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Integrating Critical Thinking Activities in English Mediated Instruction: A Scaffolded Approach

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Abstract

This study investigates the integration of critical thinking activities into English Mediated Instruction (EMI) to cultivate higher-order learning skills among university students in Japan taking a foundational course on critical thinking skill development. Drawing on theoretical frameworks of critical thinking and educational philosophy, the research presents a praxis approach from conceptualizing activities to implementation. The study highlights scaffolding techniques as the pedagogical tools to actualize intended activities in practice. As part of the praxis process, students' voices are included in the research from their reflective writing in journals. Through a qualitative analysis of student perspectives and reflections, the study evaluates the effectiveness of these activities in promoting critical thinking within an EMI context. Three specific activities are examined: analyzing Plato's *Allegory of the Cave*; deliberating on ethical dilemmas in drone warfare; and engaging in collaborative presentations on various ethical issues. The findings highlight students' enhanced self-awareness, ability to welcome multiple perspectives, recognition of the importance of ongoing learning, and development of practical critical thinking skills. By providing a comprehensive account of pedagogical design, implementation, and student outcomes, this research bridges the gap between theoretical frameworks and practical application, offering insights for educators to enrich students' critical thinking abilities in diverse academic environments.

Keywords: critical thinking skills, praxis, qualitative analysis, ethical issues, scaffolding

1. Introduction

Critical thinking in the university curricula involves engaging students in a deliberate and systematic process of analyzing and questioning information and theories. It is integral to academic development of higher-order learning skills (Bloom, 1956; Anderson et al., 2001), fostering intellectual independence and empowering students to tackle complicated issues, offering innovative contributions to their fields of study. The inclusion of English Mediated Instruction (EMI) with students studying in an English as a foreign language environment is correlative to content covered in a critical thinking course. EMI connects students to global issues and multicultural viewpoints by offering them access to a robust body of academic materials, enriching their potential for knowledge building. Through a more inclusive approach to learning, students are presented with opportunities to hone their analytical and synthesizing skills needed to meet the challenges of an information-rich society. In this study, the author presents selected activities that were conceptualized, specifically, to present content in a foundational critical thinking course carried out in EMI with Japanese students. Activities were carefully planned and chronologically ordered in stages to assist the performance of students to meet their learning potential goals.

To further enhance the practical implications of this study, a praxis approach was adopted, showing the theoretical construct of activities, the procedure to carry them out and the resulting student outcomes based on students' reflections. This classroom-based focus not only demonstrates the practical implementation of the activities, but also allows for an examination of their effectiveness in fostering critical thinking. Often, studies overlook detailed descriptions of pedagogical activities, which could

help in similar classroom settings and deepen an understanding of their impact. By providing a comprehensive account of the activities' designs, implementations, and results, this study is embedded in the praxis process aimed to bridge the gap between theoretical frameworks and their practical application in educational settings.

In a praxis approach, scaffolding plays a pivotal role in transforming theoretical knowledge into practical action. It provides structured support to learners as they engage with new concepts and tasks, guiding them towards achieving specific learning goals. This support is gradually adjusted or removed as learners develop proficiency, empowering them to apply theoretical insights in real-world contexts effectively. Scaffolding was central to the implementation of activities in this research. The study's findings can provide teachers with the transferability of pedagogical knowledge applicable to their teaching practices, and in turn enrich the critical thinking abilities of students in various academic environments.

2. Literature Review

2.1 The Importance of Critical Thinking in Learning

In the search for truth man makes two steps forward and one step back. Suffering, mistakes, and weariness of life thrust them back, but the thirst for truth and stubborn will drive them on and on. And who knows? Perhaps they will reach the truth at last. ― Anton Chekhov, *The Duel* (1891)

Ancient Greeks formed the underpinning of critical thinking by systematically stressing logic, skills of argumentation, skepticism, and inquiry to understand the world around them. Socrates, Plato, and Aristotle developed skeptical dispositions informed by critical thinking abilities through their recognition of human limitations. Their succession of teacher-student relationships deeply influenced one another. Socrates, known for his wisdom, mentored Plato, who later became Aristotle's instructor. This line of intellectual thought significantly influenced them to be advocates for developing critical thinking skills as each built on the ideas and teaching preceding them. They emphasized that what appeared to be on the surface may be deceiving, and therefore, a trained or well-educated mind is needed to uncover what really exists beneath the surface (Paul, Elder, & Bartell, 1997).

