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Oral Questioning Strategies of Mathematics Teachers in Teaching and Learning Mathematics: A Systematic Literature Review

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Abstract
Oral questioning is a very important teaching tool and is often used in the communication process between teachers and students during mathematics teaching. Previous studies have found that one of the factors contributing to the decline in student performance in Malaysia in the TIMSS global assessment is the lack of oral questioning activities that can stimulate students' thinking in the mathematics teaching process. Therefore, this study was conducted to explore teachers' implementation of oral questioning in teaching mathematics at school. Research methodology based on the PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is used for survey methods that use databases, namely Scopus, Web of Science (WoS), Science Direct and Springer Link. [This qualitative study involves content analysis of research articles that examine teachers' implementation of oral questioning in teaching mathematics at school. As a result, 21 articles explain oral questioning strategies, the types of oral questions used by teachers, and factors that support and hinder the implementation of oral questioning in schools. For further research, the researcher suggests a more detailed study to build a model or oral questioning module that can guide all school mathematics teachers.

Introduction

Questioning is important in teaching and learning activities in the mathematics classroom (M. Aziza, 2018). This is because teacher questioning can be used alone or as another strategy during a teaching session (Chikiwa & Schäfer, 2018). Previous studies have stated that one of the reasons for the decline in student performance is the lack of oral questioning activities that can stimulate students' thinking in teaching mathematics, especially. This point is supported by Mullis et al. (2016) in the TIMSS 2015 results report for mathematics subjects, which reported that Malaysia experienced a decline in performance from 1999 until 2011, but there was a slight improvement in mathematics achievement in 2015. The questions used in the TIMSS test focused more on exploratory questions. This situation makes it difficult for students to understand the question because students not only have to remember and understand math facts, but they have to make connections between the knowledge they have and make clear judgments when solving math problems. In addition, McAninch's (2015) study found that students find it difficult to solve non-routine math problems because the math teaching lacks focus on the oral questioning aspect that can increase students' inquiry and exploration of math concepts, which is more one-way and teacher-centred. This matter is also confirmed by Mahmud et al (2019), who stated that most teachers prefer to use explanations to relate mathematical values to real life instead of using oral questions to stimulate students' thinking and inquiry. Although teachers ask many questions orally to students in class, the possibility of using the type of questions asked by teachers in mathematics teaching is not suitable, so the understanding of mathematics concepts is difficult for students to master and cannot improve the level of students' thinking in mathematics learning (Kaya et al., 2014). Various types of oral questions can be used to elicit students' knowledge, but they are rarely used by teachers when discussing abstract mathematical concepts. This is because teachers prefer to ask questions with short calculation steps but cannot ask problem-based questions with various approaches and solutions, such as open-ended or exploratory questions (Johar, Patahuddin, & Widjaja, 2017). The implementation of oral questioning needs to be followed up with the teacher's response to the answers given by the students. Teachers were found not to provide feedback effectively, such as providing additional explanations to students in questioning activities implemented in mathematics teaching (Havnes et al., 2012).

Research Objective

This research is a systematic literature review of previous studies on oral questioning carried out by mathematics teachers. Therefore, the objective of this research is:

1. To explore the implementation of oral questioning carried out by mathematics teachers in teaching mathematics at school

Research Question

Based on the research objective, the research questions are:

1. What are the oral questioning strategies used by mathematics teachers in teaching mathematics at school?
2. What types of oral questions do teachers use in teaching mathematics at school?
3. What factors support and hinder the effective implementation of oral questioning in mathematics teaching at school?

Methodology

Studies on the activities and educational levels of computational thinking are analysed using the systematic literature highlighting method known as SLR (systematic literature review) (Rusno et al., 2020). In this study, the researcher has selected four database sources to identify strategies, types, and factors for the implementation of oral questions in teaching mathematics at school. The databases are Scopus, Web of Science (WoS), Science Direct, and Springer Link. The advantage of databases such as Scopus and Web of Science (WoS) is that both databases have impactful articles and are often used as the main reference by researchers around the world. As for the Science Direct and Springer Link databases, these databases provide access to many articles for free. Article searches were conducted for two months from November to December 2021. This study was guided by Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA). For this study, the researcher has set some acceptance criteria (inclusion) and rejection criteria (exclusion) in line with the needs of this study. Article search criteria are detailed as in Table 1 below.

