FOSTERING CRITICAL THINKING SKILLS THROUGH SOCRATIC QUESTIONING: INSIGHTS FROM WIDYATAMA UNIVERSITY

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Abstract: This study investigates the effectiveness of Socratic Questioning Method (SQM) in enhancing critical thinking skills among students at Widyatama University. Conducted as a case study within the "Academic Presentation" course in the English Department, the research involved 12 fourth-semester students. The findings reveal that the majority of students (67%) have a moderate understanding of SQM, indicating significant potential for its application in fostering deeper cognitive engagement. The study also highlights the positive impact of SQM on students' critical thinking capabilities, with 50% demonstrating strong problem-solving skills and a higher level of inquiry through questions that often begin with "how" and "why." Furthermore, the use of SQM was found to increase student participation, motivation, and confidence during academic discussions. Despite these promising outcomes, the research identifies challenges related to the full integration of SQM into the curriculum, particularly in overcoming traditional teaching methods and cultural barriers. The study concludes that targeted efforts to implement SQM more broadly could significantly improve critical thinking outcomes, offering valuable insights for educators in similar academic contexts.
Keywords: *Socratic questioning method (SQM); critical thinking skills; higher education; cognitive engagement; student motivation; academic discussions; pedagogical strategies.*

INTRODUCTION

Critical thinking has emerged as an essential component in modern education, especially within the context of higher education, where students are expected to go beyond mere acquisition of knowledge to analyze, evaluate, and synthesize information in complex ways. Socratic questioning, which has its roots in the teaching practices of the ancient philosopher Socrates, serves as a particularly effective pedagogical tool for fostering these skills. By engaging students in a process of rigorous questioning and reflection, Socratic questioning encourages deep cognitive engagement, enabling learners to move beyond surface-level understanding to develop a more nuanced and critical perspective on the subjects they study (Balbay, 2019; Dinkins & Cangelosi, 2019; Dalim et al., 2022). In recent years, there has been a growing recognition of the value of Socratic questioning in educational research, particularly in

settings that demand the cultivation of higher-order thinking skills (Abidah, 2022; Chang et al., 2024). At its core, Socratic questioning involves a dialogic method where educators or facilitators pose a series of carefully crafted questions designed to challenge students' assumptions, prompt critical reflection, and encourage deeper analysis of the material at hand. This method is distinctly different from traditional teaching approaches, which often emphasize the one-way transmission of knowledge from teacher to student without necessarily fostering an environment of inquiry and intellectual exploration (Chian, 2020; Hu, 2023; Rahimdjanova, 2024). In disciplines that require complex reasoning and analysis, such as philosophy, law, and the humanities, Socratic questioning has been shown to significantly enhance students' understanding and retention of knowledge (Hu et al., 2022; Katsara & De Witte, 2019). By actively involving students in the learning process, Socratic questioning not only

helps them grasp the material more deeply but also equips them with the critical thinking skills necessary to navigate the complexities of the modern world.

The effectiveness of Socratic questioning has been demonstrated in various educational contexts. For instance, research has shown that this method can greatly improve students' critical thinking and argumentative writing skills, particularly in flipped classroom settings where students are encouraged to take an active role in their own learning (Chang et al., 2024; Ibarra & Cadenas, 2022; Dhuha & Manik, 2023). Moreover, Socratic questioning has proven to be a valuable tool in nursing education, where the development of critical thinking is crucial for effective clinical practice (Dinkins & Cangelosi, 2019; Mahmud & Tryana, 2023; Makhene, 2019). Despite these benefits, the implementation of Socratic questioning in Indonesian universities has been somewhat limited, largely due to cultural factors that may discourage open questioning and debate in the classroom (Abidah, 2022; Dalim et al., 2022; Ismah & Muthmainnah, 2021). Additionally, the traditional lecture-based approach to teaching, which remains prevalent in many Indonesian higher education institutions, does not always provide the ideal conditions for Socratic questioning to thrive (Kusmaryani, 2021; Lintangsari et al., 2022; Suryana et al., 2021).