Embittered by the execution of his mentor Socrates, in the *Republic*, Plato depicted the fallibility of humans in their decision-making process and lack of critical thinking skills resulting in a learned ignorance by illustrating their refusal to accept the truth, even when given opportunities to confront it. He pointed out that education, although at times painstakingly slow, plays an essential role in saving humans from the abyss of ignorance and decline. Aristotle in his work *Rhetoric* stressed the significance of education in developing skills informed by a virtuous reasoning. This fosters a critical thinking process grounded in logic and ethics, culminating in an effective articulation of ideas; thereby facilitating cognitive growth (Triantari & Ioannis, 2015).

In the 20th century, John Dewey, the American philosopher and educator, emphasized the deliberative role that education must play in the classroom toward developing critical thinking skills. In his era, there were great advances in science, and with that, Dewey was concerned with the unquestioning disposition to faithfully accept scientific outcomes. Following the ancient Greeks, he asserted that because of our fallibility, there needs to be skepticism about a theory of knowledge presented as absolute truths. Dewey criticized this 'epistemological problem' and stressed knowledge should not be viewed as an embodiment of unchallengeable, static and fixed facts, which he metaphorically referred to as a condition of "intellectual lockjaw" (Thayer, 1990). Instead, he preferred to view facts as knowledge claims without blindly committing to them as universal truths, even those produced by science.

Although not anti-science, Dewey argued that the role of education is to develop a society equipped with the ability to have critical thinking. He advocated for a systematic and interactive experiential learning process that emphasized reflective thinking (1910). Dewey believed that classrooms should function as laboratories where students are inspired not to passively accept knowledge as infallible truths, but to view them as having "warranted assertibility". In short, he argued for an educational environment focused on critical thinking, creating a mental and physical space where students would

develop the temperament and skills to either scrutinize or defend knowledge claims, whether they come from text materials, teachers, or students themselves (Boyles, 2006).

In the 1980s, as cited by Jones, a plethora of scholars from various disciplines were writing about the epistemological role of critical thinking in education (2019). Scriven and Paul (1987) provided a baseline definition of critical thinking delineating a cognitive dimension involving a disciplined process of inquiry, gathering information, analysis, synthesis, and evaluation to make an informed judgment based on observation, reflection, and reasoning. Ennis (1987) contributed to the concept of critical thinking by emphasizing a psychological domain, referring to certain dispositional skills a critical thinker should possess such as curiosity and skepticism while respecting the views of others, having an openness to change, moving beyond one's stubbornly held beliefs if not appropriate. Facione (1986; also see Bailin & Battersby, 2009) offered a socially interactive aspect of the concept providing situations in which students defend their claims based on well-reasoned arguments and evaluating the arguments of others that come to fruition during dialectical discussions.

The tradition of critical thinking continues to underpin modern education. In this 21 century, it is even more necessary to prepare students with higher order skills to critically analyze global issues so that they can make informed judgments through the maze of cultural differences and information overload.

2.2 EMI as a Catalyst for Critical Thinking

EMI is commonly defined as using English to teach academic subjects. It offers an effective means to cover content-specific material aimed at the integration of themes associated with introducing critical thinking skills into English language learning. EMI fosters deeper understanding, promotes cultural awareness, and creates opportunities for learners to participate in a global discourse. Through EMI, language learners have access to myriad data sources and materials relative to the topics under study. Two interrelated elements emerge when using EMI to teach critical thinking: The careful selection of an appropriate pedagogical approach and methods, and implementing scaffolding techniques.

Presenting critical thinking content in the classroom is naturally aligned with supporting pedagogical approaches that center on students' active participation, such as social constructivism, which underpin complementary inquiry based learning and collaborative learning methods. These are deemed appropriate to meet a highly active learning, reflective and interactive learning process that is conducive to critical thinking. Likewise, these pedagogical concepts are beneficial to EMI because they encourage active participation and language use through discussion, and build critical thinking skills. They support EMI by helping learners participate in knowledge building, collaboratively, making English both the mediated tool while providing the context for learning. To implement an interactive student-centered pedagogy through EMI necessitates the use of scaffolding.

