

CHAPTER IV

FINDINGS AND DISCUSSION

This chapter presents the findings and discussion of the study, organized into two main sections. The first section reports the findings obtained from both the qualitative and quantitative phases of the research, while the second section discusses these findings in relation to the research questions and relevant theoretical perspectives.

A. Findings

The findings of this study are presented based on the two research questions. In accordance with the exploratory sequential mixed methods design employed in this study, qualitative data were collected and analyzed first through semi-structured interviews with lecturers to explore how teaching strategies are implemented to foster students' critical thinking skills. The qualitative findings subsequently informed the development of the questionnaire administered to students. After the qualitative phase was completed, quantitative data were collected and analyzed to examine students' perceptions of the lecturers' teaching strategies and to further support, clarify, and complement the findings obtained from the qualitative phase.

The findings of this study are presented in two main sections. The first section presents the qualitative findings obtained from interviews with lecturers. This section explores lecturers' perspectives on critical thinking skills, the teaching strategies they

use to develop these skills, and the challenges they encounter during the teaching process. The second section presents the quantitative findings derived from students' questionnaire responses. This section describes students' perceptions of the teaching strategies implemented by their lecturers in fostering critical thinking skills. Descriptive statistics are used to summarize the questionnaire data, while students' open-ended responses are included to provide additional explanations and insights. Together, these two sections offer a comprehensive understanding of how critical thinking skills are developed in the English Language Education context.

1. Qualitative Data

a. Lecturers' Understanding of Critical Thinking

The interview findings revealed that all participants considered critical thinking an essential skill that students must develop in higher education. Although each participant described the concept from a slightly different perspective, they shared a common understanding that critical thinking involves more than memorizing information. It requires students to analyze, evaluate, connect ideas, and express their own understanding.

1) Critical Thinking as Higher-Order Thinking Skills

All participants viewed critical thinking as a higher-order thinking skill that enables students to move beyond recalling information and engage in deeper

cognitive processes. They emphasized the importance of analysis, synthesis, evaluation, and application of knowledge.

Participant 1 explained that critical thinking involves several cognitive stages that allow students to transform knowledge into meaningful outcomes.

“Students should not merely memorize theories or concepts. They should be able to analyze and synthesize the knowledge they gained from previous learning experiences and connect it with new knowledge. After understanding a concept, they should be able to create something based on it or apply it in a project. Therefore, most of the outputs in my classes are projects because university students should be able to implement their understanding of theories into real products.” (Participant 1)

Similarly, Participant 2 emphasized analytical thinking as the core element of critical thinking.

“Critical thinking is the ability to analyze something, think critically, and provide criticism. Students should not simply accept information but should be able to analyze it and think deeply about it.” (Participant 2)

Participant 3 also highlighted the importance of understanding and exploring knowledge. *“Critical thinking is the ability to explore students’ understanding of a topic. We can see how much they know about a topic and how well they can explain it.”*

2) Emphasis on Deep Thinking and Reflective Learning

Another important theme emerging from the interviews is the emphasis on deep thinking and reflective learning. Participants believed that students should develop the habit of questioning information, examining different viewpoints, and

reflecting on ideas critically as 2 stated by Participant 2. *“Students must be able to analyze something, think critically, and not simply accept information as it is.”*
(Participant 2)

Participant 1 further explained that critical thinking begins when students start asking questions about the reasons behind concepts. *“When students begin to ask, ‘Why does it happen like that?’ instead of only asking what a concept means, they are already developing critical thinking.”* (Participant 1)

Participant 1 also described how critical thinking involves connecting and comparing knowledge, *“When students relate previous knowledge to new knowledge, compare different perspectives, and identify similarities and differences, they are already engaging in critical thinking.”* The findings suggest that lecturers value reflective learning processes in which students evaluate information, question assumptions, and construct deeper understanding rather than merely remembering facts.

3) Exploration and Expression of Understanding

The interviews also revealed that critical thinking is closely related to students’ ability to express and communicate their understanding. Participants emphasized that students should be able to articulate ideas clearly and provide explanations supported by reasoning. *“Critical thinking is the ability to explore students’ understanding of a topic and determine how far they can explain it.”*
(Participant 3)

Likewise, Participant 2 described students with strong critical thinking skills as those who actively contribute ideas during classroom discussions,

“When we have discussions in class, they are able to present unusual ideas. They do not simply say ‘I agree’ or follow their friends’ opinions. They are able to express their own viewpoints.” (Participant 2)

Participant 1 also highlighted the importance of considering multiple perspectives.

“Students should be able to explain why something is considered correct according to different theories and viewpoints. They should realize that there are many perspectives, not only one.” (Participant 1)

These responses indicate that critical thinking encompasses both internal cognitive processes and external communication skills. Students who think critically are expected to express their ideas, justify their opinions, and communicate their reasoning effectively.

Overall, the findings demonstrate that lecturers define critical thinking as a multidimensional skill involving higher-order thinking, reflective analysis, and the ability to express understanding and personal viewpoints.

b. Implementation of Teaching Strategies to Foster Critical Thinking

The interview findings revealed that participants employed several instructional strategies to foster students' critical thinking skills. Although each lecturer adapted the strategies according to course objectives and student characteristics, all participants emphasized the importance of active student engagement in the learning process. Four major strategies emerged from the

interview data, namely group discussion, problem-based and case-based learning, the use of open-ended questions and reflective learning and knowledge construction. These strategies were intended to create opportunities for students to analyze information, evaluate different perspectives, express opinions, and solve problems independently.

1) Group Discussion as a Collaborative Learning Strategy

Among the instructional strategies identified, group discussion was the most frequently used by participants. The lecturers believed that critical thinking develops more effectively when students actively interact with their peers rather than passively receiving information from the lecturer. Through collaborative discussions, students are exposed to different viewpoints, encouraged to articulate their own ideas, and challenged to evaluate alternative perspectives.

Participant 1 explained that she frequently organizes students into small groups to facilitate the exchange of ideas, *“I usually organize students into small groups so they can share ideas and learn from one another.”* (Participant 1). The interview data indicated that discussions enable students to gather information from various sources and examine different viewpoints before drawing conclusions. Students are also encouraged to search for information independently and share their findings within their groups. Through this process, students evaluate the credibility of information, compare perspectives, and provide reasons for their decisions, which are essential aspects of critical thinking.

In addition, Participant 1 emphasized that discussions provide opportunities for students to recognize the existence of multiple perspectives. She stated,

“I always try to introduce different perspectives in class. Students need to understand that the world is not simply black and white. There can be many perspectives, and their task is to critically evaluate which perspective is most reasonable.” (Participant 1)

This statement indicates that group discussions help students develop intellectual openness and analytical thinking by encouraging them to examine issues from various angles rather than accepting a single viewpoint.

A similar strategy was reported by Participant 3 identified group discussion as the primary strategy implemented in her classroom,

“I mostly use group discussions so that students can collaborate with their friends, discuss a topic, share ideas, and add information to one another.” (Participant 3)

She explained that collaborative learning enables students to build understanding collectively. During discussions, students not only contribute their own ideas but also refine their thinking through interaction with their peers. Such collaborative processes encourage students to analyze information critically and construct more comprehensive understandings of a topic.

Likewise, Participant 2 described the use of discussion-based activities by asking students to discuss questions related to texts and connect them with real-life situations, *“I often give students questions about a text and ask them to discuss it together or relate it to everyday situations.” (Participant 2)*

By linking classroom materials to authentic contexts, students are encouraged to move beyond surface-level comprehension and engage in deeper analysis. This process supports the development of critical thinking by requiring students to interpret information and apply it to meaningful situations. For example, Participant 2 explained that in her reading class, she often provided a short text accompanied by discussion questions and asked students to work in small groups before comparing the content of the text with situations from their own daily lives, which required them to interpret the information rather than simply repeat it. Similarly, Participant 3 described a group discussion activity in which students were asked to identify the problems within a given topic and collaboratively decide on the most suitable strategy to address them.

Overall, the findings suggest that group discussion functions as a collaborative learning strategy that promotes active participation, exposure to diverse perspectives, knowledge sharing, and reflective thinking, reflecting a learning process in which knowledge is constructed socially rather than transmitted individually. Through these interactions, students are encouraged to evaluate information, justify opinions, and develop more sophisticated reasoning skills.