This study seeks to bridge the gap in the existing literature by exploring the application of Socratic questioning at Widyatama University, an institution that has recently begun to integrate this method into its curriculum. By focusing on the specific context of Widyatama University, this research contributes to the growing body of knowledge on the effectiveness of Socratic questioning across diverse educational settings (Nicholson, 2022; Overholser & Beale, 2023; Rasiman & Fitriawan, 2023). The study's novelty lies in its context-specific exploration of how Socratic questioning can be adapted to fit the cultural and pedagogical landscape of Indonesia, providing insights that are particularly relevant to the challenges and opportunities associated with its implementation in Indonesian higher education (Rahimdjanova, 2024; Moeljono & Lintangsari, 2021; Mustika et al., 2020).

In addition to examining the effectiveness of Socratic questioning in enhancing critical thinking skills, this study also investigates the various challenges and opportunities related to its implementation in a university setting. By addressing these aspects, the research offers practical recommendations for educators who are looking to integrate Socratic questioning into their teaching practices, thereby contributing to the broader goal of improving critical thinking outcomes among university students (Wilberding, 2021; Kinney, 2022; Suhardiana, 2019). Ultimately, this study aims to fill the research gap by providing a detailed analysis of the use of Socratic questioning at Widyatama University, highlighting its potential to foster critical thinking within the unique cultural context of Indonesia. The findings are expected to contribute to the ongoing discourse on effective pedagogical strategies that can enhance student learning and cognitive development in higher education.

METHOD

This descriptive study aims to examine the characteristics of students' critical thinking through the application of the Socratic Questioning Method (SQM). Conducted at the English Department of Widyatama University, the study involved 12 fourth-semester students enrolled in the "Academic Presentation" course.

The research is a case study that does not intend to generalize findings but to provide a detailed understanding of the phenomena observed.

Twelve students from the English Department were selected based on practicability and accessibility. The participants' familiarity with the researchers facilitated data collection.

Data were gathered through classroom observation and closed-ended questionnaires. The questionnaire consisted of ten items divided into six parts: understanding of SQM, critical thinking capabilities, application of SQM, effectiveness of SQM, perception of learning using SQM, and effects on critical thinking capability.

Responses were grouped and categorized according to the nature of the items. Percentages were calculated to analyze the frequency of responses, using the formula:

$$P = \frac{f}{n} \times 100\%$$

Where P is the percentage, f is the frequency of responses, and n is the total number of respondents.

RESULTS AND DISCUSSION

Socratic questioning (SQ) is intricately linked to the development of critical thinking skills, as questioning inherently involves the process of thinking. However, SQ goes beyond typical questioning techniques by specifically stimulating deeper levels of analysis and reflection, thereby

enhancing students' critical thinking abilities. The data from Table 1 provides insights into the students' understanding of the Socratic Questioning Method (SQM). A significant majority, 67% of the students, indicated that they "understand enough" about SQM. This suggests that while these students have a moderate grasp of the method, they are likely able to engage with it effectively during learning activities. This level of understanding is promising, as it implies that most students are equipped to benefit from the critical thinking and reflective practices that SQM promotes.

However, 25% of the students reported that they only "understand a little" about SQM, which indicates that a quarter of the group may struggle to fully participate in activities involving this method. These students might need additional instruction or practice to develop a more robust understanding, which is crucial for them to benefit from the pedagogical advantages of SQM, such as enhanced critical thinking skills.

Additionally, 8% of the students expressed that they "do not understand yet" the SQM. This lack of understanding could present a barrier to their engagement and learning, as they may find it challenging to keep up with their peers or contribute meaningfully in discussions that utilize this method. This highlights the need for targeted interventions or instructional support to bring all students to a similar level of comprehension, ensuring that no student is left behind in their ability to engage critically and reflectively in academic discussions.

