

Teacher-Posed Questions On Students' Development Of Critical Thinking Capabilities

Puspa Sari^{1*}, Hasbiyah Srianah Amir²

¹Departement of English Education, Universitas Muhammadiyah Palopo, 91922, Indonesia

²Departement Industrial Manajement, Institut Ilmu Sosial Dan Bisnis Andi Sapada, 91121, Indonesia

Corresponding Author Email: puspasari@umpalopo.ac.id

Abstrak

This qualitative study explores how students' critical thinking skills are affected in the classroom by questions posed by teachers. Since critical thinking is acknowledged as being crucial to students' intellectual development and success in the future, this study aims to comprehend how the various questioning techniques used by teachers influence students' cognitive engagement and comprehension depth. Data were collected and analyzed using Bloom's Taxonomy as a framework through semi-structured interviews, classroom observations, and document analysis involving five senior high school teachers. The results show that lower-order thinking questions predominate, which suggests that there was a wasted chance to help pupils develop greater critical thinking abilities. Although educators recognize the value of questioning in classroom interactions, there doesn't seem to be as much understanding of the necessity of using the right amount of questioning to encourage higher-order thinking. This study emphasizes how important it is for teachers to use more sophisticated questioning strategies that encourage students' critical thinking and greater understanding. Teachers can improve student learning, better equip students for the challenges of the twenty-first century, and add to the current conversation about effective teaching methods by doing this

Keywords: Teacher-Posed Questions; Student Critical Thinking

1. Introduction

It is becoming more widely acknowledged in contemporary educational paradigms that cultivating students' critical thinking abilities is crucial to their intellectual growth and success in the future. Through a variety of teaching techniques, teachers have a significant impact on how pupils develop cognitively in the classroom. [1] in their study stated that the importance of qualitative teacher-child interactions in augmenting children's executive functions. It suggests that educators can nurture fundamental cognitive processes by fostering classroom environments that are structured, emotionally supportive, and cognitively stimulating. Creating and posing thought-provoking questions is one such tactic used to promote analytical reasoning and enhance comprehension.

Although it is often known that asking questions is important in education, research is still being done to determine the precise impact that teacher-posed questions have on students' critical thinking. Previous studies have indicated that teachers' question types, frequency, and framing can have a major impact on students' critical thinking and cognitive engagement [2]–[4]. Still, more empirical research is needed to determine the particular mechanisms by which teacher questioning promotes critical thinking.

The development of critical thinking abilities is acknowledged in modern educational discourse as being essential to providing pupils with the cognitive tools required to navigate a world that

is becoming more complex and dynamic by the day. The capacity to successfully analyze, evaluate, and synthesize information is known as critical thinking. It enables people to interact critically with a variety of viewpoints, find innovative solutions to issues, and make well-informed judgments [5]–[8]. Because of this, teachers are always looking for ways to help kids develop this crucial skill.

The use of questioning to encourage deeper levels of thinking and cognitive engagement is a fundamental component of the pedagogical skill [9]. Teachers commonly use questions in the classroom to direct discussions, gauge student understanding, and encourage critical thought. As [10] indicates in his study that there are positive effects on student confidence, motivation, and performance, so it is anticipated that the substantial increase in video usage in higher education—which has been fueled by improvements in teaching strategies, alterations to university settings, and a heightened awareness of its advantages—will continue. However, the degree to which teacher-posed questions act as stimulants to advance students' critical thinking is still an area of interest that requires methodical research.

Comprehending the mechanics of teacher-question exchanges and their impact on critical thinking carries consequences for curriculum development, educational policy, and teaching practices. In order to better develop students' cognitive abilities and get them ready for the complexity of the twenty-first century, educators should improve their educational techniques by clarifying the connection between teacher questioning and critical thinking abilities [9], [11]. Therefore, in an effort to further the ongoing conversation on successful teaching and learning tactics.

This study aims to fill this vacuum in the literature by methodically examining how teacher-posed questions affect students' capacity for critical thought. Through the use of a multifaceted methodology that takes into account the type, frequency, and cognitive demands of questions presented by educators, this study seeks to offer empirical insights into the mechanisms by which questioning affects the development of critical thinking. This research aims to contribute to the continuing discussion on effective teaching practices for fostering critical thinking in educational contexts and to enrich pedagogical practice through a thorough analysis of classroom interactions and student learning results.

2. Methodology

In order to investigate the complex interaction between teacher-posed questions and students' critical thinking abilities in the context of the classroom, this study used a qualitative descriptive research design. The richness and complexity of educational phenomena were best captured through qualitative descriptive research, enabling a thorough examination of participant experiences, viewpoints, and interaction [12], [13].

