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Unveiling The Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies

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Abstract

This study explored the unique perspectives and practices of elementary school teachers in Irosin regarding their questioning strategies. The study employed qualitative methodologies, utilizing unstructured interviews and focus group discussions to gather in-depth insights from a diverse group of educators. Through these narratives, the research illuminates how teachers perceive and implement questioning techniques in their classrooms, the challenges they encounter, and the impact of these strategies on student engagement and learning outcomes.

The findings revealed a rich tapestry of experiences, highlighting the significance of effective questioning as a critical pedagogical tool that fosters critical thinking and promotes interactive learning environments. Teachers expressed a range of insights about their questioning practices, including the necessity of adapting questions to meet diverse student needs and the importance of creating a safe space for students to express their thoughts. The study concluded with recommendations for professional development programs that focus on enhancing questioning strategies, ultimately aiming to improve teaching effectiveness and student learning in the elementary education context.

Moreover, the study uncovered the varied challenges teachers face when employing questioning strategies. These include managing time constraints, ensuring equal student participation, and balancing between procedural and conceptual questions. Teachers also noted the difficulty of encouraging hesitant students to engage in discussions while simultaneously maintaining the flow of the lesson. These challenges highlight the complexity of effective questioning and the need for continuous reflection and adjustment in teaching practices.

The research also emphasized the influence of cultural and contextual factors on questioning strategies. Teachers in Irosin navigate cultural norms that shape student-teacher interactions, influencing how questions are posed and received. Understanding these cultural dynamics enables educators to craft questions that resonate with students' experiences and perspectives, ultimately fostering a more inclusive and supportive learning environment.

It suggested that continuous training and collaboration among educators are essential for refining questioning techniques and addressing challenges. By fostering a culture of reflective practice, schools can empower teachers to become more effective facilitators of learning, helping students develop critical thinking skills and actively participate in their educational journey.

CHAPTER I
THE PROBLEM AND ITS SETTING
INTRODUCTION

One of the enduring challenges faced by the field of education is ensuring the equitable delivery of quality education to all. Education is an ongoing, dynamic process designed to address the perpetually evolving needs and demands of the world. The education sector is acutely aware of this prevalent reality, consistently engaging in the search for innovative, research-based systems, policies, recommendations, and practices to drive improvements. Curriculum developers and implementers are dedicated to keeping pace with the rapid changes in the world, striving to remain at the forefront. Their commitment lies in ensuring that every individual undergoes an educational experience that fosters global competitiveness across all dimensions, acknowledging the importance of staying abreast of modern advancements.

Some countries recognize public education as a national priority. Politicians at every level have voiced their opinions concerning the strengths and weaknesses of the present educational system. Critics then have pointed accusing fingers at teachers, students, families, legislators, and others, blaming each of them for the ills plaguing education until today (Atutubo, 2017).

The UNESCO Institute for Statistics (UIS (2013) stated that 69 million teachers must be recruited to achieve universal primary and secondary education by 2030. Thus, UNESCO has made the supply of well-trained, supported, and qualified teachers some of its top priorities. Sustainable Development Goal has reinforced this focus: Quality Education through the Education 2030 Framework for Action which has a target calling for a substantial increase in qualified teachers through the betterment of their training, recruitment, retention, status, working conditions, and motivation.

Also, UNESCO hosts the International Task Force on Teachers for Education 2030 and they work together to address the "teacher gap" as well as tackle the issues raised in Target 4. c and in the Incheon Declaration, which specifically calls for Member States to "*ensure that teachers and educators are empowered, adequately recruited, well-trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems*" (UNESCO, 2019).

Section 2, Article 14 of the 1987 Constitution emphasized that all educational institutions are encouraged to do their job to develop critical thinking in students. Classroom questioning is the best encountered by both students and teachers. To expect teachers should be skillful in posing or throwing questions to students. It is also a must that teacher adopts the use of questioning processes to accommodate different factors confronting learning. Thus, one of the departments with the highest allocated budget in the country is education.

Recently in 2012, the Philippines started free and compulsory education for kindergarten beginning at five years old, then free and compulsory elementary education from age six to twelve years old, and free secondary education from age 13–18 years old including the latest program of the Department which commenced last 2016 as the first batch of the senior high school program. As the new curriculum was introduced to the county, schools are expected to be ready to deliver quality services. As the major implementers of the curriculum, teachers must be equipped and must be updated on the trends, developments, and challenges that the system faces. The challenges are both the concern of teachers and their clients as the core element of the curriculum. Greater responsibility is given to the teachers (DepEd, 2019).