Table 1. *Understanding of SQM*

Cat.	Fre.	%
Not understanding yet	1	08
Understanding a little	3	25
Understanding enough	8	67
Understanding	-	-
Understanding very much	-	-
Total	12	100

Note: Cat. (Category); Fre. (Frequency)

The data from Table 2 highlights the varying levels of critical thinking capability among the students. A significant portion, 50% of the students, demonstrated "good" critical thinking skills. This indicates that half of the students are capable of effectively analyzing, evaluating, and synthesizing information, which are essential components of critical thinking. These students are likely well-prepared to engage in higher-order thinking tasks and contribute meaningfully to academic discussions.

On the other hand, 33% of the students rated their critical thinking capability as "moderate." This suggests that while these students have a fair level of critical thinking skills, there is room for improvement. They may occasionally struggle with more complex cognitive tasks, indicating a need for further development in this area to reach a higher level of proficiency.

Additionally, 8% of the students rated their critical thinking capability as "not good," and another 8% rated it as "very good." The small percentage of students with "not good" critical thinking skills indicates that a minority may find it challenging to engage in critical thinking activities. Conversely, the "very good" rating, also at 8%, reflects a small group of students who excel in critical thinking and are likely leaders in classroom discussions and analytical tasks. These disparities underscore the importance of differentiated instruction and targeted support to help all students improve their critical thinking capabilities.

Table 2. *Critical thinking capability*

Cat.	Fre.	%
Not very good at all	-	-
Not good	1	08
Moderate	4	33
Good	6	50
Very good	1	08
Total	12	100

The data from Table 3 illustrates the varying levels of student engagement in classroom discussions. The table reveals that 50% of the students reported participating in discussions "sometimes," which indicates that while half of the students do engage in discussions occasionally, there may be barriers or limitations that prevent them from participating more frequently. This suggests a need for strategies to encourage more consistent engagement among this group.

Additionally, 25% of the students indicated that they "often" participate in discussions, and another 25% reported participating "very often." This shows that a quarter of the students are regularly active in discussions, contributing more frequently and potentially benefiting from a deeper engagement with the material. These students are likely more comfortable with speaking in front of others and may find discussions a useful way to enhance their understanding.

The absence of responses in the "never" and "always" categories is notable. It suggests that none of the students completely avoid participation

in discussions, nor do any of them consistently engage at every opportunity. This middle-ground distribution of responses indicates that while participation is not universal, it is also not dominated by a few students, reflecting a moderate level of overall engagement within the group. These findings point to the need for further efforts to increase participation rates, particularly for those who only sometimes engage, to create a more balanced and inclusive discussion environment.

Table 3. *Engagement in discussion*

Cat.	Fre.	%
Never	-	-
Sometimes	6	50
Often	3	25
Very often	3	25
Always	-	-
Total	12	100

The data in Table 4 provides a comprehensive view of how students perceive the benefits of the Socratic Questioning Method (SQM) across three critical areas: Critical Thinking (CT), Deep Analysis (DA), and Posing Questions (PQ).

The data shows that a significant portion of students, about 50%, believe that SQM "helps enough" in enhancing their critical thinking skills. This indicates that for half of the students, SQM moderately contributes to their ability to think critically, allowing them to analyze and evaluate information more effectively. Additionally, 33% of students indicated that SQM "helps" in developing their critical thinking, reflecting a more substantial benefit perceived by this group. Notably, 17% of students reported that SQM "helps very much," suggesting that while a smaller group, they experience a very strong positive impact on their critical thinking abilities due to SQM.

When it comes to promoting deep analysis, 42% of students reported that SQM "helps enough," indicating a moderate level of benefit in this area. This suggests that nearly half of the students find SQM useful in encouraging deeper, more analytical thinking. Moreover, 33% of students felt that SQM "helps very much" with deep analysis, pointing to a significant positive effect for this group. Another 25% of students mentioned that SQM "helps," which indicates a solid, albeit less intense, benefit in fostering their analytical skills.