2.3 Scaffolding is Teaching

Tharp and Gallimore referred to scaffolding in terms of the facilitating role teachers play in the students' learning process. They implied teaching is scaffolding when they posited, "Teaching must be redefined as assisted performance" (1989, p. 22). Scaffolding is a key pedagogical strategy in social constructivism (Woods et al., 1976; Tharp & Gallimore, 1988) and is influenced by Vygotsky's sociocultural theory (1978), providing temporary support to students as they master new concepts. Vygotsky's concept of the zone of proximal development (ZPD) embodies this idea of scaffolding. The ZPD begins at what learners can achieve independently, and extends upward beyond their current abilities, with teacher facilitation through activities and instruction, helping them go to the next stage, finally culminating in the optimal achievement of realizing their learning potential.

This method of using scaffolding is crucial in both critical thinking and EMI, because the temporary assistance teachers provide to help students attain their learning objectives, both conceptually and linguistically leads to "automatization" (Tharp & Gallimore, 1989), where learners can independently perform tasks that were once challenging. At each stage, teacher support gradually fades as students reach independence (van de Pol et al., 2010). This approach is cyclically applied in learning, with each new task building on prior knowledge towards autonomy, which is important for higher order reasoning and overcoming linguistic challenges in non-native settings. Therefore, introducing critical

thinking through EMI, as shown in this study, involves a pedagogical understanding of applying scaffolding techniques to instruction.

In addition, journal writing can serve as a scaffold by providing students with a structured opportunity to reflect on their learning experiences, articulate their thoughts, and make connections between new information and their existing knowledge. Consequently, the study placed an emphasis on gathering students' reflections through journal writing. Following the aphorism of the writer EM Forster, who was attributed with saying "How do I know what I think until I see what I say?", it was important to provide students with the metacognitive awareness for why they were tasked with journal writing (Chan & Lee, 2021). It offered reflective practice to reinforce the cognitive skills taught in the course and assessment of comprehension and involvement. In the journals, students were tasked with answering open-ended inquiries relating to each activity. These probes, termed "assisted questions" by Tharp and Gallimore (1988), were framed as supports to stimulate higher-order thinking integral to the process of critical thinking that involve analysis, synthesis, and evaluation. They push students beyond basic recall, encouraging deeper thought.

Below, the critical thinking course through EMI taught by the author is detailed. Appropriate pedagogies were selected and each activity was carefully scaffolded to assist the learners at each step in the form of three activities.

3. The Study

The research focused on a beginner-level critical thinking course. An appropriate pedagogical approach and related methods to implement critical thinking were selected. Each activity was carefully scaffolded to assist the learners at each step of three activities designed to progressively stimulate deep thinking, questioning, and reflection to encourage critical analysis and knowledge building skills in learners.

3.1 Method

A qualitative approach was chosen due to the exploratory and interpretive nature of the study, which enabled student perspectives to surface and their narratives to be expressed. The study involved 12, 1st year, Japanese English major students participating in a critical thinking course. In the data analysis, a targeted approach was carried out by selecting two participants, Shun and Aki, whose comments encapsulated the views expressed by the entire group of students. These two students were chosen after a comparative analysis was conducted by systematically coding the data, identifying recurring themes and patterns across responses. Finally, to provide a broader analysis, the perspectives of all 12 students were integrated, particularly focusing on their assessments of how they perceived their own growth in critical thinking abilities.

The course consisted of five, 90-minute classes that met weekly, within a larger rotation course comprising 15 classes, with three different instructors. The author's instructional plan was holistic aiming at cognitive skill development by acquainting students with critical thinking concepts and analysis through thought provoking activities requiring reflective thinking, and also addressing the psychological domain by making them aware of the dispositions integral to critical thinking. To assist the students, the learning goals were designed and scaffolded contingent to learners' levels.

Each activity was carefully scaffolded, applying a social constructivist approach, and complementary inquiry-based learning and collaborative learning methods. These pedagogical constructs aimed to engage students actively, foster critical thinking, and promote understanding through interaction and collaboration. The learning journal was assigned at the end of each activity to enrich their learning experience. Students were informed that they would reflect on activities guided by open-ended questions eliciting their views to assist them in reflective thinking. In this research, comments from the journals were also used to determine the effectiveness of the critical thinking course.

