



The Implementation of Critical Thinking in Teaching and Learning Speaking to Students at Madrasah Aliyah Muhammadiyah Limbung

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Abstract

The research aimed to investigate how the teacher implements critical thinking in teaching English speaking at Madrasah Aliyah Muhammadiyah Limbung. This study was designed as qualitative research. The study involved one English teacher and sixteen students at eleventh grade at Madrasah Aliyah Muhammadiyah Limbung. The Data were collected through observation sheet that used lesson plan for observing what the teacher does in class, interview conducted directly (offline interview) with the teacher, and teacher's document refers to the lesson plan used in teaching Speaking through critical thinking. The results were analyzed using data reduction, data display, and conclusion. Then, reference Facione's (2007) critical thinking used in the analysis. This study found that the teacher implements critical thinking in teaching English speaking through the Problem-Based Learning (PBL) model with various activities such as discussions and presentations. This method encourages students to think critically and understand cause-and-effect relationships in various contexts and the teacher help students through discussions and exercises. In conclusion, the implementation of *critical thinking* in teaching and learning speaking had a positive impact on "students' understanding" of cause-effect relationships and their speaking skills.

Keywords: Critical Thinking, Problem-Based Learning, Speaking Skills, English Teaching

Introduction

One of the twenty-first century skills that is crucially necessary to be possessed is critical thinking along with communication, creativity, and collaboration skills which also play an important role in a human's cognitive development. Students are able to be actively involved in various information by thinking deeply about certain things. When students use their brains to think

deeply, it empowers them to analyze, critique, apply knowledge, and develop new ideas. However, most students still do not possess and reach at this level of thinking. This may result from the effect of the learning process that does not yet motivate students' thinking skills is the impact of students' critical thinking skills that are still indirectly low (Ekoningtyas, 2013).

Besides the importance to think critically, expressing our ideas is not less necessary. The ability to express our ideas and opinions to other people properly and correctly is a very much needed skill, especially in this era, where we must be able to convey our ideas and opinions to others in a way that is easily understood by that person, in other words, we must be able to adjust who we are speaking to Gilakjani and Sabouri (2016) claim that speaking is very important in people's experiences because they speak everywhere and all the time. This skill must be possessed since early age so that students will be successful language learners. To convey our ideas and opinions, deep thinking skills are also needed, so that the ideas we convey have strong main point and there are less mistakes in thinking or logical mistakes.

Harmer (2007, p.344) states that the teaching speaking is to teach students to develop their communication skill. The student should be able to communicate effectively, making the best use of their current proficiency. They should make every effort to avoid message confusion caused by improper pronunciation, grammar, or vocabulary and adhere to the social and cultural rules governing each communication situation (Burnkart, 1998:2). Then, Critical thinking is integrated into the teaching and learning of speaking, particularly when it comes to material about cause and effect.

This involves teaching high school students how to recognize the kinds of situations that lead to cause-and-effect statements, how to mention and express these statements in an appropriate manner, and how to comprehend text structures and linguistic elements when giving and receiving information. Write a brief text incorporating the statement and present it to the class to help them understand cause-and-effect relationships. In order to preserve and enhance the observed circumstances, students are also expected to be able to formulate opinions based on the findings of observations on cause-and-effect linkages.

This requires them to think critically, analytically, and reflectively. With this method, students are encouraged to think critically and analytically as well as to become proficient communicators. According to Facione (2007), there are mental and cognitive abilities and skills which can be put at the core of critical thinking including: interpretation, analysis, evaluation, inference, explanation, and self-regulation.

According to Facione (2007), interpretation involves understanding and explaining the meaning of information, analysis requires breaking down information into parts and examining the relationships among them, evaluation involves assessing the credibility and relevance of information, inference is the

ability to draw logical conclusions from available information, explanation involves clearly articulating the reasoning behind conclusions, and self-regulation refers to the ability to monitor and control one's own cognitive processes.