Participants: Three senior high school teachers from SMA N 5 Palopo participated in this study. To obtain a wide range of viewpoints on the research issue, teachers with varying subject areas and teaching experiences were chosen through the use of purposeful sampling. Selection of participants was based on factors including disciplinary background, prior teaching experience, and willingness to participate in the study process. Instead of utilizing their real names, each participating instructor was given a unique code or identification in order to preserve their

privacy and confidentiality. Throughout the research process, the confidentiality of their personal information was guaranteed by this coding system. The researcher alone was aware of the allocated codes, which were applied consistently to all aspects of data collection and analysis.

Data Collection: in-class observations, and document analysis were all used to gather data. Observations of the classroom were made to record the kinds of questions teachers asked, the answers given by students, and the dynamics of classroom discussion. To offer further insights into instructional methods and student learning, documents like lesson plans, instructional materials, and student artifacts were also reviewed.

Data Analysis: The gathered information was methodically examined using qualitative data analysis approaches, such as thematic analysis. To find recurring themes and patterns in teacher questioning and critical thinking, transcripts of interviews and observational notes were coded and categorized. Data triangulation was used to improve the credibility and reliability of the conclusions by confirming evidence from several sources.

In general, this study's qualitative descriptive approach offered a comprehensive understanding of how teachers' questioning strategies affected students' critical thinking abilities, making a significant contribution to educational theory and practice.

3. Result and Discussion

3.1. Result

The study's conclusions showed that the teacher asked 425 questions in three meetings, with the distribution of question kinds classified using Bloom's Taxonomy [14]. An examination of Table 1 revealed a preponderance of lower-order questions, which suggested a propensity for lower-order thinking in the responses from the students. Particularly, out of all 425 questions, knowledge questions accounted for 362 of the most frequently requested questions. The percentage split of these knowledge questions is shown in Figure 1.

Table 1. Categorization of the levels of questions asked by teachers according to Bloom's Taxonomy.

No	Levels of Questions	Meeting 1	Meeting 2	Meeting 3	Total
1	Knowledge	99	80	110	289
2	Comprehension	15	19	10	44
3	Application	4	9	2	15
4	Analysis	0	2	9	11
5	Synthesis	0	0	0	0
6	evaluation	0	0	0	0
Total of teacher's questions		118	110	131	359

Subsequent analysis of the data in Table 1 revealed that of the 359 questions, 289 (80.50%) were knowledge questions, 44 (12.26%) were comprehension questions, 15 (4.18%) were application questions, and 11 (3.06%) were knowledge questions. It's interesting to note that the teacher never used synthesis or assessment questions in class. Furthermore, a greater

proportion of questions demanding higher-order thinking were shown to be related to knowledge and comprehension, both of which are indicators of lower-order thinking.

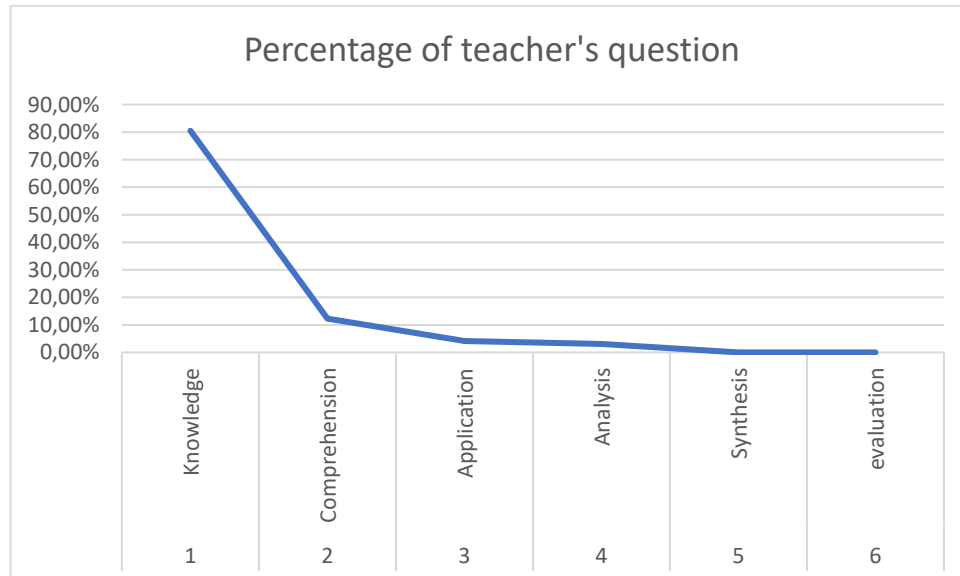


Figure 1. Percentage of teacher's question

The research showed a clear bias in favor of lower-order thinking when it came to cognitive levels; 80.50% of the questions, especially knowledge-based questions, fell into this group, while just 3.06% of the questions were classified as higher-order thinking. This discrepancy is illustrated graphically in Figure 2, which shows that during the three meetings, lower-order thinking questions were clearly more common than higher-order ones. This research emphasizes how crucial it is to use a more nuanced style of questioning that encourages critical thinking and deeper comprehension in students, thereby enhancing the educational process.