Table 1
Criteria for accepting and rejecting articles

Criteria	Eligibility	Exclusion
Type of literature	Journal (research article)	systematic review articles, book series and book chapters
Language	Malay and English	Non-Malay and Non-English
Timeline	Between 2016-2021	< 2016
Article Terms	Reviewed articles (peer reviewed) and full-text	Articles without conditions open access
Field	Education	Non-Education
Level of study	Primary school and secondary school	Non-Primary school and secondary school
Country	All countries	Israel

Based on PRISMA, there are four stages, namely identification, screening, eligibility, and included.

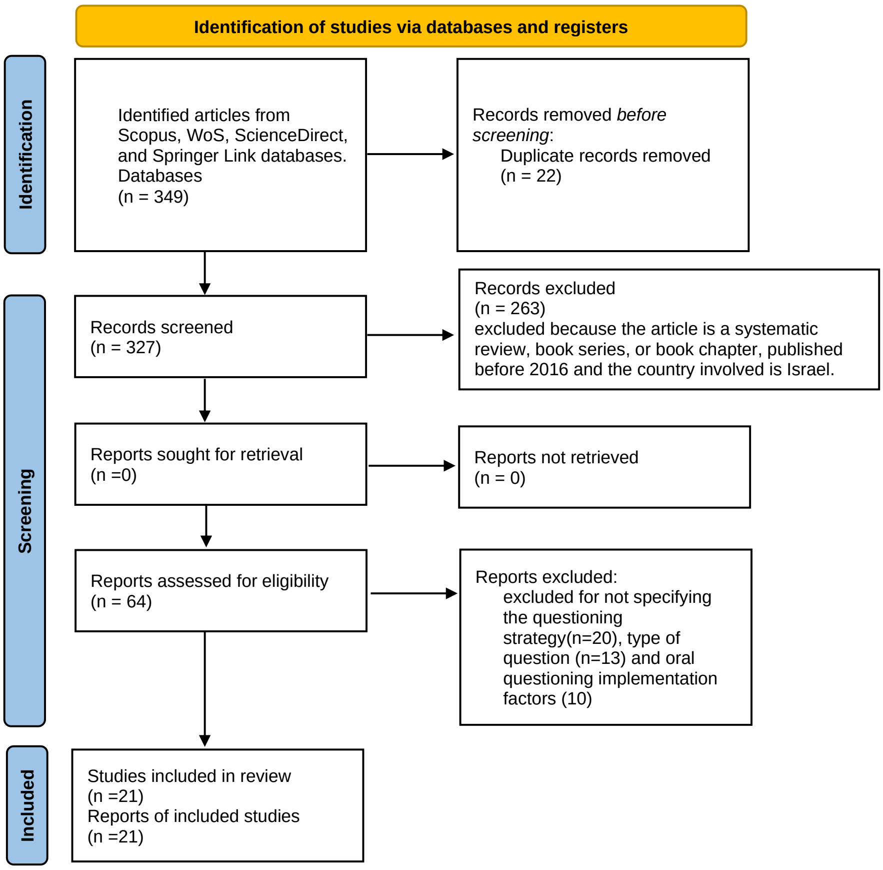
Phase 1: The Identification Stage
The databases used to find articles related to this study are Scopus, Web of Science (WoS), Science Direct, and Springer Link. The researcher used the keywords "oral questioning" and "mathematics" based on the title of the study. When the researcher added keywords such as strategy and question type, not many articles were obtained. So, the researcher used only two keywords to get more articles. In relation to the search technique, the researcher used the Boolean operator search technique. The "AND" operator is the choice of researchers because they want articles that have both keywords.

Phase 2: Screening Stage
During this phase, the researcher will initially screen duplicate articles extracted from the database. Next, the researcher sorts based on the established criteria. As shown in Table 1, there are several search criteria for articles. Articles in Malay and English, peer-reviewed articles, and full-text articles are used as limits.

Phase 3: Eligibility
In this phase, the researcher has identified articles that could be used to answer the research question. Articles unrelated to oral questioning strategies, question types, and factors that support or hinder oral questioning implementation. A few additional articles had to be set aside because the study's findings refer to the student perspective.

Phase 4: Included
At this stage, the researcher has reviewed all of the articles, and 21 of them meet the set criteria. Each article discovered helped the researcher answer at least two research questions.