In the classroom discussion, these questioning strategies define the role of the teacher as a stimulator, questioner, and provider of the environment of the experience for the students to be stimulated and

motivated to participate, inquire, and decide by way of answering teacher questions constructively at a higher level. In the classroom encounter of the teacher and the students, it is significant that these questions are well planned and employed with the use of different questioning techniques so that students would follow this model when generating their ideas and questions. In time, the teacher would gradually decrease the number of questions and motivate students to provide questions relevant to the discussion of an issue. Corpuz and Salandanan (2015) said that the kind of questions teachers ask can determine the level of thinking of the students. Low-level questions demand a low level of responses. They require responses of simple recall or memory-type answers. They stated that high-level questions call for a higher order of thinking ability "Why" and "how" questions require analysis of observation. The authors also added that a daily lesson is seldom without even a single question. It is the question, stated in any form that unlocks thinking.

However, it was observed that many seasoned elementary school teachers in the Irosin District have problems formulating good questions that will promote good learning among students. Siegel (2014), a renowned psychologist and expert in childhood development mentioned schools often do not ask the range of questions children need to grow to their potential.

The study stands as a commendable contribution to educational research due to its direct relevance to teaching practices. Focused on the pivotal role of questioning strategies in elementary education, the study promises to offer practical insights derived from the real-life experiences of teachers. If it employs a robust empirical research design, such as qualitative methods, it has the potential to reveal nuanced and context-specific methods that can readily enhance student engagement and learning outcomes.

Furthermore, the study may not only deepen our understanding of the pedagogical dynamics involved in questioning strategies but also contribute to educational theory. By addressing a potential gap in the existing literature, it adds depth to our comprehension of effective teaching practices at the elementary level. The findings may not only inform professional development programs for elementary teachers but also have broader implications for educators at different levels. Overall, this research holds the promise of improving instructional practices at the foundational stage of education, impacting academic success, critical thinking abilities, and societal contributions of students in the long run.

The researcher's authority to conduct the study, "Unveiling the Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies," is grounded in a combination of academic pursuit, professional experience, and firsthand knowledge of the educational context. As a doctoral candidate majoring in educational development, the researcher is actively engaged in rigorous academic training and is likely equipped with the methodological skills necessary to design and execute a comprehensive study. Enrollment in a doctoral program signifies a commitment to advancing knowledge in the field of education.

Furthermore, the researcher's concurrent role as a public-school teacher in an elementary school enhances their credibility and authority. Serving as an elementary school teacher provides the researcher with direct access to the environment under investigation. This firsthand experience allows for a deep understanding of the challenges, nuances, and intricacies of elementary education, particularly concerning questioning strategies. The combination of academic pursuit and practical teaching experience positions the researcher as a knowledgeable insider who can navigate the complexities of the educational landscape. The study benefits from the researcher's ability to bridge theoretical frameworks with real-world classroom dynamics, ensuring that the research questions are relevant, insightful, and grounded in the actual experiences of elementary teachers.

In essence, the researcher's dual roles as a doctoral candidate and a public-school teacher not only demonstrate a commitment to academic excellence but also provide the necessary expertise and perspective to conduct a study that aims to unveil the lived experiences of elementary teachers in the art of questioning strategies.

This study aimed to unveil teacher's questioning strategies during classroom interaction. The reason why the researcher would like to know the teachers' questioning strategies is that learners still find the topic confusing, they are shy to ask questions and sometimes feel so silent when the teacher explains the topic. The primary purpose of questioning is to find out what students need to be taught next. Another is to teach students to think critically through questioning requiring deeper analysis rather than a simple yes or no or recall of information. Effective questioning strategies help develop interest in students to become actively involved in lessons, develop critical thinking skills, review learning, stimulate students, to pursue knowledge on their own, and ask their questions.

Questioning strategies are important because they can stimulate learning, develop the potential of students to think, drive to clear ideas, stir the imagination, and incentive to act. It is also one of the ways of the teacher in helping students develop their knowledge more effectively. A training program on questioning strategies is proposed to promote a high level of cognition among the learners.

The setting of the study

The setting of the study, "Unveiling the Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies," encompasses the dynamic and multifaceted environment of elementary school classrooms in the municipality of Irosin, Sorsogon. The research unfolds within the context of public elementary schools in Irosin, where educators are actively engaged in shaping the foundational learning experiences of young students. These elementary schools in Irosin serve as the primary backdrop for the investigation, capturing the diverse socio-economic, cultural, and demographic aspects that characterize the student body and the broader community.