Several research about the integration of critical thinking in teaching to speak in English has been previously done that are according to Arfae (2020), investigated the impact of teaching of critical thinking on EFL learners' speaking skill in an Iranian context. The study discovered a strong correlation between EFL learners' speaking abilities and the development of critical thinking. This implies that teaching language learners to think critically can have a favorable impact on their speaking talents.

The study's conclusions also demonstrate how effective and efficient it is to encourage students to think critically. According to the study, educators and creators of instructional materials that successfully encourage critical thinking in EFL classes have excellent outcomes. The effective application, integration, and introduction of critical thinking are crucial to its effectiveness. In order for the researcher or teacher to demonstrate efficiency, the student needs to willingly participate in the event. Students find the experience engaging and exhibit interest in the idea.

The effectiveness of critical thinking and speaking skill is demonstrated through debate instruction and pair practice as highlighted by Sako (2023). He found the Critical Thinking and speaking skill are enhanced through "format" in debate instruction and pair practice as demonstrated by the literature review. According to the impacts of the "format" training, the students' "increased awareness of the plurality of viewpoints" and "increased focus on logical thinking"—both crucial for the development of CT—are created. The speech content's quality, such as its "increased sensitivity to language," is also improved by the "format" instruction. Regarding the benefits of pair practice, it has been found that it improves logical thinking and knowledge of various viewpoints, and that peer feedback boosts output activities and reflection. Presentation skills training is enhanced by thoughtful introspection and peer review. While a partner offers a sense of community and learning alongside, motivation is increased by peer support and emotional well-being.

Similarly, Caesar (2023) stated FLDI's (Foreign Language Department) critical thinking activities, including debate, discussion, and public speaking enhanced students' communication skills such as students can organize and present their ideas clearly, confidence, and oratory abilities. In order to help students examine situations where they question the information provided, understand the context behind it, and distinguish reality from fiction, these activities, which center on critical thinking in English language instruction, assist them in doing so. Students learn not to accept raw information without critical consideration, so they must look for clear evidence. Develop general speaking abilities next, as this will help students acquire critical thinking abilities that are necessary for efficient

communication in daily activities.

Another study conducted by Nurhajati et al. (2020), found the Critical Thinking of the students in speaking skill are enhanced through Sekawan-P. As a result, after they applied Sekawan-P, the Critical Thinking of the students developed. Students have Critical Thinking skill in speaking, they are able to identify the problems given. Sekawan-P is PPPP: *Pemilihan materi* (selecting materials), *Perencanaan* (planning), *Pengembangan* (developing), and *Penyajian* (presenting). Choosing resources, organizing, creating, and presenting a project are all part of the teaching process. After being split up into groups of four, the students watch a video model to identify different parts of the project. After that, they select a subject and create the project. In the group talks, role-playing and suggestion-discussion are conducted. While keeping an eye on each group's development, the teacher asks a few to showcase their work. When the project is presented in its final phase, the teacher evaluates the students' critical thinking and provides feedback. Even when they are not present, students still watch and take notes. At the conclusion of class, the teacher and students talk about the project's advantages and disadvantages.

The role of critical thinking in the development of speaking skills is demonstrated through some practical activities that can be used in the classroom for students to practice critical thinking skills as highlighted by Muhammadiyah et al. (2020). They found that critical thinking plays a critical role in the development of speaking abilities and that critical thinking raises awareness of academic discussions among learners of foreign languages by introducing diverse viewpoints into the classroom and challenging the information and arguments put forth by speakers on a range of semi-academic topics. Students participate in group debates about the arguments, language, presentation style, and syntax of Ted Talk presenters, for example. They consider their performance as speakers, interactions with classmates, peer assessment, and self-criticism. Repeating this technique encourages critical thinking and introspection.

The study of the relationship between critical thinking and speaking skills as highlighted by Rahmawati (2021), she found that the students' ability to think critically in speaking activities is low. It is determined by the critical thinking indicator achievement and speaking score of the students. This study shows that students struggle with a variety of speaking skills, including mastery of vocabulary, grammar, pronunciation, self-confidence, and lack of practice. It also reveals that students struggle with critical thinking, with the majority of critical thinking indicators not being met by the students. For example, students don't comprehend, investigate, evaluate, or draw conclusions from texts; they just remember the sentences. Students should read widely, gather a variety of sources, practice their English more, and prepare well.