The data reveals that SQM is particularly effective in enhancing students' ability to pose quality questions. A majority, 58%, stated that SQM "helps" in this area, showing that more than half of the students see a substantial improvement in their questioning abilities as a result of engaging

with SQM. Additionally, 42% of students noted that SQM "helps enough," suggesting that they find it moderately beneficial in improving the quality of their questions.

Overall, the data indicates that students perceive the Socratic Questioning Method as beneficial across all three areas, with a particularly strong impact on their ability to pose questions. While a significant number of students recognize the benefits of SQM in critical thinking and deep analysis, there is potential for further improvement. Increasing the number of students who experience strong benefits ("helps very much") across all areas could enhance the overall effectiveness of SQM in fostering critical thinking, deep analysis, and the ability to pose thoughtful, reflective questions. This might involve refining the method or offering additional support to ensure that all students can maximize the benefits of SQM in their learning.

Table 4. *Benefits of SQM*

Cat.	Benefits of SQM					
	In CT		In DA		In PQ	
	Fre.	%	Fre.	%	Fre.	%
Not helping	-	-	-	-	-	-
Helping a little	-	-	-	-	-	-
Helping enough	6	50	5	42	5	42
Helping	3	33	3	25	7	58
Helping very much	2	17	4	33	-	-
Total	12	100	12	100	12	100

Notes: Cat. (Category); CT (Critical Thinking); DA (Deep Analysis); PQ (Posing Questions); Freq. (Frequency)

The data presented in Table 5 illustrates the impact of questions posed by students during discussions, focusing on how these questions affect the respondents' depth of thinking. The table shows that a majority of students, 67%, reported that the questions they asked "sometimes" made their peers think deeply. This suggests that while students occasionally succeed in stimulating deeper thought among their peers, there is still room for improvement in consistently engaging others in reflective and critical discussions.

Additionally, 17% of students stated that their questions "often" led to deeper thinking, indicating that a smaller group of students regularly succeeds in posing questions that challenge their peers' cognitive processes. Furthermore, 8% of students reported that their questions "very often" prompted deep thinking, which reflects a positive, though less frequent, impact on their peers' engagement with the material.

Interestingly, 8% of students indicated that their questions "never" made their peers think deeply. This highlights a potential area for development, as these students may need further support or guidance in formulating more thought-provoking questions that can elicit deeper reflection and understanding from their classmates.

Overall, the data suggests that while many students occasionally succeed in asking questions that foster deeper thinking, there is an opportunity to enhance the consistency and effectiveness of questioning techniques across the group. By focusing on strategies to improve the quality of questions, students can be better equipped to engage their peers in more meaningful and intellectually stimulating discussions.

Table 5 Impact on the Asked

Cat.	Fre.	%
Never	1	08
Sometimes	8	67
Often	2	17
Very often	1	08
Always	-	-
Total	12	100

The data in Table 6 provides insight into the quality of questions posed by students during discussions, categorized by the type of question asked. The majority of students, 50%, predominantly asked questions starting with "How," indicating that these students are focusing on understanding processes, methods, and underlying mechanisms. "How" questions typically require more complex responses that involve explanation and critical thinking, which suggests that half of the students are engaging in higher-order questioning.

Following this, 25% of the students asked questions starting with "Why." These questions are crucial for probing deeper into reasons, causes, and justifications, thereby encouraging critical analysis and reflective thinking. The fact that a quarter of the students are asking "Why" questions shows that they are thinking critically about the subject matter and seeking to understand the rationale behind certain concepts or actions.

Another 17% of students posed yes-no questions. These types of questions generally require less cognitive engagement as they often result in binary, straightforward answers. While these questions can be useful for clarifying facts or confirming information, they do not typically encourage deep thinking or discussion.