2) Problem-Based and Case-Based Learning

Another instructional strategy identified in the interviews was the use of problem-based and case-based learning. Participants reported presenting students with problems, cases, or real-life situations that required analysis and solution

development. These activities were intended to encourage students to think critically by engaging them in authentic problem-solving processes.

Participant 2 explained that problem-solving activities are commonly integrated into classroom discussions.

“I give students a problem, and they discuss it together with their friends about the solution. Problem-solving activities are included in group discussions. Sometimes I also provide cases and ask students to propose solutions related to the case.” (Participant 2)

This statement indicates that students are not only expected to identify problems but also to evaluate possible solutions and justify their decisions. Through this process, students practice analytical reasoning, decision-making, and evaluation, which are essential dimensions of critical thinking.

Participant 3 further explained that students are often encouraged to examine issues within a topic and determine the most appropriate strategies for addressing them. *“Students discuss the topic, identify the problems within it, and then find the best strategy for solving those problems.” (Participant 3)*. The findings suggest that problem-based learning encourages students to move beyond memorization by actively applying their knowledge to solve practical issues. Instead of simply learning concepts theoretically, students are challenged to use evidence and logical reasoning to address complex situations.

Similarly, Participant 1 reported using case-study activities in her classroom, *“Sometimes students are given a case study or a question and are asked to search for information independently.”* Participant 1 explained that she sometimes assigns

students a single case-based question and asks them to search for relevant information independently online before discussing their findings in small groups, requiring them to compare multiple sources before reaching a conclusion. Likewise, Participant 3 described integrating problem-solving directly into group discussion activities, in which students were given a specific problem within a topic and asked to discuss possible solutions together with their peers. Through case studies, students are required to investigate information from various sources, compare evidence, and formulate reasoned responses. Such activities encourage independent inquiry and help students develop the ability to critically assess information before reaching conclusions. This practice reflects the principles of case-based learning, as students analyze situations within authentic contexts and consider how theoretical concepts can be applied in real life.

Overall, the findings indicate that problem-based and case-based learning support critical thinking by encouraging students to analyze situations, evaluate evidence, generate solutions, and apply knowledge in meaningful contexts. These strategies create opportunities for students to engage in higher-order thinking processes while developing practical problem-solving skills.

3) Use of Open-Ended Questions to Stimulate Thinking

The use of open-ended questions emerged as another important strategy employed by participants to promote critical thinking. Unlike closed-ended questions

that typically require a single correct answer, open-ended questions encourage students to explore ideas, justify their reasoning, and consider multiple perspectives.

“I usually provide open-ended questions with various possible answers. There is no single correct answer because every response can be viewed from a different perspective.” (Participant 1)

Participant 1 explained that in her Public Speaking class, she develops discussion topics closely related to students' personal lives, encouraging them to reflect on themselves and respond more critically rather than answering from a purely theoretical standpoint. The interview data revealed that open-ended questions encourage students to think independently rather than simply recalling information from textbooks. Students are required to formulate opinions, provide explanations, and support their arguments with logical reasoning. This process promotes deeper cognitive engagement and helps students develop analytical thinking skills.

Participant 2 further emphasized that many of the questions used in her classroom are closely related to students' daily experiences. *“I often ask reflective questions that are related to everyday life so students can reflect more deeply and become more critical of themselves.” (Participant 2)*. The use of reflective questions encourages students to examine personal experiences, beliefs, and assumptions. Through reflection, students become more aware of their own thinking processes and are encouraged to evaluate ideas more critically.

In addition to questioning techniques, Participant 3 reported assigning reflective projects that require students to identify answers based on their own experiences and perspectives, *“I assign reflective projects where students find*

answers within themselves. This helps them think critically.”(Participant 3). Such activities allow students to engage in self-reflection and independent analysis rather than relying solely on information provided by the lecturer.

The findings also suggest that open-ended questions create a classroom atmosphere in which multiple viewpoints are accepted and respected. Students are encouraged to share opinions freely, listen to alternative perspectives, and defend their ideas using logical arguments. This environment supports the development of critical thinking by promoting intellectual curiosity, reflection, and reasoned judgment.

Overall, the findings indicate that open-ended questions stimulate critical thinking by encouraging students to analyze issues, express opinions, justify arguments, and reflect on their experiences. Through these processes, students become more active participants in learning and develop the ability to think independently and critically.

4) Reflective Learning and Knowledge Construction

Another strategy identified from the interviews was the use of reflective learning activities and knowledge-construction tasks. The participants emphasized that critical thinking develops when students are encouraged to connect prior knowledge with new information, reflect on their learning experiences, and apply their understanding through projects and independent analysis.

Participant 1 explained that students should not only understand concepts but also connect previous knowledge with newly acquired information and use that understanding to create meaningful outputs.

“Students should be able to analyze and synthesize the knowledge they gained from previous learning experiences and connect it with new knowledge. After understanding a concept, they should be able to create something based on it or apply it in a project.” (Participant 1)

This statement suggests that critical thinking involves the active construction of knowledge rather than the passive reception of information. Students are expected to analyze information critically, establish relationships among concepts, and apply their understanding in authentic tasks.

In addition, Participant 2 reported assigning reflective projects that encourage students to examine their own experiences and perspectives, *“I assign reflective projects where students find answers within themselves. This helps them think critically.” (Participant 2)*

The findings indicate that reflective learning activities and project-based tasks provide opportunities for students to engage in self-reflection, connect ideas, and develop deeper understanding. As an example, Participant 1 noted that most of the final outputs in her classes are project-based, requiring students to internalize the theories and concepts discussed in class and apply them into a tangible product rather than simply answering exam questions. Similarly, Participant 3 explained that after a discussion, she guides students to reflect on the topic for instance, reflecting on how technology or a particular learning experience relates to their own future teaching

practice, before deciding which strategy would be most appropriate to apply in the classroom.

c. Lecturers' Challenges in Implementing Critical Thinking Strategies

The findings revealed that lecturers encountered several challenges in their efforts to develop students' critical thinking skills. Although various instructional strategies were implemented to promote critical thinking, their effectiveness was influenced by factors related to students' confidence, use of technology, preparation for learning, and classroom conditions. Four major challenges emerged from the interview data: lack of confidence and language barriers, dependence on artificial intelligence (AI), limited preparation before class, and large class size.

1) Lack of Confidence and Language Barriers

One of the challenges identified by the participants was students' lack of confidence when expressing their opinions in English. Since English is used as the medium of instruction, many students hesitate to participate in discussions because they are afraid of making mistakes. This situation often prevents students from sharing their ideas, even when they understand the topic being discussed.

As Participant 2 explained. *"Some students are not confident when expressing their opinions in English. They are afraid of making mistakes, so they hesitate to speak."* The interview data indicated that language barriers can limit students' participation in critical-thinking activities. Students may have relevant ideas or

opinions, but they often struggle to communicate them effectively in English. As a result, opportunities to practice critical thinking through discussion, argumentation, and idea sharing become limited. These findings suggest that confidence and language proficiency play important roles in supporting students' engagement in critical-thinking activities.

2) Dependence on Artificial Intelligence (AI)

Another challenge highlighted by the participants was students' increasing dependence on artificial intelligence (AI). Although AI can provide quick access to information and support learning, lecturers expressed concern that students often rely on AI-generated answers without critically evaluating the information or developing their own reasoning.

“Students are increasingly facilitated by AI. Sometimes they become reluctant to think independently. They search for answers through AI and provide opinions based on AI responses, especially from ChatGPT. Most of the time, they do not combine the information with their own thinking.”
(Participant 3)

This statement highlights a concern that easy access to AI may discourage students from engaging in independent reasoning. Instead of analyzing information critically, some students tend to accept information directly from AI tools without further evaluation.

A similar concern emerged from another participant, who emphasized the importance of exposing students to multiple perspectives before drawing conclusions. The participant explained that students are expected to compare information from

different sources and develop their own interpretations. However, many students prefer to obtain immediate answers from AI rather than engaging in the process of critical inquiry.

Taken together, these findings indicate that excessive dependence on AI may reduce opportunities for students to practice essential critical-thinking skills, such as evaluating evidence, comparing viewpoints, and constructing well-reasoned arguments.