Irosin, a picturesque municipality in the province of Sorsogon, is part of the Bicol Region in the Philippines. Geographically located in a valley surrounded by mountains near the foot of the active Mount Bulusan volcano, Irosin enjoys a cooler climate and fertile volcanic soil, ideal for agriculture. The town's history traces back to the late 19th century when it was established as a separate town from Bulusan in 1883, due to the influx of settlers who migrated to the valley seeking fertile land and a new beginning.

The municipality is divided into 28 barangays: Bacolod, Bagsangan, Batang, Bolos, Buenavista, Bulawan, Carriedo, Cawayan, Gabao, Gulang-Gulang, Gumapia, Liang, Macawayan, Mapaso, Monbon, Patag, San Agustin, San Isidro, San Juan, San Julian (Poblacion), San Pedro, San Roque, Santo Domingo, Tinampo, and Tongdol. , the most recent census in 2020, Irosin has a population of approximately 60,000 people.

The residents of Irosin, known as Irosanons, are predominantly Bicolanos and are known for their warm hospitality and strong community ties. The local economy is largely agricultural, with rice, coconut, abaca, and various fruits and vegetables as major crops. In addition to its agricultural abundance, Irosin is famous for its natural hot springs, which, along with the nearby Mount Bulusan, attract tourists seeking relaxation and adventure. Cultural life in Irosin is rich with festivals and religious events, particularly those honoring its patron saint, St. Michael the Archangel. The Paray Festival, celebrating the town's agricultural heritage, is a highlight of the cultural calendar. With its stunning natural landscapes and vibrant local culture, Irosin offers a unique and charming experience in the Bicol Region.

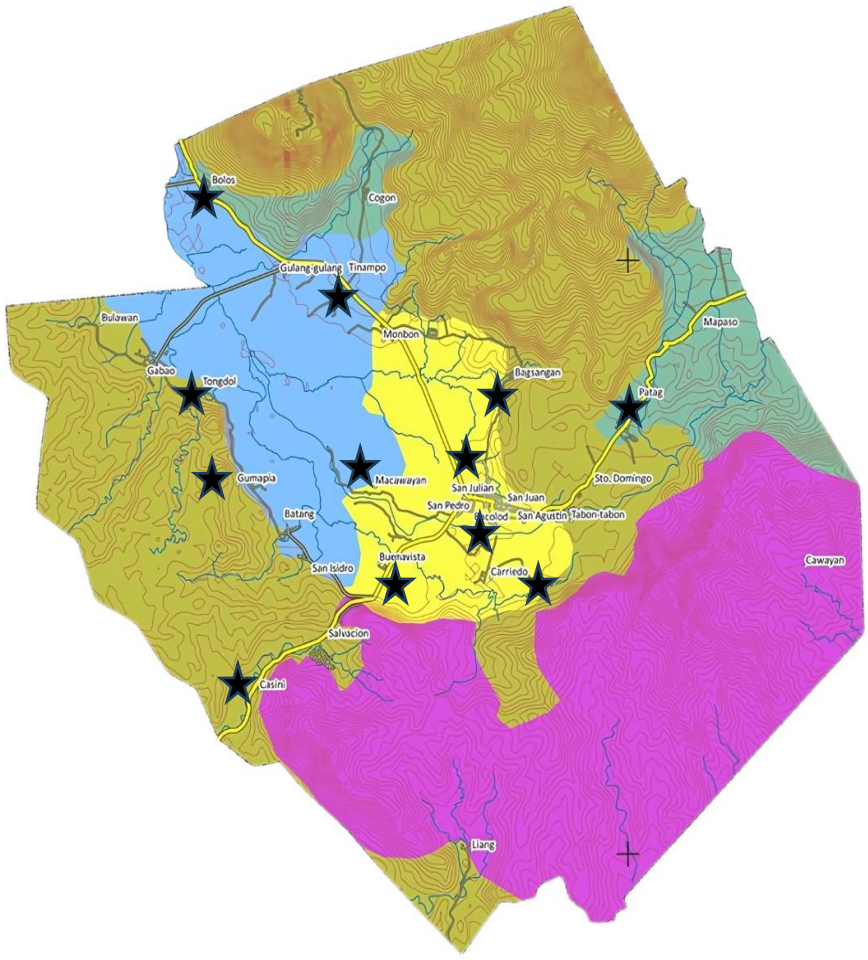
The study's geographical scope may extend to multiple elementary schools, ensuring a representative sample that reflects the varied educational landscapes. This inclusivity allows the researcher to explore

how questioning strategies are employed across different settings, considering potential contextual influences on teaching practices.