Another study conducted by Maulana et al. (2022) found that critical thinking of EFL students is not satisfactory enough in speaking activities because they could not achieve the highest level of critical thinking, namely level of Create. They only

performed exceptionally well at the Understand, Apply, and Evaluate levels, which are determined by how well they can use critical thinking in speaking exercises. EFL students who reached the level of Understand and Apply stated that they had limited critical thinking skills since they could only utilize their thinking skills to solve simple problems, but those with higher Evaluate levels were able to handle complicated difficulties. In an online meeting, EFL students who met the level of Understand were limited to explaining the topic as usual; in contrast, those who met the level of Apply were permitted to convey the content in novel or unfamiliar scenarios.

In conclusion, previous research demonstrates a close relationship between critical thinking and speaking by using debate, pair and practice, and the Sekawan-P method, then using level critical thinking in speaking, but there is difference between this research and previous research that there has been no research that explains how to implement critical thinking in teaching speaking with the material about information related to cause and effect. Based on the description, the researcher is interested in conducting research question was formed: How does the teacher implement critical thinking in teaching English speaking?

Method

This research applied qualitative research design. The research subjects were eleventh grade students at Madrasah Aliyah Muhammadiyah Limbung because the teacher used Problem-Based Learning (PBL) model through critical thinking, which consists of sixteen students and one English teacher. To collect the data, there were some steps to conduct a research that the researcher conducted this study by observing teacher in integrating critical thinking in teaching English speaking through observation sheet, interview, and teacher's document.

The Data were collected through observation sheet that used lesson plan for observing what the teacher does in class for five meetings, interview conducted directly (offline interview) with the teacher that during the interview, the researcher record and note the answers and teacher's document refers to the lesson plan used in teaching Speaking through critical thinking. The data were analyzed using data reduction, data display, and conclusion. Data reduction was following some procedures as follows; firstly, the researcher has to reduce the data from the observation.

Meanwhile, Data displays show the data that had been reduced is converted into the form of patterns to obtain a better understanding of the data. The researcher displays the data in the form of pattern that describe the integration of critical thinking in teaching English speaking, The last step refers to the conclusion based on the analysis result of the data found. The conclusion drawn in the form of a description related to the integration of critical thinking in teaching English speaking.

Results

This section presents the implementation of critical thinking in teaching and learning to speak.

The Teacher's Implementation of Critical Thinking in Teaching English-Speaking (The implementation of critical thinking in "cause and effect materials" in teaching and learning speaking)

The teacher teach "Cause and Effect" applied a problem-based learning model. The presence of critical thinking (Facione, 2007) was identified in each syntax of PBL.

Pre-teaching

In motivation

Teacher: Smoking (cause) can cause lung diseases such as cancer (effect).

: Answer the question using your own opinion.

Why can smoking cause health problems?

: If we know that smoking causes disease, we can choose not to smoke.

Student : Why can cigarettes cause health problems?

: Cigarettes can cause health problems because they contain harmful substances such as nicotine

(Ex. 1.1)

In excerpt 1.1, some of the critical thinking principles used by the teacher were to instruct the students to give a response based on the student's opinion, to ask the students to give a reason why smoking can cause cancer, and to tell the students their opinion about the causal effect of smoking can cause cancer. Even the student gave a correct causal-effect sentence based on its structure text, which was different from the teacher's example, which did not follow the structure of the causal-effect sentence. The teacher's instruction that the students should give a response based on their opinion, ask a question, and tell their logical opinion refers to the implementation of critical thinking principles except for the structure text of the teacher's example which is not in line with causal effect sentence structure.

Teacher : Have you ever seen a warning about the dangers of smoking on cigarette packs? Why is it important?"