3.2 Data Analysis

1. Data for Activity #1: *Allegory of the Cave and critical thinking*

Material: *Allegory of the Cave reading*

Students were introduced to a reading of Plato's *Allegory of the Cave*. In the story, prisoners are chained inside a cave, facing a wall, mistaking shadows cast by objects behind them as reality. One prisoner is led out of the cave, discovers the outside world's true nature, and returns to enlighten the others, who reject and ridicule him, preferring the familiar shadows, which they perceive as representing the true knowledge.

Learning Goal: *An awareness of critical thinking and the role of education*

The allegory offered powerful symbols to introduce critical thinking by showing that, without guidance, humans are prone to error. It suggests that education serves as a way to foster critical thinking, necessary for challenging and correcting mistakenly held perceptions and or beliefs. Nonetheless, it also highlights a tendency among individuals to resist enlightenment, choosing instead to remain in the dark, holding on to their ignorance.

Activity: Students read the story, and discuss it in groups. Then, in their learning journal, they were asked to respond to the following questions designed to have them reflect on the story.

Q 1. What do you think the cave symbolizes, and how does the journey of the prisoner relate to the concept of enlightenment or education?

Shun	I believe that the cave symbolizes that we allege we know everything, but in fact, we don't know anything. Besides, the journey of the prisoner indicates the importance of broadening our horizons through education, and experience
Aki	I think that the cave symbolizes the prisoners' prejudiced thinking. They withdrew into their own world that included their own way of thinking. And, how to get knowledge is similar, between the journey and the concept. It means education should be an ongoing process.

Q 2. Can you find contemporary examples or situations that parallel the themes in the *Allegory of the Cave*?

Shun	One example is gender discrimination. I presume that some people are trying to push their values against the movement to end gender discrimination in society.
Aki	I believed that hate speech is an example of the *Allegory of the Cave*. When some people criticize other people with names, they may have their prejudice and they tend to pay attention to the negative aspects.

Q 3. How might the allegory shed light on aspects of our society or personal experiences?

Shun	This allegory sheds light on the importance of reconsidering even the things we take for granted in a scrutinizing and verifying manner.
Aki	The allegory tells us that there are a lot of perceptions, which we do not know are untrue.

Q 4. Can you think of instances where people may be metaphorically in a "cave," unaware of a broader reality?

Shun	I suppose an instance would be those who push their own values on gender issues as I mentioned earlier and do not want to face the solution to the problem.
Aki	In my opinion, explanation of the truth is challenging. The prisoner tries to explain the situation to his friends, but they could not believe what the prisoner said. Probably, it was difficult for them to understand it, because in fact, they did not see what he said by themselves.

Shun showed an understanding of the role of education to develop critical thinking skills and Aki highlighted her emerging awareness of the challenges of overcoming false perceptions and the critical need to have reflective thought to overcome reliance on stubbornly held beliefs. Their reflections demonstrate an understanding of the allegory's relevance to modern societal issues and personal beliefs, emphasizing the need for open-mindedness and the continuous reevaluation of our perceptions and knowledge.

2. Data for Activity #2: *Drones: Duty or Morality*

Material: Video showing ethical dilemma

Students are shown a 12-minute video, titled *Drone* (Belnik & Jewel, 2013). Taking place in the future, drone warfare has now become privatized. The protagonist works for a drone company called JANA. One morning he was unexpectedly called in to do an early shift and told to prepare to carry out a drone mission on his own for the first time. Other than himself, the office is empty. Suddenly, on his computer screen a suspected terrorist appears. Receiving his orders on the computer, he is given the coordinates to pull the joy stick to lethally kill the alleged terrorist, thousands of miles away. With his hand set on the trigger, he suddenly hesitates as a little child runs up to the suspect and they hug. Soon, the child's mother comes into the screen, and smiling, takes the child away as they wave goodbye. The suspect, now a family man, is alone, and the man in the office again tightens his grip on the trigger, but pauses as he momentarily reflects on what is the right thing to do. Then, he pulls the trigger, the suspect is blown up, meanwhile workers in the office are coming in to start their day as usual. The man gets up, walks to the soft drink machine, buys a drink, looks out of the window and the video ends.