3) Limited Preparation Before Class

Another challenge highlighted by the participants was students' limited preparation before class. According to the interview data, some students attend class without adequately preparing for the lesson, even when they have been informed about the topic beforehand. This lack of preparation often affects the quality of classroom discussions and students' ability to participate actively.

As explained by Participant 2. *"Sometimes students come to class without preparing at home. Even though they already know the topic that will be discussed, they still come unprepared."* The participant noted that students who come to class without preparation often struggle to contribute ideas, respond to questions, or engage in meaningful discussion. Since critical-thinking activities require students to analyze information and express reasoned opinions, insufficient preparation may limit their ability to participate effectively. Therefore, lecturers viewed preparation before class as an important factor in supporting the development of critical thinking skills.

Participant 3 observed that many students rarely review learning materials after class.

“Many students do not review the materials after class. When they come to the next meeting and are asked about previous lessons, only a few students can respond.” (Participant 3)

These findings suggest that students’ readiness to participate in critical-thinking activities is influenced by their preparation and engagement with learning materials. Students who prepare before class and regularly review course content are generally better able to contribute to discussions and respond critically to classroom tasks.

4) Large Class Size

Class size was also identified as a challenge in fostering students’ critical thinking skills. The interview data revealed that implementing discussion-based and critical-thinking activities becomes more difficult when the number of students in a class is too large. In such situations, lecturers may struggle to monitor students’ participation and ensure that all groups are actively engaged in the learning process.

As one participant explained. *“When teaching a large class, it becomes difficult to monitor whether every group is actively engaging in critical-thinking activities.” (Participant 1)*. The participant further noted that large classes make it challenging to provide equal attention and feedback to all students. As a result, some students may participate less actively in discussions, reducing opportunities for lecturers to facilitate critical-thinking development effectively. These findings

suggest that large class size can limit interaction, participation, and monitoring, which are important elements in promoting critical thinking in the classroom.

Overall, the findings indicate that lecturers face several challenges in developing students' critical thinking skills. These challenges include students' lack of confidence in using English, dependence on AI-generated responses, limited preparation before class, and the difficulties associated with managing large classes. Although lecturers employ various strategies to foster critical thinking, the effectiveness of these efforts is influenced by both student-related and classroom-related factors.

2. Quantitative Data

a. Validity Test

Before the questionnaire data were analyzed, a validity test was conducted to determine whether each item was capable of measuring the intended construct. The validity of the instrument was assessed using item-total correlation analysis in SPSS. An item was considered valid if the correlation coefficient exceeded the minimum criterion of $r \geq 0.30$ and the significance value was less than 0.05 (Field, 2018). The results of the item-total correlation analysis are presented in Table 1.

Table 4.1 Summary of Item-Total Correlation Coefficients and Validity Status

No.	Item Statement	r	Sig.	Status
Q1	Lecturers encourage students to express opinions with logical reasons	.784	.000	Valid

No.	Item Statement	r	Sig.	Status
Q2	Students feel confident expressing opinions in discussions	.608	.000	Valid
Q3	Lecturers provide problems or case studies for class discussion	.722	.000	Valid
Q4	Lecturers help students apply theory to real-life situations	.801	.000	Valid
Q5	Open-ended questions encourage deeper thinking	.764	.000	Valid
Q6	AI tools sometimes reduce independent analysis	.671	.000	Valid
Q7	Lecturers assign reflective and project-based tasks	.690	.000	Valid
Q8	Lecturers create opportunities for classroom discussion	.723	.000	Valid
Q9	Large class sizes reduce opportunities for critical discussion	.416	.018	Valid
Q10	Group discussions personally encourage critical thinking	.600	.000	Valid
Q11	Lecturers encourage students to analyze information critically	.734	.000	Valid
Q12	Language proficiency affects expression of critical opinions	.478	.006	Valid
Q13	Lecturers permit and accept different perspectives	.755	.000	Valid
Q14	Problem-solving activities help develop critical thinking	.733	.000	Valid
Q15	Limited preparation negatively affects critical participation	.471	.006	Valid
Q16	Lecturers use group discussions in the classroom	.692	.000	Valid
Q17	Lecturers guide students to connect prior and new knowledge	.742	.000	Valid
Q18	Lecturers pose open-ended questions allowing multiple perspectives	.833	.000	Valid
Q19	Lecturer-assigned tasks support analysis and knowledge application	.525	.002	Valid
Q20	Lecturers encourage evaluation of ideas before drawing conclusions	.745	.000	Valid

As presented in Table 1, all 20 questionnaire items demonstrated positive and statistically significant correlations with the total instrument score. The item-total

correlation coefficients ranged from .416 to .833, indicating that all items exceeded the minimum validity criterion of $r \geq 0.30$. Furthermore, all significance values were below .05, confirming that each item was significantly correlated with the overall scale. All 20 items were retained for further analysis and proceeded to the reliability testing stage.

b. Reliability Test

Following the validity test, a reliability test was conducted to determine the consistency of the questionnaire items. Reliability was assessed using Cronbach's Alpha (α), which is commonly used to evaluate the internal consistency of Likert-scale instruments. According to (Taber, 2018), a Cronbach's Alpha value of 0.70 or higher indicates acceptable reliability, values above 0.80 indicate strong reliability, and values above 0.90 indicate excellent reliability.

Table 4.2 Reliability Statistics

Cronbach's Alpha	N of Items
.932	20

Note. N of Items = 20; N of respondents = 32.

As shown in Table 2, the questionnaire obtained a Cronbach's Alpha coefficient of .932 across the 20 items, placing it well within the excellent reliability category. This result indicates that the items are strongly interrelated and function consistently as a single coherent instrument. Based on the validity and reliability results, all 20 items were retained and used in the subsequent descriptive analysis.

c. Descriptive Statistics

Having established the validity and reliability of the questionnaire, descriptive statistical analysis was conducted to examine students' perceptions of lecturers' teaching strategies in developing critical thinking skills. The analysis included the calculation of mean scores (M) and standard deviations (SD) for each questionnaire item, where the mean reflects students' overall level of agreement and the standard deviation reflects the variability of their responses.

It should be noted that Research Question 1, which concerns how lecturers conceptualize critical thinking, was not translated into questionnaire items. This research question relates to lecturers' internal understanding of the concept, which is something students are not in a position to observe or report on. For this reason, Research Question 1 was addressed solely through the interview data, while the questionnaire was developed to address Research Question 2 and Research Question 3. The questionnaire items are presented below according to two main categories, in line with the qualitative findings: teaching strategies and challenges in implementing critical thinking strategies. Within each category, the items are further grouped according to the specific themes that emerged from the lecturers' interviews. For each theme, the descriptive results are presented and briefly discussed in relation to the corresponding qualitative findings.

1) Teaching Strategies

This section presents students' perceptions of the teaching strategies used by lecturers to develop critical thinking, organized according to the four strategies identified in the interview findings.

a) Group Discussion as a Collaborative Learning Strategy

Table 4.3 Descriptive Statistics Related to Group Discussion

Item	Statement	Mean	SD	Category
Q8	Lecturers create opportunities for classroom discussion	4.00	.916	High
Q10	Group discussions personally encourage critical thinking	3.91	.856	High
Q16	Lecturers use group discussions in the classroom	4.06	.982	High

The questionnaire results indicate that students generally perceived group discussion positively as a collaborative learning strategy for developing critical thinking skills. All items related to this theme obtained high mean scores, suggesting that students recognized group discussion as a common and beneficial learning activity in their courses. Among the three items, Q16 received the highest mean score ($M = 4.06$, $SD = .982$), indicating that students strongly agreed that lecturers frequently used group discussions during classroom learning. Similarly, Q8 obtained a mean score of 4.00 ($SD = .916$), suggesting that students perceived lecturers as consistently providing opportunities for classroom discussions. In addition, Q10

achieved a mean score of 3.91 (SD = .856), indicating that students believed group discussions contributed positively to the development of their critical thinking skills.

These findings suggest that discussion-based learning plays an important role in the learning experiences of English Education students. The consistently high scores demonstrate that students not only participate in discussion activities but also recognize their value in encouraging analytical thinking, exchanging ideas, and evaluating information critically. Through discussion, students are exposed to different viewpoints, which encourages them to reconsider their own assumptions and develop more reasoned conclusions.