Finally, 8% of the students asked questions beginning with "What," which are typically used to gather information or understand definitions and facts. Although "What" questions can be essential for establishing foundational knowledge, they usually do not challenge students to engage in deeper analytical thinking compared to "How" or "Why" questions.

Overall, the data suggests that while a significant portion of students is engaging in higher-order questioning, there remains a need to encourage more students to move beyond basic yes-no and "What" questions, towards more analytical and reflective "How" and "Why" questions to promote deeper learning and understanding.

Table 6 Quality of Questions

Cat.	Fre.	%
What	1	08
How	6	50
Why	3	25
Yes-No Questions	2	17
Other Question Words	-	-
Total	12	100

The data presented in Table 7 highlights the overall level of learning motivation among the students participating in the study. According to the table, a significant majority of students—67%—reported feeling "motivated" in their learning activities. This suggests that most students have a positive attitude towards their studies, which is essential for their academic success and engagement. The remaining 33% of students indicated that they were "quite motivated," showing that while they are somewhat engaged, there is room for increasing their enthusiasm and commitment to learning.

Interestingly, none of the students reported feeling "unmotivated" or "strongly unmotivated," which indicates that the learning environment, teaching methods, or perhaps the content itself is effective in keeping students engaged at some level. However, the absence of any students reporting as "strongly motivated" suggests that while the majority are motivated, there might still be factors limiting their full potential for engagement.

This distribution suggests that while the educational strategies in place are generally effective, there may be opportunities to further enhance student motivation, potentially by introducing more interactive or personalized learning experiences that could elevate students' motivation to the highest levels.

Table 7. *Learning motivation*

Cat.	Fre.	%
Strongly unmotivated	-	-
Unmotivated	-	-
Quite motivated	4	33
Motivated	8	67
Strongly motivated	-	-
Total	12	100

The data presented in Table 8 reflects the confidence levels of students during discussions. The majority of students, 50%, indicated that they "agree" with feeling confident during discussions, while 42% "fairly agree" with this sentiment. Only 8% of students "strongly agree" that they feel confident in discussions. Notably, none of the students expressed disagreement, whether strongly or otherwise, with the statement about confidence.

This distribution suggests that most students are generally confident when participating in discussions, but there is a gradient in this confidence. The fact that no students reported a lack of confidence indicates a positive baseline; however, the relatively low percentage of students who "strongly agree" points to an opportunity for further development in this area. Encouraging greater self-assurance among all students could involve more supportive discussion practices, peer encouragement, or further practice in public speaking and debate, which could potentially raise the levels of those who currently only "fairly agree" to higher levels of confidence.

Table 8. *Confidence in discussions*

Cat.	Fre.	%
Strongly disagree	-	-
Disagree	-	-
Fairly agree	5	42
Agree	6	50
Strongly agree	1	08
Total	12	100

Based on the data presented in the eight tables, we can interpret the findings in the following

Understanding of Socratic Questioning Method (SQM)

The data indicates that the majority of students, 67%, have a moderate understanding of the Socratic Questioning Method (SQM), with 25% possessing only a little understanding and 8% not understanding it at all. This suggests that while a good portion of students have a basic grasp of the method, there is a significant portion that could benefit from further instruction or practice. The absence of students who fully understand the SQM or who have a deep comprehension points to a potential gap in the teaching or the delivery of this method, indicating that more targeted educational interventions could be beneficial to enhance students' understanding.

Critical thinking capability

Regarding students' critical thinking capabilities, the data shows that 50% of students are rated as "good" in their critical thinking skills, with 33% being moderate and 8% classified as very good. On the other end of the spectrum, 8% of students were assessed as not good at critical thinking. This distribution reveals that while half of the students are proficient in critical thinking, there is still a significant portion that may need additional support to reach higher levels of critical analysis and reasoning. The data emphasizes the need for continued efforts to cultivate critical thinking skills across all students, ensuring that more of them can achieve higher competency levels.