Learning goal: *Critical reflection of ethics informed by Utilitarianism and Deontology*

The video provides a "case" for students to critically reflect on ethical virtues and what is the right thing to do. Following the tradition of the case method introduced in education over a hundred years ago (Doyle, 1990), students are presented with cases that capture real-life situations. Different from textbooks, students are faced with complex situations that require critical thinking skills, going beyond the linear, prescriptive rule-driven solutions to problems (Gartland & Field, 2004). For example, in the case of the events depicted in the video, there is no analysis or a narration with a clear step by step procedure to solve the problem. Therefore, during analysis of the video, students have to make an ethical choice: Does one comply with an order because it is her duty or refuse to follow it because it is against her moral principle?

To assist the students as they go through the critical thinking process, two philosophical concepts, utilitarianism and deontology, are presented to help them make informed judgements. *Utilitarianism* prioritizes the greatest good for the greatest number, focusing on outcomes. In utilitarianism, the ends justify the means. If the results or consequences of actions, however conducted, turn out to be for the common good, then the means are justified. *Deontology* emphasizes moral rules, valuing the rightness of actions over consequences. In contrast to utilitarianism, deontological ethics posit the means does not justify the ends. From a Kantian view, one's pre-established ethical principles, grounded in moral virtue, are steadfastly observed and inform one's actions regardless of the outcomes.

Activity: Students were asked to watch the video. The video had no dialogue or narration, which allowed students to further make their own independent judgments. Then, a discussion was conducted presenting the concepts of the two philosophies. The rationale was that after having philosophical knowledge, they would be better prepared to reflect on the ethical dilemma presented in the video. The students were given the following questions to reflect on in their learning journal:

Q 1. What were your initial thoughts and emotions while watching the video on the decision to ignite a drone attack?

Shun	He waited to blow up the car once when he saw a baby on the monitor, so I felt that the situation was complicated for him.

Aki	I wondered why he hesitated to kill the target. He looked confused. I thought he might not do it, but then he did it.

Q 2. How did the video set the stage for ethical considerations in decision-making?

Shun	The video set the stage for ethical consideration by depicting the scene where the man hesitated to blow up the car once because there was a baby on the monitor.
Aki	The video set the stage as a choice whether he follows duty or morality. His hesitation in not wanting to kill someone shows his ethical consideration.

Q 3. What are the ethical principles evident in the video about decision making?

Shun	I suppose that it is obeying the rule. He was ordered to kill the person because he is a terrorist. His job is to follow that duty to accept the order. So for him, duty was the most important ethical principle.
Aki	Probably, he is a government person, he felt his responsibility as his work. I think that this shows whether there is no need for ethical considerations if it is an order.

Q 4. How might different stakeholders view the ethical implications of the drone attack decision?

Shun	It may have some benefits on JANA because it's thanks to the drone, they can maintain their order. However, if you look at it from a different angle, the person who was blown up is a victim.
Aki	For a government leader, the leader felt that the attacker carried out his mission. For NPOs/ NGOs, the drone attack is an invasion of human rights. For global environment supporters, the attack is environmental destruction.

Q 5. Do you think your personal values align with the ethical principle? Or different? And why?

Shun	I think my personal values align with the ethical principle because even though it's my duty, I don't believe that I can kill others.
Aki	I think my personal values do not align with the ethical principles, because sometimes, I kill bugs easier than people.

Q 6. How did this exercise (engaging in a hypothetical scenario applying the ethical principles) enhance your understanding of ethical decision-making?

Shun	This exercise helps me to broaden my horizons, and reconsider what we consider the norm. Through case study in the video, my understanding of ethical dilemmas in terms of utilitarianism and deontology were enhanced.
Aki	I realized that there are many stakeholders in a lot of areas, so we should identify the situation and views. Thanks to this example, I noticed that there are both positive and negative aspects in viewpoints. Also, there are a lot of viewpoints too.