Figure 1 shows a PRISMA flow chart that gives a short summary of the steps that were taken to choose articles for this study.
Figure 1: PRISMA Systematic Literature Review Flowchart (adapted from Moher et al., 2009)



Result
Based on 21 articles that have been analyzed, each article has answered several research questions. A conclusion has been made based on the information obtained from the articles as found in Table 2.

Table 2
General summary of selected articles

No.	Year	Researcher / Location	Research Design	Questioning Strategy	Types of Question	Questiaoning Implementation Factors
1	2016	Karl W. Kosko (USA)	Qn	/		
2	2017	Hähkiöniemi, Markus (Finland)	Ql		/	
3	2017	Lianchun Dong, Wee Tiong Seah & David Clarke (China)	Ql	/	/	/
4	2017	Rahmah Johar, Sitti Maesuri Patahuddin & Wanty Widjaja (Indonesia)	Ql	/		/

5	2018	Mela Aziza (UK)	Ql	/	/	/
6	2018	Woong Lim, Ji-Eun Lee, Kersti Tyson, Hee-Jeong Kim & Jihye Kim (US)	Mix	/	/	/
7	2018	Teo Paoletti, Victoria Krupnik, Dimitrios Papadopoulos, Joseph Olsen, Tim Fukawa-Connelly & Keith Weber (USA)	Ql		/	
8	2018	Clemence Chikiwa & Marc Schäfer (Africa)	Ql	/	/	/
9	2018	Muhammad Sofwan Mahmud & Aida Suraya Md. Yunus (Malaysia)	Qn			/
10	2019	Niroj Dahal, Bal Chandra Luitel and Binod Prasad Pant (Nepal)	Ql	/		/
11	2019	Lianchun Dong, David Clarke, Yiming Cao, Lidong Wang, and Wee Tiong Seah (China)	Ql	/		/
12	2019	Catherine C. Chase* , Jenna Marks, Laura J. Malkiewich and Helena Connolly (USA)	Ql	/	/	
13	2019	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub Tajularipin Sulaiman (Malaysia)	Ql		/	/
14	2019	Muhammad Sofwan Mahmud (Malaysia)	Ql	/		
15	2019	James P. Bywater, Jennifer L. Chiu, James Hong & Vidhya Sankaranarayanan	Ql	/		

16	2019	Runke Huang, Weipeng Yang & Hui Li (China)	Ql	/	/	/
17	2020	Lizhen Chen, Murat Akarsu, Laura Bofferding (USA)	Ql	/		/
18	2020	Jacinta Johnny* and Tolhah Abdullah (Malaysia)	Ql	/	/	
19	2020	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub & Tajularipin Sulaiman (Malaysia)	Ql	/	/	/
20	2021	Mela Aziza (Indonesia)	Ql	/	/	/
21	2021	Chris Kooloos, Helma Oolbekkink-Marchand, Saskia van Boven, Rainer Kaenders & Gert Heckman	Ql	/		

Ql: Qualitative Qn: Quantitative Mix: Mix

Next, Table 3 shows a summary of information to answer research question one, which is the oral questioning strategy implemented by teachers in teaching mathematics at school. Based on the findings of the study, there is no specific strategy used by teachers in conducting oral questioning.

Table 3
Summary of oral questioning strategies

No.	Year	Researcher / Location	Questioning Strategy Study Findings
1	2019	Niroj Dahal, Bal Chandra Luitel and Binod Prasad Pant (Nepal)	1. Actively plan to implement the use of questions in instructional design. 2. Reflect on the nature of the question
2	2018	Mela Aziza (UK)	1. Using two methods, namely asking students verbally and giving students written assignments. *Teachers use open questions not to find the right answer but to focus more on the development of student communication, mathematical ideas, reasoning, and problem solving using questions: where does it come from, how and why.
3	2021	Mela Aziza (Indonesia)	1. the teacher uses closed follow-up questions to focus on the clarity and completeness of the answers. Therefore, teachers optimize questioning activities by asking open and closed follow-up questions. 2. When students respond, other students are not encouraged to criticize their ideas 3. When students give wrong answers, the teacher will prefer to give directions, corrective feedback, or evaluation before asking follow-up questions **Framework:** 1. the teacher asks open-ended questions orally 2. students answer questions 3. teacher responds by giving follow-up questions (closed, open, probing)
4	2019	Lianchun Dong, David Clarke, Yiming Cao, Lidong Wang, and Wee Tiong Seah (China)	1. Initiation-Response-Follow-up Strategy (IRF) In this study, the teacher adjusts how the follow-up action is carried out during successive responses. Additionally, Consistency of Teacher Questioning Practice across Lessons
5	2018	Woong Lim, Ji-Eun Lee, Kersti Tyson, Hee-Jeong Kim & Jihye Kim (US)	1. IRE (evaluation) / IRF (follow-up) Start-Response-Evaluation/Follow-up