Within each elementary school, the study may focus on specific grade levels or include a range of grades to capture the developmental continuum of elementary education. Classrooms become the microcosm where the art of questioning unfolds, providing the researcher with a close-up view of the interactions between teachers and students. The setting also encompasses formal and informal spaces within the school, such as faculty rooms, professional development sessions, and collaborative spaces, offering a comprehensive perspective on the lived experiences of elementary teachers in the realm of questioning strategies.

Additionally, the study's temporal setting spans a period that allows for an in-depth exploration of the evolving nature of questioning practices throughout the academic year. This temporal dimension is crucial for capturing the dynamic nature of teaching and learning within the elementary school context.

The setting of the study is firmly grounded in the vibrant, day-to-day reality of elementary school life, providing a rich context for unraveling the lived experiences of teachers as they navigate the art of questioning strategies in their pursuit of effective and engaging pedagogy.



Legend: ★ Respondent Barangays showing the location of the participants

Figure 1. The Irosin Town Map

Statement of the Problem

This study aimed to unveil the lived experiences of elementary school teachers in the art of questioning strategies.

Specifically, it answered the following questions:

1. What are the common questioning strategies used by elementary school teachers in classroom instruction?
2. How do elementary school teachers adapt their questioning strategies to different subjects and grade levels?
3. What challenges do elementary school teachers face in using questioning strategies?
4. How do elementary school teachers reflect on their questioning strategies and make improvements?
5. What impact do questioning strategies have on learners' learning and engagement?
6. What project proposal on emerging questioning strategies as a primary skill could be designed to enhance the art of questioning?

Assumption of the Study

The study operates under several key assumptions that underpin its research framework.

1. The lived experiences of elementary school teachers hold intrinsic value in understanding and improving instructional practices, specifically in the realm of questioning strategies.
2. The study also presupposes that the questioning strategies employed by elementary teachers have a substantial impact on student engagement, critical thinking, and overall learning outcomes.
3. Another foundational assumption is that there is variability in questioning strategies across different elementary classrooms, influenced by factors such as teacher experience, pedagogical training, and contextual elements.
4. The research assumes that elementary school teachers are reflective practitioners with a level of awareness regarding their questioning strategies, and it posits a direct connection between the way teachers frame questions and the learning experiences of their students.
5. The insights gained from the study could inform targeted professional development initiatives for elementary teachers.
6. The participants will provide honest and accurate accounts of their experiences, ensuring the credibility and validity of the qualitative data collected.

These assumptions collectively shape the study's design, guiding the exploration of the lived experiences of elementary school teachers in the intricate landscape of questioning strategies.

Scope and Delimitation of the Study

The scope of the study, "Unveiling the Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies," will concentrate on elementary school educators within a specific range of grade levels, typically grades 1 to 6. The geographical setting is delineated to encompass specific locations or a variety of regions to ensure diversity in educational contexts. The study extensively explored the questioning strategies employed by elementary school teachers, including the types of questions, their frequency, and the underlying rationale for their use. Additionally, the research considered the professional background of teachers, encompassing individuals with diverse levels of experience and various backgrounds. The study conducted within a specific timeframe, such as an academic year, to capture the dynamic nature of teaching and potential changes in questioning strategies over time.

Certain delimitations were imposed on the study to maintain focus and feasibility. The research excluded teachers from secondary or higher education settings, ensuring a concentrated examination of the unique

challenges and experiences within elementary education. The scope was restricted to public elementary schools in the Irosin district, omitting private institutions, for reasons related to resource constraints or to maintain consistency in the sample. The study focused on teachers instructing in a specific language, such as English, to ensure linguistic coherence in the analysis. Specific types of questioning strategies, rather than comprehensive coverage of all possibilities, maybe the focal point of the investigation.

Additionally, the study excluded support staff, concentrating solely on the experiences directly tied to classroom instruction. These scope and delimitation considerations were essential for refining the research focus and providing clear parameters for data collection and analysis.

Significance of the Study

The findings of this study would be beneficial to the following:

Teachers. The findings of this study may lead them to understand the importance of their role in helping and developing the learner's higher-order thinking skills using the questioning strategy. This may also give them the direction in writing the appropriate lesson plan exemplars in assuring quality and standard teaching and learning processes.