The open-ended responses further support these findings. Several students explicitly identified group discussion as one of the most effective classroom activities for developing critical thinking skills. One respondent stated.

“Group discussion helps me the most in developing critical thinking skills.” Similarly, another student explained, *“Group discussion is the most effective in developing critical thinking skills, for me when on group discussion it was encouraging me to think deeper and able to giving answer openly.”*

These responses indicate that students perceive group discussions as opportunities to think more deeply, express their ideas, and engage actively in the learning process. Rather than passively receiving information, students are encouraged to articulate their opinions and respond to the ideas of others.

Another respondent emphasized the collaborative aspect of discussion activities by stating, *“A discussion activity in which groups share their opinions with*

one another.” Likewise, another student highlighted the importance of discussions in broadening perspectives, *“Activities like discussions, debates, and problem-solving make me analyze ideas and see different perspectives from the others and improve my critical thinking skills.”* These responses suggest that students value discussion activities because they allow them to learn from their peers and consider alternative viewpoints. Exposure to different perspectives encourages students to evaluate arguments more carefully and supports the development of higher-order thinking skills.

The quantitative findings are consistent with the qualitative results obtained from the lecturers’ interviews. In the qualitative phase, lecturers identified group discussion as one of the primary teaching strategies used to foster critical thinking skills. Participant 1 explained that small-group discussions provide opportunities for students to exchange ideas and compare different viewpoints before reaching conclusions. According to the lecturer, discussion activities encourage students to think critically because they are required to justify their opinions and respond to the arguments presented by others.

Similarly, Participant 3 emphasized that collaborative discussions enable students to construct knowledge collectively. The lecturer explained that students share information, contribute ideas, and expand one another’s understanding during discussion sessions. Through this process, students are encouraged to analyze information critically rather than simply accepting information without evaluation.

The consistency between the quantitative and qualitative findings indicates that group discussion functions as both a teaching strategy and a collaborative learning environment that supports critical thinking development. The lecturers reported regularly implementing discussion activities, and students confirmed that these activities helped them think more deeply, evaluate different perspectives, and express their opinions more confidently. Therefore, group discussion can be considered one of the most significant strategies employed by lecturers to foster critical thinking skills among English Education students.

Overall, the findings suggest that group discussion creates meaningful opportunities for interaction, reflection, and collaborative knowledge construction. By engaging students in the exchange of ideas and encouraging them to evaluate multiple perspectives, group discussion contributes substantially to the development of critical thinking skills in higher education contexts.

b) Problem-Based and Case-Based Learning

Table 4.4 Descriptive Statistics Related to Problem-Based and Case-Based Learning

Item	Statement	Mean	SD	Category
Q3	Lecturers provide problems or case studies for class discussion	3.84	.767	High
Q4	Lecturers help students apply theoretical knowledge to real-life situations	3.91	.818	High
Q14	Problem-solving activities help develop critical thinking skills	4.09	.777	High
Q19	Lecturer-assigned tasks support analysis and application of knowledge	3.66	.865	High

The descriptive statistics indicate that students held positive perceptions regarding the use of problem-based and case-based learning in developing critical thinking skills. All items associated with this theme obtained high mean scores, suggesting that students generally agreed that lecturers regularly incorporated problem-solving and case-based activities into the learning process. Among these items, Q14 received the highest mean score ($M = 4.09$, $SD = .777$), indicating strong agreement that problem-solving activities contribute significantly to the development of critical thinking skills. Similarly, Q4 obtained a mean score of 3.91 ($SD = .818$), suggesting that students perceived lecturers as helping them connect theoretical concepts to real-life situations. In addition, Q3 ($M = 3.84$, $SD = .767$) indicates that students frequently encountered problems or case studies in classroom discussions, while Q19 ($M = 3.66$, $SD = .865$) suggests that lecturer-assigned tasks supported the analysis and application of knowledge.

These findings suggest that students view problem-based and case-based learning as meaningful learning experiences that encourage them to move beyond memorization and engage in deeper analysis. By working with authentic problems and real-world situations, students are required to identify issues, evaluate evidence, compare alternatives, and formulate solutions. Such learning activities provide opportunities for students to apply theoretical knowledge in practical contexts, which is an essential component of critical thinking development.

The open-ended responses further reinforce these findings. Several students identified problem-solving and case analysis as activities that most effectively

fostered their critical thinking skills. One respondent stated, *“Classroom activities that involve discussion, problem-solving, and real-life case analysis help the most in developing critical thinking skills.”*

This response suggests that students perceive learning activities involving authentic situations as valuable opportunities to analyze issues critically and develop reasoned solutions. Rather than focusing solely on theoretical content, students appreciate activities that require them to apply their knowledge to practical situations.

Another student highlighted the importance of case studies by stating, *“Case study discussions, clear and structured explanations and pro and con debates.”* This response indicates that case-study discussions encourage students to examine issues from different perspectives and evaluate competing arguments before reaching conclusions. Such processes are closely associated with critical thinking because they require students to analyze information rather than simply accept it.

Similarly, another respondent explained, *“Case studies combined with deep questioning help us think critically. We not only find solutions, but also understand the why and how behind each decision.”* This response demonstrates that students recognize the value of case-based learning not only for solving problems but also for understanding the reasoning behind particular decisions. The emphasis on understanding “why” and “how” reflects higher-order thinking processes, including analysis, evaluation, and justification.

Other students also emphasized the importance of activities that challenge them to solve problems independently. One participant noted that activities involving

problem-solving helped them develop analytical thinking because they were required to evaluate information carefully before making decisions. These responses suggest that students perceive problem-based learning as a strategy that encourages active engagement with learning materials and promotes independent reasoning.

The quantitative findings are consistent with the qualitative results obtained from the lecturers' interviews. In the qualitative phase, lecturers identified problem-based and case-based learning as one of the key strategies used to foster critical thinking skills. Participant 3 explained that students are often given specific problems to discuss collaboratively and are encouraged to identify appropriate solutions through group analysis. According to the lecturer, presenting students with real problems encourages them to examine situations critically and justify their proposed solutions.

Similarly, Participant 1 reported using case studies to encourage students to investigate issues, gather information, and formulate conclusions independently. The lecturer explained that students are required to analyze situations from multiple perspectives before determining the most appropriate response. Through this process, students learn to evaluate evidence and construct logical arguments based on their findings.

The interview data also revealed that lecturers intentionally design learning activities that connect theoretical knowledge with practical situations. This finding is reflected in the high mean score for Q4, which indicates that students recognized lecturers' efforts to help them apply classroom knowledge to real-life contexts. The

consistency between the interview and questionnaire findings suggests that lecturers successfully integrate theory and practice through problem-based and case-based learning activities.

Overall, the convergence of quantitative and qualitative findings indicates that problem-based and case-based learning plays a significant role in fostering critical thinking skills among English Education students. Both lecturers and students acknowledged that authentic problems, case studies, and problem-solving activities encourage deeper analysis, evidence-based reasoning, and informed decision-making. By engaging students in the examination of real-world issues and requiring them to justify their conclusions, these learning strategies create meaningful opportunities for the development of critical thinking skills.

c) Use of Open-Ended Questioning to Stimulate Thinking

Table 4.5 Descriptive Statistics Related to the Use of Open-Ended Questions

Item	Statement	Mean	SD	Category
Q1	Lecturers encourage students to express opinions supported by logical reasons	3.84	.847	High
Q5	Open-ended questions encourage students to think more deeply	3.97	1.000	High
Q13	Lecturers permit and accept different perspectives during discussions	4.00	.916	High
Q18	Lecturers pose open-ended questions that allow multiple perspectives	4.00	.762	High
Q20	Lecturers encourage evaluation of different ideas before drawing conclusions	3.69	.738	High

The descriptive statistics indicate that students perceived the use of open-ended questions positively as a strategy for developing critical thinking skills. All items related to this theme obtained high mean scores, demonstrating that students generally agreed that lecturers frequently encouraged them to think beyond simple or predetermined answers. Among the items, Q13 and Q18 obtained the highest mean scores ($M = 4.00$), suggesting that students strongly perceived lecturers as accepting diverse viewpoints and posing questions that allow multiple possible answers. Similarly, Q5 achieved a mean score of 3.97, indicating that students agreed that open-ended questions encouraged them to think more deeply. Q1 ($M = 3.84$) further suggests that lecturers encouraged students to express opinions supported by logical reasoning, while Q20 ($M = 3.69$) indicates that students were encouraged to evaluate different ideas before reaching conclusions.