Student : *Warnings on cigarette packs are important because they help people understand the dangers of smoking and encourage them to stop smoking.*

Teacher : Today, we will learn about cause-and-effect

relationships, especially how smoking affects our health and the health of those around us. The goal is for you to understand the dangers of smoking and its impacts."

(Ex. 1.2)

In excerpt 1.2 in critical thinking, teachers have implemented interpretation by asking students to understand the meaning of warnings on cigarette packs and their impact on people's behavior. Analysis has also begun to be implemented by linking cigarette warnings to learning objectives about cause and effect. Explanation is seen in the way teachers explicitly convey learning objectives. However, evaluation has not been fully implemented because teachers do not ask students to assess the effectiveness of cigarette warnings in reducing smoking habits. Inference has also not emerged because students have not been asked to draw further conclusions about the implications of the warning. Self-regulation has not been emphasized too much at this stage because students have not been directed to reflect on their initial understanding or how they can develop critical thinking skills in analyzing the material.

In Apperception

Teacher : *If someone smokes (cause), then he or she is at risk of developing lung disease or cancer (effect). Cigarette smoke inhaled by other people can also cause them to suffer from respiratory problems (effect).*

Student : *Cigarette smoke can harm other people, even if they don't smoke directly.*

(Ex. 1.3)

In excerpt 1.3, based on the principle of critical thinking, the teacher's role in this conversation reflects an effort to build students' interpretation and analysis skills. The teacher conveys information that can be interpreted by students and provides a foundation for them to further analyze the cause-and-effect relationship in the following discussion.

Core-teaching

In Orientation

Teacher : What are the impacts of smoking?
: Answer the question using your own opinion.

Student : The problems of smoking include health impacts such as cancer and environmental impacts such as air pollution."

Teacher : Now, I would like one of you to read the following

text clearly. "Smoking can cause respiratory problems. The harmful substances in cigarettes, such as nicotine and tar, can damage the lungs. As a result, smokers often experience coughing, shortness of breath, and an increased risk of lung disease."

: Now, let's analyze the text. Which part is the cause and the effect?

Students : - The harmful substances in cigarettes, such as nicotine and tar, can damage the lungs (cause)
- Smokers often experience coughing, shortness of breath, and an increased risk of lung disease (effect)

Teacher : so, the conclusion is smoking can damage the lungs and cause respiratory problems.

(Ex. 2.1)

In excerpt 2.1, in the principle of critical thinking, the teacher does not fully carry out critical thinking; the teacher does not interpret the material taught correctly; the teacher also does not interpret correctly in understanding what is meant by orientation because he does not mention what must be done in orientation in what basic competencies must be achieved and how to formulate it into a problem because PBL must start with a problem; then he also does not know how to implement it.

In Organizing Students

Teacher : I will organize you into groups with mixed speaking abilities to ensure balanced participation. Each group will have four students with excellent speaking skills distributed among students with low, medium, and high abilities.

: Now, find information from the material I have given you, use additional sources such as or warnings about the dangers of smoking.

: Let's discuss some questions to help you identify the main components. What causes someone to start smoking? and I want you to help answer this question. How are passive smokers affected?"

Student : -People can start smoking because of peer pressure or because they want to try something new.

:-Passive smokers are affected because they inhale the same cigarette smoke, which contains toxic substances, even though they do not smoke directly

(Ex. 2.2)

In excerpt 2.2, based on the principle of critical thinking, the teacher has implemented interpretation by asking students to understand information about the impact of smoking and how it affects others. The teacher has also implemented analysis by helping students identify cause-and-effect relationships in the answers they give. However, this conversation does not reflect evaluation and self-regulation because students are not invited to assess the accuracy or relevance of the information they find. The teacher also does not ask students to construct arguments based on evidence or develop their understanding independently. In addition, the teacher has not fully implemented inference because students only answer the questions given without conducting a deeper analysis of the information they obtain.

In guiding the investigation

Teacher : What causes people to continue smoking even though they know the dangers? I encourage you to share your arguments and find information from the material I have given you or use additional sources such as articles, advertisements, or warnings about the dangers of smoking.