Learners. The findings of this study may help them to increase their eagerness and motivation to engage during class participation utilizing questioning strategies. This may also scaffold their interest and love for learning and a good relationship with their teacher.

Department of Education. The findings of this study may provide them with the baseline input in formulating policies, programs, and activities that would capacitate teachers. The recommendations may serve as their basis for creating practices that would be beneficial to both learners and school heads.

Community. The result of this study may provide them with the needed involvement and support so that the learners may be fully engaged in classroom instruction with the teachers. Also, it may give encouragement and motivation to push their children to ask questions that may develop critical thinking.

Researchers. The findings of the study may encourage them to undergo further and make a comprehensive study to validate findings in their respective locale. Also, the result may be used as a reference in doing a follow-up study like this.

Definition of Terms

The following terms are used several times in this study. Thus, the conceptual and operational definition of each term is given.

Unveiling. Conceptually, the removal of a veil or covering from a work of art as part of a public ceremony. It is the presentation or announcement of something in public. (Meriam Webster).

Questioning Strategies. Questioning strategies refer to the skill of asking the questions that will make the difference (Peavey, 2019). Operationally, it refers to the skills of the elementary school teachers in the Irosin District that may impact learners' achievement in formulating and responding to questions.

Elementary School Teacher. Conceptually, it pertains to the one who teaches and whose occupation is to instruct (Merriam-Webster, 2019). As used in the study, it refers to the person teaching at the elementary level in the Irosin District.

Irosin District. In this study, it means the elementary schools located in the Municipality of Irosin, in the province of Sorsogon.

Type of School. Operationally, this refers to central schools and non-central schools located in Irosin District.

Level of teaching. As used in the study, it refers to teachers assigned to teach in kindergarten, primary grades (Grades 1, 2, & 3), and intermediate grades (Grades 4,5&6).

Teaching experience. This study pertains to novice, advanced professional, and veteran categories of the profile of elementary school teachers in the Irosin District as stated in the Philippine Professional Standards for Teachers.

Types of questions. As used in the study, it pertains to the questions that belong to the lower-order thinking skills and higher-order thinking skills rated by the teachers on their frequency of use.

Proposed Three-Day In-Service Training on Questioning Strategies. This study pertains to the output that emerged from the results that have the aim of developing among the teachers the ability to utilize questioning strategies in their classroom instruction.

Art of Questioning. It is used to elicit and check student thinking, knowledge and understanding. Asking questions, or providing prompts, that provide clear insight into whether students have grasped the required knowledge and understanding is hard; student responses are often ambiguous or require further clarification

Lived Experience. Refers to the personal knowledge and understanding gained from direct, first-hand involvement in life events and circumstances. It emphasized the subjective, individual perception of those experiences, as opposed to theoretical knowledge or second-hand accounts. In research and psychology, the term often focuses on how people make sense of their everyday realities, emotions, and encounters, and it is commonly explored through qualitative methods such as interviews or case studies.

In this study, it refers to the unique, personal experiences of elementary school teachers in using questioning strategies, highlighting their direct interactions and reflections on the practice.

CHAPTER II
REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents the various related literature and studies that have significance and importance to the present study. It also includes the gaps bridged by the study, theoretical, and conceptual framework,

Related Literature

The ideas, information, and learning were taken from different books, authors, and websites, relevant and important materials were of great help to the researcher to strengthen and sharpen the understanding of the study to be conducted.

Exploration of Common Questioning Strategies

Cazden (2018) emphasized the pivotal role of classroom discourse in the teaching and learning process. In her book "Classroom Discourse: The Language of Teaching and Learning," she underscored how effective questioning strategies can enhance student engagement and learning across various subjects and grade levels. Cazden demonstrates how teachers utilize and adapt questioning techniques to foster a more interactive and inclusive classroom environment. This aligns with the focus of this dissertation on the lived experiences of teachers in employing questioning strategies.

Furthermore, Mehan (2017) examined questioning as a fundamental aspect of teaching in his article "The Study of Teaching: The Case of Questioning." He discussed common questioning strategies and their role in promoting critical thinking and active learning. This provides a foundational understanding of how questioning techniques are used and adapted by teachers, which is essential for this dissertation's exploration of teachers' experiences.