			2. The order of implementation depends on the response. Examples are as below: (I-R-q-R-q-R-q)-(I-R-q-R)-(I-R-q-R)-(I) 3. The teacher listens interpretively: "waiting time," "restate," or "investigate students' thoughts" 4. Listen hermeneutically: "prompt further discussion" and "asking students to provide alternative answers *The way the teacher listens will affect their follow-up actions
6	2020	Lizhen Chen, Murat Akarsu, Laura Bofferding (USA)	Strategy: 1. problem submission: repeat 2. follow-up: justification 3. representative question
7	2019	Catherine C. Chase* , Jenna Marks, Laura J. Malkiewich and Helena Connolly (USA)	Framework: interactive, constructive, active, and passive (ICAP)
8	2021	Chris Kooloos, Helma Oolbekkink-Marchand, Saskia van Boven, Rainer Kaenders & Gert Heckman	1. Initiation-Response-Evaluation (IRE) 2. Presentation of solution methods (Students) 3. Explanation of concepts (Teacher) Model of teacher decision-making during interaction with students: 1. concept 2. teacher's action 3. student's action 4. student's interpretation 5. Teacher's decision
9	2018	Clemence Chikiwa & Marc Schäfer (Africa)	Teachers can use the strategy of code switching for the implementation of bilingual classes or more, that is, use terms in English because terms in the mother tongue are more difficult to speak than in English
10	2017	Lianchun Dong, Wee Tiong Seah & David Clarke (China)	1. students are asked to do self-study before starting the class session (so that students have misunderstandings and questions to ask in class)

11	2016	Karl W. Kosko (USA)	1. gather information 2. research 3. Generate Discussion 4. Orientation & Focus
12	2019	Muhammad Sofwan Mahmud (Malaysia)	1. Give waiting time for students to answer questions. The effect: 1.1 Pupils with low achievement try to answer questions. 1.2 Give time & space for students to think 1.3 encourage students to give correct answers 1.4 Increase the number of students who volunteer. 1.5 maintain students' interest 1.6 encourage students to discuss among themselves
13	2020	Jacinta Johnny* and Tolhah Abdullah (Malaysia)	1. Checking understanding 2. Encouraging conjecture 3. Making connections 4. Encouraging reflection
14	2017	Rahmah Johar, Sitti Maesuri Patahuddin & Wanty Widjaja (Indonesia)	Give questions according to scaffolded
15	2020	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub & Tajularipin Sulaiman (Malaysia)	1. Asking students to pronounce the information in the question correctly 2. Asking students about mathematical terms and keywords 3. Restating in their own words 4. Asking students using verbal-cloze questions 5. Asking questions repeatedly 6. Using search-explanation questions
16	2019	James P. Bywater, Jennifer L. Chiu, James Hong & Vidhya Sankaranarayanan	use the Teacher Responding Tool (TRT) to give better questions/responses to student answers
17	2019	Runke Huang, Weipeng Yang & Hui Li (China)	Using the steps: 1. questioning 2. response 3. synthesis Framework: Questioning patent E-B-I-P

			1. invite opinions (E) 2. clarify their own contribution (B) 3. invite to build or (disagree) the agreement of others' contributions (I) 4. synthesize ideas (P)

In addition, there are 12 articles that clearly explain the aspects of the type of questions used by teachers. In general, the types of questions are divided into two, namely open questions and closed questions. However, the results of this study have shown that the two types of questions can be developed so that the direction and goal of the teacher's questioning is more directed (Table 4).

Table 4
Summary of the types of oral questions.