These findings suggest that lecturers created learning environments in which students were expected to justify their opinions, consider alternative viewpoints, and engage in deeper thinking processes. Rather than focusing on finding a single correct answer, students were encouraged to explore multiple possibilities, analyze different arguments, and support their responses with logical reasoning. Such practices are closely associated with critical thinking because they require students to evaluate information, reflect on assumptions, and construct evidence-based arguments.

The open-ended responses provide further evidence supporting this theme. Several students explicitly identified open-ended questions and discussions as important activities that contributed to the development of their critical thinking

skills. One respondent directly stated, *“Open ended questions.”* Although brief, this response clearly indicates that the student considered open-ended questioning to be one of the most influential instructional strategies in fostering critical thinking. The response suggests that questions without predetermined answers encourage students to think independently and formulate their own interpretations.

Another student elaborated on how open-ended discussions encouraged deeper reflection. *“Open ended discussion where lecturer let students state their opinion, then later in the end lecturer will give their perspective to make us re-evaluate our knowledge & understanding.”* This response illustrates how open-ended questioning encourages students not only to express their ideas but also to reconsider and refine their understanding after hearing alternative viewpoints. The student's statement reflects an important aspect of critical thinking, namely the ability to reflect on one's own assumptions and evaluate ideas critically.

Similarly, another respondent emphasized the importance of examining multiple perspectives. *“Class discussions that involve analyzing real cases, debating different perspectives, and solving open-ended problems help me develop my critical thinking the most.”* This response highlights how open-ended questions often function alongside discussions and debates to expose students to diverse viewpoints. By engaging with different perspectives, students are encouraged to compare arguments, evaluate evidence, and develop more balanced conclusions.

Another student also noted. *“Activities like discussions, debates, and problem-solving make me analyze ideas and see different perspectives from others and*

improve my critical thinking skills.” This response further demonstrates that students associate open-ended learning activities with opportunities to analyze ideas critically and consider viewpoints that may differ from their own. Exposure to multiple perspectives appears to play an important role in helping students develop analytical and evaluative thinking skills.

The quantitative findings strongly align with the qualitative results obtained from the lecturers’ interviews. In the qualitative phase, lecturers emphasized the importance of using open-ended questions to stimulate deeper thinking and encourage students to explore issues from multiple perspectives. Participant 1 explained that open-ended questions are intentionally designed to avoid a single correct answer and instead encourage students to generate various possible responses. According to the lecturer, this approach allows students to examine issues from different viewpoints and develop their own arguments based on evidence and reasoning.

Participant 1 further explained that students are encouraged to justify their opinions rather than simply state them. This finding is reflected in the high mean score for Q1, which indicates that students recognized lecturers’ efforts to encourage logical reasoning and evidence-based responses. The lecturer also emphasized that exposing students to different perspectives helps them understand that complex issues often require nuanced analysis rather than simple answers.

The interview findings additionally revealed that lecturers intentionally create classroom environments where students feel comfortable expressing different viewpoints. This is consistent with the high mean scores for Q13 and Q18, which

suggest that students perceived lecturers as accepting diverse perspectives and encouraging open discussions. The consistency between these findings indicates that students experienced the classroom environment in ways that closely matched lecturers' intentions.

Furthermore, the lecturers reported that open-ended questioning encourages students to evaluate alternative ideas before drawing conclusions. This finding corresponds with Q20, which indicates that students perceived lecturers as encouraging the evaluation of different viewpoints. Such practices are essential components of critical thinking because they require students to compare evidence, identify strengths and weaknesses in arguments, and make reasoned judgments.

Overall, the convergence of quantitative findings, open-ended responses, and qualitative interview data suggests that the use of open-ended questions is an effective strategy for fostering critical thinking skills among English Education students. Both lecturers and students recognized that open-ended questioning encourages deeper analysis, reflection, logical reasoning, and consideration of multiple perspectives. By moving beyond questions that require simple recall of information, lecturers create opportunities for students to engage in meaningful intellectual inquiry and develop the critical thinking skills necessary for academic and professional contexts.

d) Reflective Learning and Knowledge Construction

Table 4.6 Descriptive Statistics Related to Reflective Learning and Knowledge Construction

Item	Statement	Mean	SD	Category
Q7	Lecturers assign reflective and project-based tasks to support critical thinking	3.81	.821	High
Q11	Lecturers encourage students to analyze information critically	3.78	.792	High
Q17	Lecturers guide students to connect prior knowledge with new information	3.72	.924	High

The descriptive statistics indicate that students held positive perceptions regarding lecturers' efforts to promote reflective learning and knowledge construction as part of critical thinking development. All items associated with this theme obtained high mean scores, suggesting that students generally agreed that lecturers encouraged them to reflect on their learning, analyze information critically, and connect existing knowledge with new concepts. Among the three items, Q7 obtained the highest mean score ($M = 3.81$, $SD = .821$), indicating that students perceived reflective and project-based tasks as frequently used strategies to support critical thinking. Similarly, Q11 received a mean score of 3.78 ($SD = .792$), suggesting that students recognized lecturers' efforts to encourage critical analysis of information. Q17 obtained a mean score of 3.72 ($SD = .924$), indicating that students generally agreed that lecturers guided them to connect prior knowledge with new information during the learning process.

These findings suggest that lecturers play an important role in helping students construct knowledge actively rather than passively receiving information. Through reflective activities, critical analysis, and the integration of prior and new knowledge, students are encouraged to develop deeper understanding and more meaningful learning experiences. Such practices support higher-order thinking processes by requiring students to evaluate information, establish relationships among concepts, and apply their understanding in different contexts.

The open-ended responses further support these findings. Several students highlighted learning activities that required reflection, analysis, and deeper understanding as important contributors to their critical thinking development. One respondent stated. *“Case studies combined with deep questioning help us think critically. We not only find solutions, but also understand the why and how behind each decision.”* This response suggests that students value learning activities that encourage them to go beyond finding answers and instead examine the reasoning behind ideas and decisions. Such processes require reflection and critical analysis, which are essential components of critical thinking.

Another respondent explained. *“Activities like discussions, debates, and problem-solving make me analyze ideas and see different perspectives from others and improve my critical thinking skills.”* This response indicates that students perceive critical thinking as involving the analysis of information and the integration of multiple viewpoints. Exposure to different perspectives encourages students to

connect existing knowledge with new information and develop more comprehensive understandings of a topic.

The quantitative findings are consistent with the qualitative results obtained from the lecturers' interviews. In the qualitative phase, Participant 1 emphasized that students should be able to connect previous knowledge with newly acquired information, analyze and synthesize ideas, and apply their understanding through projects and other learning tasks. The lecturer explained that critical thinking develops when students actively construct knowledge and create meaningful outputs based on their learning experiences.

The interview findings also revealed that reflective projects are frequently used to encourage students to examine their own experiences and perspectives. According to Participant 1, reflective activities help students think more critically because they are required to evaluate their understanding and formulate their own interpretations. These findings correspond with Q7, which indicates that students recognized the use of reflective and project-based tasks as a strategy for developing critical thinking skills.

Furthermore, the lecturers reported encouraging students to analyze information critically and relate new concepts to their existing knowledge. This finding is reflected in Q11 and Q17, which suggest that students experienced learning activities that promoted critical analysis and knowledge integration. The consistency between the interview and questionnaire findings indicates that lecturers successfully

support students in constructing deeper understanding through reflection, analysis, and meaningful connections between concepts.

Overall, the convergence of quantitative and qualitative findings suggests that reflective learning and knowledge construction play a significant role in fostering critical thinking skills among English Education students. By encouraging students to analyze information critically, connect prior knowledge with new learning, and engage in reflective and project-based activities, lecturers create opportunities for deeper understanding and independent thinking. These practices contribute to the development of critical thinking by promoting active engagement, reflection, and knowledge integration.