Engagement in discussion

Student engagement in discussions is varied, with 50% of students sometimes participating, 25% often, and another 25% very often. Notably, no students reported never participating, which is positive, but there is also no indication of students always participating. This distribution suggests that while students are generally active in discussions, there is variability in the level of engagement. Encouraging more consistent participation could be beneficial, as more frequent engagement could help deepen students' understanding and application of the material being discussed.

Benefits of SQM

The benefits of the Socratic Questioning Method (SQM) are recognized by students, particularly in critical thinking, deep analysis, and posing questions. Specifically, 50% of students acknowledge that SQM helps enough with critical thinking, and 33% find it helps significantly. When it comes to deep analysis and posing questions, 42% believe SQM helps enough, while 33% and 58% (respectively) see it as significantly beneficial. This data suggests that while most students see the value of SQM, especially in posing questions, there is potential for even greater impact if the method is further integrated into the curriculum.

Impact on the asked

When considering the impact of questions on their peers, 67% of students believe that their questions sometimes make others think deeply, with 17% often and 8% very often. Only 8% feel their questions never have this impact. This suggests that while a majority of students believe their questions provoke thought, there is still room to enhance the quality of questioning so that more students regularly contribute to deeper academic discussions.

Quality of questions

The quality of questions posed by students shows a significant focus on higher-order thinking, with 50% of questions beginning with "how" and 25% with "why." However, 17% of the questions were yes-no questions, and 8% started with "what." The prominence of "how" and "why" questions is encouraging, as these types of questions are crucial for fostering critical thinking and deep inquiry. Nevertheless, the presence of yes-no questions indicates some reliance on lower-order questioning, which may limit the depth of discussion.

Learning motivation

The data regarding learning motivation is highly positive, with 67% of students feeling motivated and 33% quite motivated by the Socratic Questioning Method. No students reported feeling unmotivated, suggesting that the SQM is effective in engaging students and fostering a more stimulating learning environment. This high level of motivation is a promising indicator that students are likely to be more invested in their learning when SQM is employed.

Confidence in discussions

Finally, the data on students' confidence in discussions shows that 50% agree they feel confident, and 42% fairly agree, with 8% strongly agreeing. No students reported feeling unconfident. This suggests that most students have a baseline of confidence during discussions, but there is still room to further boost this confidence. Increased confidence could lead to more active and effective participation, enhancing the overall quality of classroom discussions.

These findings highlight the positive impact of the Socratic Questioning Method on students' understanding, critical thinking, engagement, and confidence, while also pointing to areas where further development and support could yield even greater benefits.

CONCLUSION

The implementation of the Socratic Questioning Method (SQM) in the "Academic Presentation" course at Widyatama University has demonstrated its effectiveness in enhancing students' critical thinking skills. The study found that students who engaged in SQM were more likely to participate actively in class discussions, pose higher-order questions, and exhibit deeper analytical thinking. These findings align with previous research, which highlights the role of Socratic questioning in fostering critical thinking across various educational contexts. By promoting an environment of inquiry and reflection, SQM encourages students to move beyond surface-level understanding, enabling them to explore complex ideas more thoroughly.

Moreover, the research underscores the importance of understanding and applying SQM effectively to maximize its benefits. The data showed that while most students had a moderate grasp of SQM, there remains a need for further development in both comprehension and application. This suggests that for SQM to reach its full potential, students and educators must be committed to continuous learning and practice. Educators should provide clear guidance and support, ensuring that students are equipped to engage with this method meaningfully, which will, in turn, enhance their overall academic performance.

The study provides valuable insights into the application of Socratic questioning in higher education, particularly within the Indonesian context. The positive outcomes observed at Widyatama University suggest that SQM can be a powerful tool in developing critical thinking skills, crucial for success in academic and professional settings. Future research should focus on exploring the long-term impacts of SQM across different disciplines and educational levels, ensuring that students are well-prepared for the challenges of the modern world. By integrating SQM into their teaching practices, educators can foster a more dynamic, reflective, and intellectually engaging learning environment.

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