No.	Year	Researcher / Location	Findings of the Study Types of Questions
1	2017	Hähkiöniemi, Markus (Finland)	Using inquiry type questions: 1. Investigate Method 2. Investigate reasoning 3. Investigate cause 4. Investigate meaning/purpose 5. Investigate argument 6. Investigate connection 7. Investigate non-focus
2	2018	Mela Aziza (UK)	Open questions and closed questions
3	2021	Mela Aziza (Indonesia)	There are 3 types of open questions: "open process"; "final product opened"; and "how to develop open" *open questions are how the question can stimulate students to give various answers and it is not the type of question that determines that.
4	2018	Woong Lim, Ji-Eun Lee, Kersti Tyson, Hee-Jeong Kim & Jihye Kim (US)	1. gather information 2. enter terms, 3. exploring the meaning and relevance of mathematics, 4. researching students' thoughts, 5. generate discussion, 6. relate and apply, 7. extend thinking, 8. orient and focus, 9. create context

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5	2018	Teo Paoletti, Victoria Krupnik, Dimitrios Papadopoulos, Joseph Olsen, Tim Fukawa-Connelly & Keith Weber (USA)	1. Factual questions that ask for closed-form math responses that don't ask for action. 2. The next step question asks the student to recommend an action that will continue the logical development of the proof or example. 3. Questions The proof framework deals with the higher level logical structure of a proof. 4. Warrant questions that ask for justification for a statement or claim. 5. Evaluation questions ask students to give a truth value for a statement. 6. Convention Questions deal with conventions or notations. 7. Other questions that do not fit into other categories
6		Catherine C. Chase* , Jenna Marks, Laura J. Malkiewich and Helena Connolly (USA)	1. Constructive questions or prompts 2. Active questions or prompts 3. Passive questions or prompts 4. Irrelevant questions or prompts
7	2018	Clemence Chikiwa & Marc Schäfer (Africa)	1. Low-level questions according to Bloom's taxonomy review (remember, understand and apply)
8	2017	Lianchun Dong, Wee Tiong Seah & David Clarke (China)	Initial questions: 11 types Follow-up questions: 9 types
9	2019	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub Tajularipin Sulaiman (Malaysia)	Types of Oral Questions Regarding Values : 1. Questions related to student values 2. Questions related to Values in Life 3. Questions Related to Intrinsic Mathematical Values
10	2020	Jacinta Johnny and Tolhah Abdullah (Malaysia)	Open and Closed Questions
11	2020	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub & Tajularipin Sulaiman (Malaysia)	1. Clarification-seeking questions 2. Closed questions

12	2019	Runke Huang, Weipeng Yang & Hui Li (China)	1. Soalan terbuka dan tertutup 2. Diketahui/tidak diketahui

Next, there are 13 articles explaining the factors that support and hinder the effective implementation of oral questioning in mathematics teaching at school. These factors can be seen from the aspect of teachers, students and curriculum requirements in addition to environmental factors (Table 5).

Table 5
Factors Supporting and Hindering the Implementation of Oral Questioning

No.	**Year**	**Researcher / Location**	**Findings of the study of factors supporting and hindering the implementation of oral questioning**
1	2017	Lianchun Dong, Wee Tiong Seah & David Clarke (China)	Obstructive factors: 1. Large class size 2. Different levels of students
2	2017	Rahmah Johar, Sitti Maesuri Patahuddin & Wanty Widjaja (Indonesia)	Inhibiting Factors: 1. Local curriculum context, 2. Textbook content 3. Classroom culture
3	2018	Mela Aziza (UK)	Preventing Factors: 1. Challenge teachers to think quickly about what they should do in response to unexpected answers. 2. Teachers also need to give additional questions to stimulate students to think more about their answers, especially when they have misconceptions about the question.
4	2018	Woong Lim, Ji-Eun Lee, Kersti Tyson, Hee-Jeong Kim & Jihye Kim (US)	Supporting Factors: 1. The more follow-up questions are given, the more positive the student's response. Inhibiting Factors: 1. Too much time to evaluate the student's answers. 2. Student receiver of the questioning session by the teacher. There are 3 categories of students who will be active (listening, interested and supporting)