Their responses reflect a multi-layered engagement with the ethical complexities introduced by the video, focusing on the interplay between duty, moral values, and the impact on various stakeholders. For Shun the exercise enhanced learning through self-reflection and questioning norms; for Aki, there emerged a realization about the importance of considering multiple stakeholder views in ethical

decisions, and the philosophical dilemma of maintaining ethical principles; she kills bugs. In both cases, critical thinking skill development emerged with a sense of having skepticism and at the same time having a disposition to be open-minded when confronting complex issues.

3. Data for activity #3: *Student Presentations*

Material: *Computer slide template to assist students*

Students were given a computer slide template to help them in the cognitive structuring of their presentations concerned with complex ethical issues that require critical analysis. Slides were labeled with the following organizing categories as prompts below:

Slide	Prompts
1	Show your issue and an example. You can cite from the articles and news etc.
2	What are ethical principles concerned with the issue?
3	Who might be the stakeholders in the issue?
4	How might their views differ? Tell us how or why their perspectives differ.
5	Consider the dilemma between duty and morality. Are there any hypothetical or real scenarios?
6	The dilemma between utilitarian consideration and deontological considerations. Are there any hypothetical or real scenarios?
7	Cultural perspectives. Can you show how cultural factors might influence decisions and why?
8	Global perspectives. Can you give an example how international relations might play a role in such a situation?

Learning goal: The learning goal is for students to select and critically analyze an ethical issue through the lenses of utilitarianism and deontology. By presenting their findings, students demonstrate their understanding of ethical theories and their ability to apply them to real-world scenarios, fostering deeper critical thinking skills.

Activity: In teams of three, students collectively chose and investigated an ethical dilemma, presenting it to the class for discussion. Afterwards, in their journal entries, audience members were asked to select one or two group presentations that resonated with them, providing reasons for their choices.

Shun	I was impressed by the group presentation on euthanasia because they presented their opinions in detail on a very complicated issue, which is difficult to reach a simple conclusion on. Noting global differences, as they explained in their presentation, some countries and regions such as the Netherlands, Switzerland, and Canada have implemented euthanasia, while several countries, including Japan, have banned the practice on the grounds that it is a crime of inducing or aiding or consensual homicide. Euthanasia is a quite difficult topic because it is directly related to human life. [However] even if there is no clear answer, I'm positive that pondering it and understanding that "we allege we know everything, but in fact we know nothing" is the first step toward true knowledge.

Aki	I'm interested in two groups, one on euthanasia and the other child labor. About euthanasia, it is realistic about my family and me. I thought that there are many choices, therefore, we must decide choices accurately by ourselves. Next, in the presentation about child labor, I was impressed because it made me think about the issue deeply. Although it seems wrong, the issue is difficult. They are poor people so child labor is one of the main ways to make a living. I learned that although they knew child labor is illegal, they can't get water without it, so we need to make all people aware of the current situation and support them in order to improve water supply. From these presentations, I noticed that considering again and updating our thoughts are important in any case. To continue developing my ethical thinking, I can be flexible and consider and share about any situation and position as many times as possible.

Shun was impressed by the group's detailed presentation on euthanasia, acknowledging the complexity of the issue and emphasizing the importance of contemplating such topics for true knowledge. He emphasized the importance of first being open to new perspectives, contemplating such ethical dilemmas as a path to true understanding. Aki found significance in the group's emphasis on entertaining a variety of choices to help make informed decisions about euthanasia. The presentation on child labor was a reminder that critical thinking is an ongoing process as we need to reconsider and refine our perspectives because of the complexity of issues.

These reflections after listening to student presentations, led to increased critical thinking awareness by encouraging students to delve into complex ethical dilemmas, consider multiple perspectives, and reflect on the process of decision-making and updating beliefs.

3.3 Student Overall Evaluation of Critical Thinking Skill Development

The following question was given to students to elicit their perspectives on the development of their critical thinking skills after completing the course. They were asked the following question to reflect on and evaluate their progress in this area.

Q. Reflecting on your experience in this course, what do you think about the development of your critical thinking skills?