2) Challenges in Implementing Critical Thinking Strategies

This section presents students' perceptions of the challenges that may affect the development of critical thinking, organized according to the four challenges identified in the interview findings.

a) Lack of Confidence and Language Barriers

Table 4.7 Descriptive Statistics Related to Lack of Confidence and Language Barriers

Item	Statement	Mean	SD	Category
Q2	Students feel confident expressing opinions during class discussions	3.75	.950	High
Q12	English language proficiency affects expression of critical opinions	4.06	1.014	High

The descriptive statistics indicate that students generally recognized confidence and language proficiency as factors influencing their participation in critical-thinking activities. Among the two items, Q12 obtained the higher mean score ($M = 4.06$, $SD = 1.014$), suggesting that students strongly agreed that their English proficiency affects how freely they express critical opinions. Q2 also obtained a high mean score ($M = 3.75$, $SD = .950$), indicating that students' confidence in voicing their opinions during discussions remains an influential, though slightly less dominant, factor compared to language proficiency itself.

These findings suggest that for many students, the challenge is not necessarily a lack of ideas, but rather the difficulty of translating those ideas into spoken English with confidence. Since critical thinking in this context is closely tied to verbal participation, through discussion, argumentation, and idea-sharing, language ability becomes a gatekeeping factor that can either enable or restrict students' opportunities to demonstrate their thinking.

This result is consistent with the qualitative findings obtained from the lecturers' interviews. Participant 2 explained that some students are reluctant to speak in English because they fear making mistakes, even when they understand the topic being discussed. This observation directly mirrors the questionnaire result for Q2, in which students themselves acknowledged that confidence affects their willingness to participate. Similarly, the higher mean score for Q12 supports the lecturer's broader concern that limited language proficiency, rather than limited understanding, often prevents students from articulating well-reasoned opinions in class.

The convergence between the quantitative and qualitative findings indicates that confidence and language ability are closely interrelated barriers. A student who lacks confidence in English may avoid participating even when their underlying critical thinking process is sound, suggesting that language barriers do not necessarily reflect a deficit in critical thinking ability itself, but rather a constraint on its observable expression in the classroom.

b) Dependence on Artificial Intelligence

Table 4.8 Descriptive Statistics Related to Dependence on Artificial Intelligence

Item	Statement	Mean	SD	Category
Q6	AI tools sometimes reduce students' independent analysis	3.59	1.073	High

The descriptive statistics show that students agreed, with a high mean score ($M = 3.59$, $SD = 1.073$), that the use of AI tools may reduce their independent analysis. Although this item recorded a relatively higher standard deviation compared to other challenge items, indicating somewhat more varied responses among students, the overall mean still falls within the high category, suggesting that a considerable proportion of students recognized this as a genuine concern in their own learning process.

This finding is particularly noteworthy because it reflects students' own awareness of a behavior pattern that lecturers had identified as concerning. Rather than dismissing the influence of AI, students appeared to acknowledge, at least to

some extent, that relying on AI-generated answers may come at the expense of developing their own reasoning.

This result aligns closely with the qualitative findings. Participant 3 expressed concern that students increasingly search for answers through AI tools such as ChatGPT and form opinions based on AI-generated responses without combining this information with their own thinking. The questionnaire result reinforces this concern by showing that students themselves perceive this tendency, rather than it being solely an outside observation made by lecturers. This shared recognition between lecturers and students strengthens the credibility of the finding, suggesting that dependence on AI is not merely a perception gap between instructors and learners, but a pattern that students are, to some degree, aware of in their own academic behavior.

At the same time, the relatively higher variability in responses suggests that not all students experience this challenge to the same extent, which may reflect differences in how individual students use AI tools, whether as a starting point for further analysis or as a substitute for independent thinking altogether.

c) Limited Preparation Before Class

Table 4,9 Descriptive Statistics Related to Limited Preparation Before Class

Item	Statement	Mean	SD	Category
Q15	Limited preparation before class negatively affects critical participation	4.09	.893	High

Limited preparation before class received the highest mean score among all challenge items ($M = 4.09$, $SD = .893$), indicating strong agreement among students that insufficient preparation negatively affects their participation in critical-thinking activities. The relatively low standard deviation further suggests that this perception was widely and consistently shared across respondents, rather than being limited to a small subgroup of students.

The strength of this finding suggests that preparation functions as a foundational condition for critical thinking to occur. Even when lecturers design well-structured discussion or problem-based activities, students who arrive at class without adequate preparation may lack the contextual knowledge necessary to analyze, question, or evaluate the material being discussed.

This finding directly supports the qualitative data, in which Participant 2 explained that some students attend class without preparing beforehand, even when they have already been informed of the topic to be discussed. The lecturer further observed that many students rarely review learning materials after class, which compounds the issue by leaving gaps in understanding that resurface in subsequent sessions. The convergence between the highest quantitative mean score in this section and the lecturer's direct observation indicates that limited preparation is not an isolated or occasional issue, but a recurring pattern that both students and lecturers independently recognize as a substantial barrier to critical engagement.

This result suggests that fostering critical thinking cannot rely solely on in-class instructional strategies; it also depends on students' habits and responsibility outside the classroom, particularly in preparing for and reviewing course material.

d) Large Class Size

Table 4.10 Descriptive Statistics Related to Large Class Size

Item	Statement	Mean	SD	Category
Q9	Large class sizes reduce opportunities for critical discussion	2.97	1.231	Moderate

Large class size received a moderate mean score ($M = 2.97$, $SD = 1.231$), the lowest among all challenge items, along with the highest standard deviation recorded in this section. This pattern suggests that students' perceptions of this challenge were considerably more divided than their perceptions of the other three challenges, as some students may have experienced classroom size as a meaningful obstacle, while others did not perceive it as affecting their participation at all.

This result presents an interesting point of comparison with the qualitative findings. From the lecturers' perspective, large class size was described as a clear practical constraint: Participant 1 explained that it becomes difficult to monitor whether every group is actively engaging in critical-thinking activities when teaching a large class, and that providing equal attention and feedback to all students becomes more challenging as class size increases. However, students themselves did not perceive this factor as strongly, as reflected in the moderate mean score.

This divergence may be explained by the difference in vantage point between lecturers and students. Lecturers are responsible for monitoring participation across the entire class and are therefore more likely to notice when engagement becomes uneven in larger groups. Students, by contrast, may primarily evaluate their own individual experience of participating in discussions, which may not be strongly affected by class size unless they personally feel overlooked. In other words, large class size may influence the lecturer's ability to facilitate critical thinking more directly than it influences students' own sense of their participation.

This finding suggests that large class size remains a relevant structural challenge from an instructional management perspective, even though it is perceived as a less direct barrier from the students' own point of view.

B. Discussion

This section discusses the findings presented earlier in relation to the three research questions and relevant theoretical perspectives. The discussion is organized into three parts, corresponding to how English lecturers conceptualize critical thinking, the teaching strategies they implement to foster it, and the challenges they encounter in developing students' critical thinking skills.

1. Integration of Qualitative and Quantitative Findings

Before discussing each research question individually, this section presents an explicit point of integration between the qualitative and quantitative data sets. Table 4.11 below merges each interview-based theme with its corresponding questionnaire evidence and identifies whether the two data sets converge, diverge, or converge with notable nuance, rather than treating the two data sets as separate narratives presented side by side.

Table 4.11 Joint Display Matrix of Qualitative and Quantitative Findings

Interview Theme (Qualitative)	Questionnaire Evidence (Quantitative)	Integrated Interpretation
Group Discussion: lecturers organize small groups to expose students to multiple viewpoints	Q8 (M=4.00), Q10 (M=3.91), Q16 (M=4.06) All High	Convergent. Students' high agreement directly confirms lecturers' reported reliance on group discussion as the most frequently used strategy.
Problem-Based and Case-Based Learning: lecturers assign cases/problems requiring independent research and solution-finding	Q3 (M=3.84), Q4 (M=3.91), Q14 (M=4.09), Q19 (M=3.66) All High	Convergent. Q14's mean (highest in this set) reinforces lecturers' emphasis on problem-solving as central to analytical engagement; Q19's comparatively lower mean suggests students perceive lecturer-assigned tasks as somewhat less consistently linked to knowledge application than the case/problem-solving activities themselves.
Use of Open-Ended Questions: lecturers pose questions without a single correct answer to prompt reflection	Q1 (M=3.84), Q5 (M=3.97), Q13 (M=4.00), Q18 (M=4.00), Q20 (M=3.69) All High	Convergent. Consistently high scores across all five items confirm students recognize and value this strategy; Q20 (evaluation of ideas before concluding) scoring lowest within the set suggests the <i>evaluative</i> component of open-ended questioning is somewhat less visible to students than the <i>expressive</i> component (Q1, Q13, Q18).
Reflective Learning and Knowledge	Q7 (M=3.81), Q11 (M=3.78), Q17	Convergent, though this theme recorded the lowest mean scores among all four