Figure 1 showed how different question levels were used, which is obviously unfair. The results indicates that a mere 3.06% of the teacher's questions fell into the higher level of cognition. 80.50% of the remaining portion was in lower level cognition. The first excerpt, which showed that the teacher solely inquired about the pupils' past understanding of the content they had previously learned, further confirmed this. The other instances in excerpt 2 demonstrated that the instructor mostly used questions to assess each student's vocabulary at the lower-order thinking level. But the teacher's response to the interview, "I think it is right," indicated that she understood the value of posing questions during class discussions.

Students' understanding can be expanded and their participation in asking and answering questions from teachers is encouraged when they ask questions. However, he was unaware of how crucial it was to use the proper queationing levels. Examining the students' answers also revealed that, for the most part, they used their prior knowledge to recollect facts and answer the questions, as seen by excerpt 2's statement of the text's purpose and examples from the narrative. Only when the teacher poses analytical questions, as in excerpt 3, can the pupils

reflect deeply. They should state their thoughts in their own words, such as "because Borobudur is the biggest Buddha's temple. It is among Indonesia's most well-known historical buildings. It has always been a popular tourist attraction". Regretfully, the teacher only asked questions that required 2.35% of the students' higher order thinking, which could not only encourage but also hinder critical thinking in the pupils..

3.2. Discussion

There could be a number of reasons for the teacher's preference for asking questions that are easier to answer or for evaluating student comprehension when it comes to the higher order of questions. According to Bloom et al. [14], the questions' ability to promote critical thinking is limited because they mostly require retrieving prior knowledge without delving into more complex cognitive processes. While developing critical thinking skills is a desired result, it takes intentional work, and teachers are essential in assisting students in this process by incorporating critical questioning strategies into their lesson plans [15], [16]. This transfer of accountability from students to instructors emphasizes the significant impact educators have on students' development of critical thinking skills and the need for educators to be skilled at developing these abilities.

Many instructional strategies have been investigated in the field of improving EFL students' critical thinking skills, with a focus on the crucial role that EFL teachers play in providing relevant questions that encourage critical thinking. As [17], [18] conclude on their research that the active application of critical thinking by teachers, as demonstrated by their interactional strategies in the classroom extracts, points to the adoption of inquiry-based instruction as a way to improve students' critical thinking skills—which include interpretation, analysis, evaluation, inference, explanation, and self-regulation. Teachers must be ready to guide students toward the development of critical thinking abilities since they have the ability to influence students' capacity for critical thought. Teachers may foster an environment that will help EFL learners develop strong critical thinking skills by learning how to craft perceptive questions that push students to think critically.

Fostering higher-level thinking skills requires establishing a welcoming learning environment that develops students' critical thinking ability and exposes them to pertinent information. By giving students the tools and assistance they need, teachers can enable them to do more in-depth information synthesis, analysis, and evaluation. Students are encouraged to think critically in this nurturing environment, which also makes it easier for them to explore difficult ideas and concepts [19]–[21]. Furthermore, exposing students to appropriate learning environments broadens their comprehension of many viewpoints and motivates them to challenge presumptions and pursue evidence-based reasoning. In the end, this kind of instruction cultivates a culture of intellectual inquiry and curiosity, which results in the growth of well-rounded people who can successfully negotiate the complexity of today's world.

4. Conclusion

The study's result clarifies the crucial role that teacher-posed questions have in assisting students in developing their critical thinking skills. The results highlight a notable discrepancy in the kinds of questions the teacher asked, with a preponderance of lower-order thinking inquiries. Even while the instructor acknowledges the need of questioning in classroom interactions, there doesn't seem to be much awareness of the need to use the right amount of questioning to encourage higher order thinking. The majority of the students' responses show a dependence on past knowledge and cursory comprehension, which suggests a lost chance for more in-depth participation and the development of critical thinking skills. The study emphasizes how important it is for teachers to use more sophisticated questioning strategies that encourage students' critical thinking and greater understanding. Teachers can improve their instructional techniques and better prepare students for the challenges of the twenty-first century by being aware of the significant influence they have on students' cognitive development, especially in the area of critical thinking.

The study also emphasizes how important it is to keep researching and exploring useful teaching methods for developing students' critical thinking abilities, especially when it comes to teaching English as a foreign language (EFL). It highlights how important it is for EFL teachers to pose challenging questions that encourage critical thinking and open doors to more in-depth comprehension and analysis. By continuously improving their methods of inquiry and teaching strategies, educators can equip students with the critical thinking skills they need to succeed in a world that is becoming more and more complicated and dynamic. In the end, the study adds to the larger conversation about good teaching strategies and emphasizes how important it is for teachers to give students' critical thinking abilities top priority when they are working on their lessons.

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