Shun	I strongly believe that we need to have the skills to question the more obvious things. We need to consider the norm without overconfidence in our own knowledge and information capabilities.
Aki	I believe that reconsidering and updating our thoughts is how we do know what we know. Through this course, skills to consider and to have viewpoints are important for me.
S3	I learned that in order to apply ethical considerations and critical thinking in your personal life requires skills in gathering relevant information. By gathering information and making fact-based decisions, we can act more ethically. Developing these skills will help you apply ethical considerations to your personal life. However, ethical consideration is an ongoing process and requires constant self-assessment and learning.
S4	Through the course, I think that it is difficult to know what we know. It is important for us to broaden our horizons and think about things from various perspectives.
S5	I think that we can know everything by searching for and using things around us. Also, talking with other people is good. In the future, I think updating our thoughts and knowledge are very important skills to apply when making ethical considerations. It is important to face these issues and share ideas
S6	You need the ability to put yourself in the other person's shoes and think about things objectively. I learned this is important in critical thinking.
S7	I think more people should have critical viewpoints. Japan is one of the democratic countries, so it is important for citizens to get a critical viewpoint. If they get it, our structure of society will

	change for the better.
S8	We have to know some information not only subjectively but also objectively. And we should have skills which grasp justice
S9	I think we can know what we know by learning to think about various things from different perspectives. I found that skills to put yourself in various people's shoes might be required.
S10	Rather than thinking only to myself, by talking and thinking with friends, family, and teachers, I can learn other people's opinions and deepen my own ideas. I can realize what I am missing in my thinking.
S11	I learned that the most important thing is to keep thinking. There are things we don't know and make a lot of mistakes. I think there will be many things to know about from now on. However, I believe that if I have critical thinking skills and put them into practice towards better solutions, I can grow myself.
S12	I think that we as a society need to know what to do to make society better. I think it's better to prioritize the happiness of many people over the happiness of one person. I learned this is utilitarianism.

4. Results

Based on the responses of the 12 students to the question about their development of critical thinking skills after taking the course, several key themes emerge that encapsulate their reflections:

Enhanced Self-Awareness and Ethical Sensitivity*:* Many students noted an improvement in their ability to apply ethical considerations to their personal lives. This includes skills in gathering relevant information, making fact-based decisions, and engaging in constant self-assessment and learning. They recognize that ethical considerations are an ongoing process and require a cultivated understanding of one's values and the implications of one's actions.

Ability to Welcome Multiple Perspectives*:* Students frequently mentioned the importance of broadening their horizons and considering various viewpoints. This includes empathically putting themselves in other people's shoes, learning from diverse sources (such as conversations with peers, family, and experts), and the necessity of reevaluating and updating their thoughts to accommodate new information and insights. This skill is seen as essential not just for personal growth but also for contributing to societal improvements.

Recognition of the Importance of Ongoing Learning and Inquiry: There is a strong emphasis on the need for continuous education and the ongoing questioning of what is considered normal or given. This is reminiscent of Dewey's previous stated phrase of viewing knowledge claims as having "warranted assertibility" reflecting the importance of being critical of the obvious and traditional views. This suggests a shift towards a more inquisitive and less assumptive approach to knowledge and understanding.

Development of Practical Critical Thinking Skills*:* Responses show that students appreciate the practical aspects of critical thinking, such as the ability to analyze information objectively, engage in reflective thinking, and make well-informed decisions. These skills are linked to real-world applications, including how to effectively participate in democratic processes and engage in community and societal development.

These themes encapsulate the students' responses that emerged as favorable outcomes of the course. They highlight developmental change in the students' approach to thinking, decision-making, and knowledge building, both dispositionally and cognitively. They emphasize the broad applicability of critical thinking skills across personal, ethical, and societal domains.

5. Discussion

The study set out to explore and interpret the effectiveness of integrating critical thinking activities within EMI. Understanding the right teaching approach and methods to pair with critical thinking in this context was essential. Consequently, an emphasis was placed on describing the pedagogical procedures of the course aimed at prioritizing active engagement, encouraging students to construct their own understanding through interaction, exploration, cooperation, and fostering the development of critical thinking skills. Scaffolding played a central role in the praxis process of transforming these pedagogical concepts into actionable strategies.

Through the analysis of three specific activities, the study demonstrated how students engaged with complex ethical dilemmas, grappled with philosophical concepts, and reflected on their learning experiences through journal entries to develop critical thinking skills. The first activity, centered around Plato's *Allegory of the Cave*, with the learning goal of having students reflect on the nature of knowledge and the role of education in fostering critical thinking. Student reflections revealed an understanding of the allegory's relevance to contemporary societal issues and personal beliefs, emphasizing the importance of questioning assumptions and broadening perspectives.