Student : Cigarettes contain dangerous substances such as nicotine which are addictive, therefore, many people find it difficult to quit smoking even though they know the dangers

(Ex. 2.3)

In excerpt 2.3, based on critical thinking, the teacher has developed interpretation by asking students to understand information about why someone continues to smoke. The teacher has also encouraged analysis by asking students to identify the cause-and-effect relationship of smoking habits. However, the evaluation aspect has not been seen because the teacher did not ask students to assess the accuracy or relevance of the information they found. The teacher has also not encouraged students to make inferences, where they should be able to draw conclusions based on the various sources of information they explore. In addition, explanation has not been applied optimally because the teacher did not ask students to convey and justify their answers using strong evidence. Self-regulation also did not appear in this conversation because the teacher did not invite students to reflect on their understanding or criticize the arguments they made.

Teacher : If someone smokes (cause), then the smoke can damage other people's lungs (effect).

: Now, try to create similar sentences using the same topic. For example, Smoking increases the risk of

cancer because it contains dangerous chemicals. You can also use signal words such as 'as a result' to make your sentences clearer.

Student : Nicotine is the main addictive substance. This explains why people find it difficult to quit smoking."

(Ex. 2.4)

In excerpt 2.4, based on critical thinking, teachers have developed interpretation by asking students to understand information about the cause-and-effect relationship in smoking. Teachers have also encouraged analysis by asking students to make their own sentences based on the examples given. However, the evaluation aspect has not been applied because the teacher does not ask students to assess whether the sentences they make are appropriate or need to be corrected. Inference is also not yet visible because students are only asked to make sentences based on examples, not to draw conclusions based on information they find themselves. The explanation is not fully developed because the teacher does not ask students to explain why they choose certain words or structures in their sentences. Self-regulation also did not emerge in this conversation, as the teacher did not invite students to reflect on their understanding or identify errors in the sentences they made.

In Developing and presenting the work

Teacher : Here are some tips for a good presentation. First, compile your presentation structure: opening, content, and closing. Then, speak clearly and confidently. Use signal words appropriately, and include data or facts to support your arguments."

Student : Today our group will present the cause-and-effect relationship of smoking. First, smoking contains harmful substances such as nicotine and tar. **Because** of these substances, smoking causes various serious diseases, including lung cancer and respiratory disorders. Smoking also has social impacts. **As a result** of high cigarette consumption, there are increasing economic costs, especially for medical treatment. Another impact is that children may imitate this habit when they see adults smoking around them. In addition to health and social impacts, smoking also affects the environment. **Therefore**, cigarette smoke contributes to air pollution, and cigarette butts cause environmental pollution. To explain the

cause-and-effect relationship clearly, we use signal words such as 'because,' 'as a result,' and 'therefore.' For example, 'Cigarettes cause cancer **because** they contain harmful substances. **As a result**, smokers' health worsens.' As a solution, we recommend supporting anti-smoking campaigns, educating the public about its dangers, and motivating others to avoid smoking. That concludes our presentation.

(Ex. 2.5)

In excerpt 2.5, in critical thinking according to the teacher, who has developed interpretation by asking students to understand and explain the cause-and-effect relationship in smoking. Analysis has also been applied because students are asked to organize information and connect it in a logical presentation. In addition, the teacher has also encouraged explanation by asking students not only to mention cause and effect but also to use appropriate conjunctions to explain the relationship. However, the evaluation aspect has not been fully seen because the teacher did not ask students to assess the accuracy of the information they presented or compare it with other sources. Inference has also not been optimally developed because students are not directed to draw deeper conclusions from the data they use. Self-regulation has not been explicitly reflected, because there is no reflection on the effectiveness of the presentation or self-evaluation of the way they convey information.

In Analysis and evaluation

Teacher : I will observe and take notes during your presentation. I will focus on whether you explain cause and effect clearly, describe the impact of smoking on the economy and the environment, and use signal words correctly.

: Now, discuss in your groups and summarize the important points from the material we have discussed."

