smith & Stillwell, 2011). One of the untapped issues in the reading discussion group lies in the quality assurance of the discussion. The discussion quality relies fully on the interest of the learners, making the learners who have lower-to-none interest might be passive during the discussion.

Resolving the issue of the reading discussion group, MacPhail (2001) introduced one technique to maximize learners' participation in a discussion that is known as the Nominal Group Technique (NGT). There are various formats of NGT that have been widely used, but the most relevant with the respondents' situation is the process conducted by Chapple and Murphy (1996) because of the characteristics of the learners.

Silent phase. Leaners are provided with questions to be responded to in private without discussion. This is to facilitate all individuals processing the idea generation and avoid any dominating person.

Item generation phase. The responses then are distributed within the group. Still avoiding discussion, this procedure records the responses until no more ideas are submitted to the group.

Discussion and clarification phase. The process continues to a conversation between individuals that enable seek clarification, ask questions, and indicate judgment whether the individual agrees or disagrees with any item on the list. This helps learners to utilize their critical thinking skills, specifically in analyzing arguments.

Voting phase. After the discussion ends, each of the learners is asked to choose the items they consider the most important to them by listing them in accordance with their priority. The ability to infer and deduce ideas is sharpened through this activity.

## CONCLUSION

Derived from the discussed theories and findings, critical thinking implementation among EFL learners in Indonesia might affect the performance of learners in comprehending English which will indirectly boost the potential international collaborations in the global setting. This can be done by well-equipped teachers who possess critical thinking skills that involve analyzing arguments, assumptions, deductions, inferences, and interpreting information. After assessing these components in EFL learners who have the potential to be future English teachers, it is concluded that intentional critical thinking training among EFL learners is urgently needed because the current state shows an unsatisfactory result.

As one of the aspects of English learning, reading can be one of the most effective ways to foster critical thinking skills. Activities such as the reading discussion group and the nominal group technique are among the potential strategies for future direction. Further studies on these strategies might be beneficial for the betterment of EFL learners' critical thinking skills implementation within the classroom setting. That being said, embedding critical thinking skills through other aspects such as speaking, listening, and writing might lead to other possibilities of significant improvement in critical thinking skills implementation in the EFL classroom.

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