Interview Theme (Qualitative)	Questionnaire Evidence (Quantitative)	Integrated Interpretation
Construction: lecturers assign reflective/project-based tasks connecting prior and new knowledge	(M=3.72) All High	strategies, indicating students perceive it as present but comparatively less emphasized than group discussion or problem-based learning.
Lack of Confidence and Language Barriers: students hesitate to speak due to fear of mistakes in English	Q2 (M=3.75), Q12 (M=4.06) High	Convergent. Q12's especially high mean corroborates lecturers' emphasis on language proficiency, specifically, as a more acute barrier than general confidence (Q2).
Dependence on Artificial Intelligence: lecturers describe students defaulting to AI-generated answers instead of independent analysis	Q6 (M=3.59), SD=1.073 highest SD of all items	Partially convergent. Students agree AI reduces independent analysis, but the unusually high variability suggests this experience is not uniform, some students may use AI to support rather than replace their thinking, a nuance the interview data (framed as a general lecturer concern) does not capture.
Limited Preparation Before Class: students arrive unprepared despite advance notice of topics	Q15 (M=4.09) highest mean of all challenge items	Strongly convergent. This is the clearest point of agreement between the two data sets: both lecturers' direct observation and students' own self-recognition independently identify preparation as the most significant barrier.
Large Class Size: lecturers report difficulty monitoring/facilitating critical thinking in large classes (e.g., 44 students)	Q9 (M=2.97, SD=1.231) the only item rated Moderate , not High	Divergent. Lecturers described this as a clear structural constraint, but students rated it only moderately, with the most varied responses of any item. This is the one point in the study where qualitative and quantitative findings do not align, suggesting students may not consciously attribute reduced critical engagement to class size the way lecturers do.

As shown in Table 4.11, seven of the eight themes demonstrate convergence between lecturers' reported practices and students' perceptions, providing strong validation for the qualitative findings through independently collected quantitative data. The one point of divergence, large class size, is discussed in greater depth under

the third research question below, where it is treated not as a contradiction but as evidence that lecturers and students may experience the same structural condition through different points of reference: lecturers through the lens of instructional monitoring, and students through the lens of personal participation.

2. English Lecturers' Conceptualization of Critical Thinking Skills

The first research question explored how English lecturers conceptualize critical thinking. The findings revealed three interrelated themes: critical thinking as a higher-order thinking skill, an emphasis on deep thinking and reflective learning, and the ability to explore and express understanding. Across all three themes, lecturers consistently rejected the idea that critical thinking equates to memorizing information, instead describing it as a process of analyzing, evaluating, connecting, and ultimately expressing knowledge.

What is notable in these findings is that none of the three lecturers explicitly referenced a formal academic theory of critical thinking when describing the concept, yet their descriptions converged strongly around the same underlying idea: thinking that goes beyond recall. This convergence suggests that lecturers' conceptualization of critical thinking is not derived from textbook definitions, but rather from accumulated classroom experience, repeatedly observing which students struggle to move past surface-level answers and which students are able to question, connect, and justify their thinking. In other words, lecturers appear to have developed a

practitioner's theory of critical thinking, built inductively from teaching practice rather than deductively from academic literature.

This practitioner-based conceptualization aligns closely with the higher-order levels of the revised Bloom's Taxonomy proposed by (Krathwohl, 2002), particularly the dimensions of analyzing, evaluating, and creating. Lecturers' descriptions of students synthesizing prior and new knowledge to produce projects correspond directly to the creating level, the most cognitively demanding process within the taxonomy, while their emphasis on questioning assumptions and comparing perspectives reflects the analyzing and evaluating levels. This finding is also consistent with (Alsaleh, 2020), who identified interpretation, analysis, evaluation, inference, explanation, and self-regulation as the core characteristics of critical thinking; the lecturers' emphasis on questioning, connecting, and reflecting closely mirrors these characteristics, even though the participants did not use this terminology themselves.

The theme of deep thinking and reflective learning further reflects the social constructivist principles emphasized in this study's theoretical framework. According to (Vygotsky & Cole, 1981), higher-order cognitive functions such as reasoning and critical analysis emerge through socially mediated experience rather than individual cognition alone. Lecturers' descriptions of students relating prior knowledge to new concepts and considering multiple perspectives mirror this constructivist view, reinforcing the theoretical proposition that critical thinking development in EFL

contexts is best understood through the convergence of social constructivism and cognitive taxonomy (Vygotsky & Cole, 1981).

This emphasis on deep thinking and the rejection of passive acceptance of information also resonates with the principle introduced in the background of this study, namely Surah Az-Zumar verse 18, which commends those who listen to information and then follow what is best after consideration. The lecturers' shared rejection of rote memorization as a marker of learning, and their consistent emphasis on questioning and reflecting before accepting a conclusion, reflect a practice that is conceptually aligned with this principle, even though none of the participants referenced it directly. This suggests that the instructional values observed among the lecturers in this study are not in tension with, but rather complementary to, the intellectual disposition encouraged in the verse cited at the outset of this research.

The third theme, exploration and expression of understanding, extends rather than simply confirms the existing literature. Whereas (Facione, 1990) and (Alsaleh, 2020) primarily frame critical thinking as an internal cognitive process, the lecturers in this study placed comparatively strong emphasis on students' ability to communicate and justify their thinking aloud. This suggests that in the context of English Language Education specifically, critical thinking is conceptualized not only as a cognitive skill but also as a communicative competence, a dimension that becomes particularly salient when students must demonstrate their thinking in a second language rather than their first.

These findings imply that critical thinking instruction in EFL teacher education should not be limited to teaching analytical or evaluative thinking skills in the abstract, but should equally emphasize students' capacity to articulate their reasoning in English. For curriculum designers, this suggests that critical thinking assessment in language education contexts may need to account for both the quality of a student's reasoning and their ability to express that reasoning verbally, two dimensions that, as the findings suggest, are conceptually distinct but practically intertwined for EFL learners. Theoretically, this finding contributes a language-specific extension to existing critical thinking frameworks, which have largely been developed in contexts where the language of instruction and students' first language are the same.

3. Teaching Strategies Implemented by English Lecturers to Foster Critical Thinking Skills

The second research question examined the teaching strategies used by lecturers to foster critical thinking. The findings revealed four major strategies: group discussion, problem-based and case-based learning, the use of open-ended questions, and reflective learning and knowledge construction. These strategies were consistently identified across the interview data and were further supported by the quantitative findings, all of which received high mean scores from students.

A pattern worth examining across all four strategies is that none of them rely on lecturers directly transmitting information to students. Instead, each strategy positions the lecturer as a designer of conditions under which students must do the cognitive work themselves, whether discussing, solving, answering open-ended questions, or reflecting. This consistency across four independently described strategies suggests that the lecturers in this study did not adopt these approaches by coincidence, but rather operate from a shared, if implicit, pedagogical philosophy: that critical thinking cannot be taught directly, only occasioned through carefully designed learning conditions. The high convergence between qualitative interview data and quantitative student perceptions across all four strategies further suggests that this philosophy is, to a meaningful extent, realized in actual classroom practice rather than remaining only an instructional aspiration.

The findings showed that group discussion was the most frequently reported strategy among the three lecturers, with all three describing it as central to how they organize classroom learning, and students rating it consistently high across all three related items (Q8, Q10, Q16). This pattern is strongly supported by social constructivist theory, which views learning as a socially mediated process of meaning-making (Vygotsky & Cole, 1981). This finding is consistent with (Campo et al., 2023), who found that university students perceived collaborative learning and classroom discussions as among the most effective methods for developing critical thinking, and with (Naveed et al., 2023), who similarly found that both teachers and students valued classroom discussion as a means of encouraging analytical

engagement. The present study extends these findings by showing not only that students value discussion, as (Campo et al., 2023) found, but also that lecturers intentionally design discussion activities specifically to expose students to multiple perspectives, an instructional intention less explicitly documented in that prior research.