5	2018	Clemence Chikiwa & Marc Schäfer (Africa)	Obstacles: 1. Lack of translation of mathematical terms in the official language 2. Teachers do less preparation (planning) for the questioning session
6	2018	Muhammad Sofwan Mahmud & Aida Suraya Md. Yunus (Malaysia)	Barriers: 1. Teachers need to finish the syllabus 2. poor understanding and knowledge of how to give feedback effectively to students 3. Depends on the topic being taught 4. Teachers who are not prepared to implement questioning practices 5. Teachers are not given enough exposure during teacher training
7	2019	Niroj Dahal, Bal Chandra Luitel and Binod Prasad Pant (Nepal)	Preventing Factors: 1. Lack of understanding of how and when to switch between low-level and high-level questions in class. 2. Lack of higher teacher knowledge about effective questioning strategies 3. Insufficient waiting time provided by the teacher, 4. Teacher's view of student abilities 5. Lack of student interaction
8	2019	Lianchun Dong, David Clarke, Yiming Cao, Lidong Wang, and Wee Tiong Seah (China)	Preventing factors: 1. Teacher's teaching routine 2. Complexity of a topic
9	2019	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub Tajularipin Sulaiman (Malaysia)	Barriers: 1. Still have a narrow perception of the true definition in mathematics 2. A challenge for teachers to apply pure values through class questioning
10	2019	Runke Huang, Weipeng Yang & Hui Li (China)	Obstructing: 1. Teachers focus more on inviting ideas and guiding the direction of dialogue, but neglect the importance of reflecting and connecting learning content
11	2020	Lizhen Chen, Murat Akarsu, Laura Bofferding (USA)	Barriers: 1. Teachers 'overestimate' student knowledge

12	2020	Muhammad Sofwan Mahmud, Aida Suraya Md. Yunus & Ahmad Fauzi Mohd Ayub & Tajularipin Sulaiman (Malaysia)	Supporting: 1. To improve students' memory and understanding of mathematical terms 2. Prepare students to strengthen their competence and abilities in mathematical language
13	2021	Mela Aziza (Indonesia)	Supporting: 1. Not only to improve communication skills but also to form mathematical thinking and reasoning 2. Teachers can optimize students' mathematical skills by asking openly and ending questions orally in the classroom 3. Using projectors to show pictures related to questions. Obstacles: 1. Not all schools have such facilities

Discussion

Questioning Strategy

Based on the study's findings, there are various strategies that teachers can use to implement oral questioning in teaching mathematics at school (Mahmud et al., 2020). E-B-I-P patents (Huang et al., 2019), code-switching (Chikiwa & Schäfer, 2018), and using the interactive, constructive, active, and passive (ICAP) model (Chase et al., 2019) are a few examples. These strategies are not limited to any school level, whether primary or secondary. This is because a questioning strategy is used based on the scaffolding theory that makes adults (teachers) guide the students (Johar et al., 2017). In order to implement oral questioning that can build creative and critical thinking among students, a question session will not stop when students only give one response.

On the other hand, teacher follow-up plays a very important role (Dong et al., 2017; Kooloos et al., 2021; Lim et al., 2020). The teacher's follow-up action stimulates students to think and understand more deeply about the mathematical problem. In addition, teacher follow-up is also important to improve the two-way relationship between teachers and students. The more follow-up actions the teacher can provide, the higher the student's involvement in the learning session. The teacher's follow-up actions are closely related to how the teacher analyses and synthesises the answers given by the teacher. Each answer given by the student needs to be examined (Kosko, 2016) so that the teacher can see the extent of the student's understanding of the problem-solving question. One of the strategies that can be used to increase student engagement is to ask students to do self-learning before the class session so that misunderstandings occur, eventually leading to questions being asked in class (Dong et al., 2017). In addition, time must be given to students during the questioning session. This situation ensures that low-achieving students also try to answer questions (Mahmud, 2019). The teacher needs to take some time to synthesise the information that has been analysed so that the teacher can make connections before reflecting (Johnny & Abdullah, 2020) to determine the teacher's follow-up actions appropriate to the situation. In addition to relying solely on the teacher's skills, the implementation strategy of oral questioning can also be done with the help of external equipment and materials. Questioning with the help of stimulus materials such as pictures can increase the effectiveness of the teacher's questioning session, especially for abstract questions. In addition, several types of teaching aid materials can be used, such as the Teacher Responding Tool (TRT), to better respond to student answers (Bywater et al., 2019). With materials like this, oral questioning strategies can be organised more regularly and used as a teacher guide.