Student : We conclude that smoking has bad impacts on health, the environment, and society. For example, the tar and nicotine content in cigarettes can cause lung cancer, while cigarette smoke pollutes the air and harms passive smokers. For social impacts, smokers' families can experience economic burdens due to spending on cigarettes.

(Ex. 2.6)

In excerpt 2.6, in critical thinking according to, the teacher has encouraged interpretation by asking students to compile conclusions based on discussions. The

teacher has also implemented analysis by guiding students to identify the impacts of smoking. Explanation is seen in the way the teacher directs students to compile conclusions using concrete examples. However, teachers have not fully implemented evaluation because they do not ask students to assess the accuracy of information or compare it with other sources. Inference has not emerged because teachers do not invite students to draw deeper conclusions or make predictions based on data. Self-regulation is also not visible, because teachers have not guided students in reflecting on their understanding and making improvements to the conclusions made.

Teacher : I will take notes on each question you ask to ensure that all are answered. If a question is not relevant, I will help you improve it. For example, that is an interesting question, but how does it relate to the cause-and-effect relationship of smoking? For example: "Why cigarette smoke is considered harmful to the health of passive smokers?"

: Now, discuss with your group to answer the questions based on the material that has been presented.

Student : Cigarette smoke is harmful to the health of passive smokers because it contains toxic substances such as nicotine, carbon monoxide, and tar, which can damage the lungs even though the person does not smoke directly.

(Ex. 2.7)

In excerpt 2.7, in critical thinking, the teacher has encouraged interpretation by asking students to understand the relationship between the question and the material being studied. Analysis is also applied because students are directed to identify important elements in their questions. Explanation is seen in the way the teacher guides students to formulate clearer and more relevant questions. However, evaluation has not been optimally applied because students are not asked to assess the accuracy of their own answers or compare their answers with other sources. Inference is also less encouraged because the teacher does not ask students to draw broader conclusions based on the information available. Self-regulation is not apparent in this conversation because students have not been directed to reflect on the quality of their questions and answers independently.

Post-teaching

In Reflection

Teacher : Now, I will give you time to write your summaries in

groups. After that, each group will read their summary in front of the class.

Student : In learning about the cause-and-effect relationship with the topic of smoking, we learned that cigarettes contain dangerous substances such as nicotine, tar, and carbon monoxide which cause various serious diseases, including lung cancer and respiratory disorders. Not only active smokers, but also passive smokers are affected by the negative effects of cigarette smoke, such as respiratory disorders and the risk of other diseases. In addition to health impacts, smoking also has social impacts, such as high economic expenditure and bad influences on children who imitate the behavior. We also learned to use signal words such as "because," "due to," and "so" to explain the cause-and-effect relationship, for example: "Smoking because contains dangerous substances such as nicotine" and "Air pollution due to cigarette smoke causes health problems in others." Through this learning, we concluded that understanding the cause-and-effect relationship helps us realize the dangers of smoking, make healthier decisions, and disseminate information to raise awareness of its impacts.

Teacher : Great job, everyone! The summaries you provided are very useful. Thank you for sharing with your friends.

(Ex. 3.1)

In excerpt 3.1, in critical thinking, the teacher has encouraged interpretation by asking students to understand and explain the cause-effect relationships in their summaries. Analysis is also applied because students identify various impacts of smoking, both from health, social, and environmental aspects. Explanation is seen in the way students explain the cause-effect relationships in their summaries. However, evaluation has not been fully implemented because the teacher did not ask students to assess the accuracy or completeness of their summaries. Inference is also less emphasized because students have not been directed to draw broader conclusions from what they have learned. In addition, self-regulation has not been seen because the teacher did not ask students to reflect on how they learn and how they can improve their understanding in the future.

Teacher : For your homework, I give you the freedom to choose a topic related to cause-and-effect materials.

You can search for materials on the internet or in books. After finding the materials, analyze the cause-and-effect relationship using signal words such as 'because,' 'due to,' 'as a result,' and 'therefore. Your homework must be submitted by 10 PM today via the class group on WhatsApp to avoid cheating. Make sure to complete it on time!