The findings also revealed that lecturers regularly used problem-based and case-based tasks, requiring students to research independently or propose solutions to authentic problems, a pattern corroborated by consistently high student ratings across all four related items. This corresponds closely with (Starichkova et al., 2022), who found that text analysis, debate, and problem-solving activities in English language teaching effectively foster students' analytical and argumentative abilities. The lecturers' practice of presenting authentic cases for analysis reflects the analyzing and evaluating levels of Bloom's Taxonomy (Krathwohl, 2002), as students must assess situations, weigh possible solutions, and justify their reasoning using evidence rather than guesswork.

What this finding suggests beyond the theoretical alignment is that problem- and case-based tasks appear to function as a bridge between the interpretive skills fostered through group discussion and the more independent, evidence-based reasoning that lecturers described as the hallmark of critical thinking under the first research question. Rather than functioning as a separate technique, problem-based learning in this context seems to operationalize the analytical and evaluative dimensions lecturers already valued conceptually, giving students a concrete task

through which those otherwise abstract cognitive processes can be practiced and observed.

A third recurring finding was lecturers' use of open-ended questions without a single correct answer, a practice that received the highest overall student agreement among the four strategies (Q13, Q18 both $M=4.00$). This aligns with (Yuan et al., 2022), who identified triggering and extending questioning strategies, techniques that prompt students to move beyond surface-level answers, as common practices among EFL teachers seeking to promote critical thinking. This finding is also consistent with constructivist pedagogy more broadly, which holds that meaningful learning occurs when students are given room to construct their own interpretations rather than search for a single predetermined answer (Vygotsky & Cole, 1981)

Beyond this theoretical alignment, what distinguishes lecturers' use of open-ended questions in this study is that they were frequently paired with reflection on students' personal experiences rather than used purely as an abstract discussion prompt. This suggests that lecturers were not simply applying open-ended questioning as a generic technique, but adapting it specifically to make critical thinking feel personally relevant to students, a nuance that (Yuan et al., 2022) does not explicitly capture, since their framework treats questioning strategies primarily as a cognitive rather than a motivational tool.

Reflective learning and knowledge construction, the fourth strategy identified in this study, has received comparatively less direct attention in prior EFL-specific research, much of which focuses on discussion, questioning, and problem-solving as

primary strategies (Youcef, 2023). In this sense, the present finding adds a strategy that is theoretically anticipated by (Krathwohl, 2002) creating level, the most cognitively demanding process in the taxonomy, but has not been as consistently documented as an explicit, named instructional strategy in prior empirical studies on critical thinking in EFL classrooms.

These findings suggest that effective critical thinking instruction in EFL classrooms is unlikely to result from any single strategy in isolation, but rather from the combined use of multiple approaches that collectively engage students in discussing, solving, questioning, and reflecting. For lecturers and teacher training programs, this implies that professional development in critical thinking pedagogy should move beyond promoting discussion-based learning alone, often treated as the default strategy in much of the existing literature, and should explicitly include training in designing problem-based tasks, open-ended questioning techniques, and reflective or project-based assignments. For curriculum developers, the relatively underrepresented status of reflective learning in prior literature suggests that this strategy may warrant more deliberate inclusion in EFL teacher training materials going forward.

4. Challenges Encountered by English Lecturers in Developing Students' Critical Thinking Skills

The third research question addressed the challenges encountered by lecturers in developing students' critical thinking. The findings revealed four major challenges:

students' lack of confidence and language barriers, dependence on artificial intelligence (AI), limited preparation before class, and large class size. Among these, limited preparation and language proficiency received the highest quantitative agreement from students, while large class size received comparatively lower and more varied agreement.

Three of these four challenges, confidence and language, limited preparation, and large class size, are not new to the field of critical thinking pedagogy and have long been documented in EFL contexts. What is more revealing is the pattern underlying them: each represents a different point at which the chain connecting instructional strategy to critical thinking outcome can break down. A well-designed discussion activity, for instance, cannot produce critical engagement if a student lacks the language confidence to speak, has not prepared enough to understand the topic, or is one of many students competing for limited attention in a large class. This suggests that the challenges identified in this study are not separate from the teaching strategies discussed under the second research question, but function as conditions that determine whether those strategies succeed or fail in practice.

The fourth challenge, dependence on AI, stands apart from the other three because it is comparatively recent and was not anticipated by the theoretical framework of (Coppola et al., 2002) and by earlier empirical studies such as (Yuan et al., 2022) and (Youcef, 2023), all of which predate the widespread classroom use of generative AI tools. Its emergence as a clearly identified theme, corroborated by both lecturers' concerns and students' own quantitative self-recognition, suggests that the

landscape of challenges to critical thinking in EFL classrooms is evolving, with technological dependence becoming an additional barrier alongside more established linguistic and contextual ones.

The findings identified students' lack of confidence and language barriers as a recurring challenge, corroborated by students' own high agreement that language proficiency affects their willingness to express critical opinions (Q12, $M=4.06$). This directly supports (Yuan et al., 2022), who identified limited language proficiency as one of the most common obstacles to fostering critical thinking in EFL classrooms, noting that students often focus on language accuracy rather than deeper cognitive engagement. This finding is also consistent with (Anggraeny & Khongput, 2022), who found that limited English proficiency constrained the implementation of critical thinking activities in an Indonesian educational context comparable to the present study.

Limited preparation before class, which received the strongest quantitative agreement among all four challenges, is consistent with (Youcef, 2023), who found that EFL teachers identified insufficient student preparation, alongside limited language proficiency, as a significant obstacle to critical thinking instruction. The consistency of this finding across different educational contexts suggests that preparation-related barriers are not specific to this study's research site, but may reflect a broader pattern in EFL classrooms.

Finally, the findings revealed large class size as a challenge described by lecturers, illustrated by Participant 1's experience teaching a class of 44 students,

though this was the only challenge theme to receive a moderate rather than high mean score from students (Q9, $M=2.97$). This corresponds with the contextual barriers identified by (Yuan et al., 2022), who noted that lecturers may face challenges such as large class sizes and limited instructional time when attempting to implement critical thinking pedagogy. However, the present study extends this finding by revealing a notable divergence between lecturers' and students' perceptions: while lecturers described large class size as a clear constraint on monitoring and feedback, students rated this factor only moderately, with considerable variation in their responses. This divergence is not directly addressed by (Yuan et al., 2022), who reported large class size as a challenge primarily from the teacher's perspective without examining how students themselves perceive this factor.

These findings suggest that fostering critical thinking in EFL classrooms requires addressing student-side conditions, confidence, preparation, and classroom engagement, alongside the instructional strategies discussed under the second research question, since well-designed strategies are unlikely to succeed if these underlying conditions are not met. Practically, this implies a need for complementary support measures, such as low-stakes speaking practice to build confidence, structured pre-class preparation tasks, and class-size-sensitive facilitation techniques. The identification of AI dependence as an emerging challenge also implies a need for EFL teacher training and curriculum design to explicitly address how AI tools should and should not be used by students, an area not yet covered by the theoretical

frameworks this study originally drew upon, and one that is likely to become increasingly relevant in future critical thinking research.

The findings across the three research questions form a coherent picture of how critical thinking is understood, taught, and constrained within this EFL teacher education context. Lecturers conceptualize critical thinking as a multidimensional construct that combines higher-order cognition with the ability to communicate reasoning, a conceptualization that directly shapes the strategies they choose to implement. Group discussion, problem-based and case-based learning, open-ended questioning, and reflective tasks each create structured opportunities for students to practice the very dimensions of thinking that lecturers associate with critical thinking, suggesting a meaningful alignment between lecturers' beliefs and their instructional choices.

However, the findings also indicate that this alignment between belief and practice does not automatically translate into critical thinking outcomes, because its success depends on conditions largely outside the lecturer's direct control: students' confidence and language proficiency, their preparation before class, the size of the class itself, and increasingly, their reliance on AI tools. This suggests that fostering critical thinking in EFL classrooms is not solely a matter of selecting the right instructional strategy, but of managing the interaction between well-designed teaching practices and the student-related and contextual conditions that determine whether those practices can take effect. Viewed this way, the three research questions are not independent findings, but three connected layers of the same process, what

lecturers believe, what they do as a result, and what limits how effectively that belief can be realized in the classroom.