Types of Oral Questions

Open questions and closed questions are the most common sorts of questions (Aziza 2018; Huang et al. 2019; Johnny et al. 2017; Mahmud et al. 2020a). Closed questions are those that elicit brief responses (Aziza, 2018), whereas open questions elicit lengthy, descriptive responses and searches for meaning and explanation (Mahmud et al., 2020a). According to Chikawa and Schafer (2018), closed questions are similar to low-level questions based on Bloom's taxonomy of review, which includes the levels of remembering, comprehending, and applying. To facilitate the development of students' creative and critical reasoning, teachers must ask more open-ended questions (Paoletti et al., 2018). This is because open-ended inquiries can help teachers acquire information from students, investigate their ideas, and spark two-way exchanges (Lim et al., 2020). Not only do open-ended questions benefit the teacher, but they can also help students enhance their skills in connecting and applying, broadening their thought processes, and examining the significance and relevance of mathematics (Lim et al., 2020). There are several types of questions that teachers might employ, including inquiry-style questions. There are seven possible forms of Meyniast questions: exploring techniques, studying reasoning, researching causes, investigating meaning, investigating arguments, investigating connections, and investigating non-focus (Hahkioniemi, 2017). Although all perceptive questions need clarification, the specifics of the clarification requests vary. Some research questions focus on problem-solving steps, while others emphasise reasoning (Hahkioniemi, 2017). In addition, teachers utilise value-related questions. Teachers recognise that values can also be applied through oral questioning activities, which not only contribute to the cognitive development of children but also serve to apply values. According to Mahmud et al (2020b), there are three types of oral questions related to mathematical values: pure value questions, which refer to values related to the formation of an individual's personality and character; life value questions, which promote students' understanding of the application of mathematics in their daily lives; and intrinsic mathematical value questions, which refer to the inherent value of learning mathematics. Moreover, according to Paoletti et al (2018), teachers frequently use seven types of questions while teaching mathematics, including [1] factual questions that need closed-form mathematical solutions that do not require action, For example, [2] next step questions that ask students to recommend actions that will continue the logical development of evidence; or, [2] next step questions that ask students to recommend actions that will continue the logical development of evidence. [3] Evidence framework questions address the higher-level logical structure of the evidence. [4]. Justification inquiries that request an explanation for a statement or assertion. [5] assessment questions that require students to assign a truth value to a proposition, [6] conventions questions that deal with convention or notation, and [7] additional questions that do not fall into the other categories. These seven questions can be categorised as Socratic questions since they require students to find answers by asking other students. In addition to being used to assess pupils, questions can also be used to guide students during activities. Among the types of questions that can be employed are constructive questions, active questions, passive questions, and irrelevant questions (Chase et al., 2019). By utilising this style of inquiry, the process of knowledge transfer is facilitated, and students are more creative in their ability to generate original ideas. This debate has demonstrated that there are a variety of spoken questions that can be utilised in mathematics classrooms. Each form of inquiry has a distinct purpose and objective, requiring teachers to employ them with discretion. This is because each educator has unique abilities and resources.

Factors Supporting and Hindering the Implementation of Oral Questioning

In this aspect, researchers have focused on two main factors, namely internal and external factors. As for internal factors, they involve the willingness of the teacher himself. This is because teachers lack greater knowledge about effective questioning strategies (Dahal et al., 2019; Mahmud,2019) in addition to making less preparation in the implementation of oral questioning (Chikiwa & Schäfer, 2018). In addition, teachers need to think quickly about what they should do to respond to unexpected answers (Aziza, 2018). External factors refer to factors beyond the teacher's control, such as students, content, and learning atmosphere. This can be seen based on research (Aziza, 2021; Chen et al., 2020; Dong et al., 2017, 2018; Mahmud & Yunus, 2018). After realising these factors, the teacher needs to think of an appropriate questioning strategy in order to overcome the factors that hinder the implementation of oral questioning.

Conclusion

The effective use of oral questioning in teaching mathematics can increase the interaction between teachers and students in the classroom and increase the involvement of students in the process of teaching mathematics. In teaching mathematics, there are various strategies for implementing oral questioning that teachers can use. This variety can help teachers plan questioning activities according to the level and ability of the teacher. Regarding the type of oral questions, oral questions in mathematics teaching in primary school are divided into two general categories, namely open questions and closed questions. Many researchers have expanded their research according to the needs and goals of questioning. The use of various types of questions in one teaching session can increase its effectiveness in forming a deep understanding of a problem. However, for the implementation to go smoothly, teachers must examine the factors that support and hinder the implementation of oral questioning. Thus, teachers will not experience stress if the implementation does not proceed as planned.

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