(Ex. 3.2)

In excerpt 3.2, in critical thinking, the teacher has encouraged interpretation because students must understand and explain the cause-and-effect relationships of the material they choose. Analysis is also applied by asking students to identify the causes and effects in the texts they find. Explanation is seen in the way students must structure their answers using appropriate conjunctions. However, evaluation has not been fully implemented because the teacher does not ask students to assess the accuracy or credibility of the sources they use. Inference is also not emphasized too much because students are only asked to identify cause-and-effect relationships without being directed to draw broader conclusions about the impact or implications of the relationship. In addition, self-regulation is only seen in the deadline for submitting assignments, but not yet in the form of reflection on how students learn or the strategies they use to understand the material more deeply.

Discussion

The Teacher's Implementation of Critical Thinking in Teaching English-Speaking (The implementation of critical thinking in "cause and effect materials" in teaching and learning speaking)

The findings indicate that the teacher's implementation of critical thinking in teaching speaking through *cause-and-effect* materials within a Problem-Based Learning (PBL) classroom positively influenced students' speaking skills. Specifically, interpretation, analysis, and explanation were fostered, while evaluation, inference, and self-regulation remained underdeveloped. This suggests that promoting critical thinking in language classrooms requires more than questioning and instruction; it also demands opportunities for students to assess information, draw independent conclusions, and reflect on their learning strategies.

During the pre-teaching phase, contextual questioning successfully motivated students to construct cause-and-effect sentences, supporting Elder and Paul (2006), view that well-structured questions enhance interpretation and analysis. However, the lack of emphasis on evaluation and self-reflection echoes Facione's (2007) claim that critical thinking must be systematically cultivated to achieve balanced outcomes.

In the core-teaching, while group organization and guided presentations helped structure students' learning, students were not given sufficient space to

identify and frame problems independently. This teacher-centered approach limited the development of inference and evaluation skills, which are central to PBL (Jonassen, 2011; King, 2008). Moreover, limited exposure to varied cause-and-effect conjunctions restricted students' ability to build more complex and nuanced arguments, aligning with Celce-Murcia and Larsen-Freeman's (1999) argument about the importance of linguistic variation for communicative competence.

The reflection stage revealed that students could summarize discussions using cause-and-effect structures, yet they were not guided to critically evaluate the accuracy or reliability of their sources. As Brookfield (2012) emphasizes, genuine critical reflection involves evaluating evidence and comparing perspectives—an element missing in this case. This indicates that reflection remained focused on content reproduction rather than deeper cognitive engagement.

These findings highlight the need for teachers to balance facilitation with learner autonomy in PBL contexts. While the teacher effectively scaffolded interpretation and analysis, future practice should more explicitly integrate evaluation, inference, and self-regulation. Doing so would not only improve students' speaking performance but also strengthen their reasoning skills to tackle real-world issues.

Theoretically, this study reinforces prior research (Richards, 2008; Arfae, 2020) showing that integrating critical thinking enhances language learning outcomes. Practically, it underscores the necessity for high school English teachers to adopt systematic strategies that develop higher-order critical thinking skills alongside communicative competence. If implemented effectively, speaking instruction using *cause-and-effect* materials can serve as both a linguistic and cognitive training ground, equipping learners with transferable skills for academic and everyday problem-solving.

Conclusion

In pre-teaching, core-teaching and post-teaching based on principle of critical thinking by Facione (2007), the teacher has applied interpretation, analysis, and explanation. Then, the implementation of *critical thinking* in teaching and learning speaking helps students understand cause-and-effect relationships by engaging them in discussions, presentations, and problem-solving activities. The process encourages students to actively participate in learning, express their ideas, and develop reasoning skills. Then, the researcher has recommendations that the teacher is suggested to provide further guidance in helping students build logical arguments through structured discussions and exercises while students are suggested to read and analyze various sources of information to broaden their horizons and hone their critical thinking skills and for the further research are suggested to develop on critical thinking-based learning methods with a more specific approach is needed.

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