The second activity focused on an ethical dilemma presented in a video about drone warfare, encouraging students to apply philosophical principles of utilitarianism and deontology to complex real-world scenarios. Student responses demonstrated a nuanced understanding of ethical considerations, highlighting the interplay between duty, moral values, and stakeholder perspectives.

The final activity involved student presentations on various ethical issues, allowing for collaborative investigation and critical analysis. Student evaluations indicated a heightened awareness of the complexity of ethical decision-making, as well as a recognition of the importance of considering multiple perspectives and engaging in ongoing learning and inquiry.

Overall, the study provided persuasive evidence of the efficacy of integrating scaffolded critical thinking activities underpinned by an appropriate pedagogical approach and methods within an EMI course. By engaging students in thought-provoking discussions and reflective exercises, educators can cultivate essential skills for navigating contemporary challenges and contributing to informed decision-making and societal development. The findings underscore the value of incorporating active learning strategies that promote critical thinking in diverse educational contexts.

However, there are challenges when teaching critical thinking through EMI that require careful consideration of cultural influences, language barriers, and levels of student participation. For example, Japanese educational culture traditionally emphasizes rote learning and respect for authority, which can sometimes interfere with the Socratic-type methods that encourage open debate and critical questioning, essential components of critical thinking (Bullsmith, 2020; Nomura, 2023). Additionally, as stated EMI poses significant challenges due to language barriers. Non-native English speakers may struggle to express complex ideas or engage fully in discussions, potentially limiting their ability to critically analyze topics. Moreover, students' levels vary and this can cause differences in their readiness to engage in critical thinking discussions.

While teaching critical thinking through EMI poses problems, using the native language (L1) offers helpful strategies (Zhang & Wei, 2021). Woods (1996) posited there are two ongoing hurdles teachers face in their instructions involving conceptual and chronological concerns. Integrating bilingual resources can overcome these hurdles by clarifying instructions in L1 and providing translated materials for efficiency, thus, avoiding cognitive overload and saving time, respectively.

Importantly, employing the effective strategies shown in this study can overcome obstacles with the use of appropriate pedagogies to carry out thought provoking activities to foster a classroom environment that is stimulating, interactive and values diverse opinions. At the core of this research is that effective pedagogical concepts can be implemented by using scaffolding techniques to gradually build students' abilities to think critically despite the hurdles they face. These considerations are crucial for effectively integrating critical thinking into classrooms and ensuring that all students can benefit from these essential skills.

A final consideration to mention is that shifting from a transmission model of instruction to ones that encourage active critical thinking may require significant changes in faculty who rely on traditional, lecture type teaching methods. This necessitates faculty development programs to endow educators with the skills to implement these pedagogies effectively. Although this paper did not go in depth about the important role that faculty development must play when adding critical thinking content in the curriculum, it is crucial and has been addressed in other studies by the author (Takegami, 2022; 2023).

6. Conclusion

This study provided a classroom-based account of introducing a critical thinking course through EMI integrating theoretical insights with practical learning experiences. The use of appropriate pedagogies actualized by scaffolded activities and reflective journaling were implemented to enhance students' critical thinking skills, necessary to live in an ever-growing information age. Alluding to Chekov of taking "two steps forward, and one step back", critical thinking often involves evaluating and re-evaluating evidence and arguments. It is an ongoing process towards deeper insights and truths. Thus, knowing the truth is not always clearly defined; it requires continuous effort to uncover. By engaging students in reflective exercises and thought-provoking discussions, facilitated by scaffolding, educators can empower learners to question assumptions, broaden perspectives, and make informed decisions.

The findings emphasize the value of a praxis approach, which prioritizes the transformation of pedagogical concepts into actionable strategies tailored to meet students' learning potential goals. As education continues to evolve in the 21st century, fostering critical thinking skills is vital for preparing students to analyze global issues, navigate cultural differences, and succeed in an information-rich society. This research offers practical insights for educators in similar situations seeking to integrate critical thinking into their instructional practices, ultimately enhancing the intellectual independence and academic development of learners in diverse educational contexts, ensuring they take two steps forward.

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