Dillon (2017) provided a foundational understanding of questioning strategies by examining both theoretical and practical aspects in "The Role of Questions in Teaching and Learning." His discussion on common questioning strategies and their effectiveness in student engagement directly relates to the present

study, which seeks to uncover how elementary school teachers experience and implement questioning techniques in their classrooms. Dillon's insights support the study's exploration of the cognitive and affective impacts of questioning on learners, reinforcing the significance of intentional and well-structured questioning in fostering meaningful learning experiences. Additionally, his research provides a framework for analyzing the ways in which teachers perceive and navigate the challenges associated with questioning strategies, thereby enriching the findings of the present study.

Blanchard and DeCoster (2021) offered a hands-on approach to questioning strategies in their guide "Effective Questioning in the Classroom: A Practical Guide," presenting various techniques applicable across subjects and grade levels. Their emphasis on adaptability in questioning aligns with this study's investigation into how elementary school teachers modify their questioning techniques to accommodate diverse learners. The practical strategies discussed in their work provide a comparative lens through which the effectiveness and real-world applicability of questioning approaches can be examined in current research. By bridging theory and practice, Blanchard and DeCoster's study strengthens the present study's argument that questioning is not just a pedagogical tool but a dynamic and responsive element of classroom discourse that shapes both teacher-student interactions and overall learning outcomes.

Kwit said that questioning as a teaching practice is a major gauge of teaching effectiveness. To make a meaningful engage of learners in the discussion, they should be given open-ended questions that are prepared ahead and should be given time to reflect and respond appropriately. Because of this, the teacher can be assured of the important content and ensure purposeful and significant questions that would realize the objectives of the lesson. Proper sequencing of questions will lead to learners' understanding of the concepts paving the way for further discoveries and appreciation of the lessons at hand.

The learners' active participation during the discussion is of great importance in the teaching and learning process. Teachers prepare substantial questions for the learners to engage and respond actively to realize the objectives of the lesson. Interaction inside the classroom is essential and it is the teacher's primary duty to make it that way. Kwit realizes that the formulation of questions can tell how effective a teacher is. Hence, the manner the teachers prepare the questions must be investigated.

Almeida stated that all kinds of questions are important and relevant. Teachers need to ask low-level or acquisition questions before they ask higher-level questions. However, Kerry suggested that it is necessary to raise open questions to produce deeper levels of learning, this is reflection. An important implication of asking mainly low-level questions is the limitation of the co-construction of learning: such questions also have implications for scaffolding students' learning. Experiencing questions at repetitively low levels limits students' opportunities to further develop their ideas and to be supported to reach higher cognitive levels.

This literature is about the impact of giving low levels of questions which prevents the learners from achieving higher-order thinking skills. As mentioned above all questions are relevant, it is necessary to ask low-level questions first before coming to higher levels, but the teachers should take note that repetitive low-level questions could not develop higher-order thinking skills. This is relevant to the present study since it aims to develop effective questioning strategies to be used by teachers for their learners.

Adaptation of Questioning Strategies Across Subjects and Grades

Church (2017) enumerated the various teaching techniques that can be used to develop the art of questioning: 1) use divergent or open-ended questions; 2) try to avoid convergent or dose-ended questions; 3) offer question starters; 4) take advantage of opportunities to question; 5) accept every answer equally; 6) encourage children to elaborate on their ideas; and 7) document children's answer. From these

suggested techniques, it is hoped that the learners would likely develop their critical and creative thinking skills.

Clayton emphasized that with the 21st-century rigorous state standards, there is specific content students are expected to know deeply. Teachers need to be ever so thoughtful in how they introduce new content and use questioning to deepen students' understanding. As each new piece of learning is introduced, questions help students to process the new content. At the end of each lesson within a unit, students should grapple with ways to summarize the relevance of the learning, make connections to what they already know, and be reflective about what they understand and do not understand. Moreover, the art of teaching relies heavily on effective questioning techniques. Questions have the potential to change classrooms and strengthen student achievement. Through questions, the students become thinkers, and they learn the important traits of perseverance, risk-taking, creativity, and flexibility.

The above-cited literature is significant to the present study. Clayton emphasized the importance of teachers using questioning strategies where the learner's learning depends on it. He reiterated that effective questioning techniques can greatly impact strengthening learner's achievement.

Patzer (2020) shared that checking for understanding enabling deeper connections with the content and improving your questioning technique can also help develop a positive learning culture in your teaching by encouraging more in-depth exploratory dialogue. While allowing your learners to provide knowledge-based answers is important, developing a positive learning culture increases understanding and learning.

It was found that this literature is significant to the present study. It provided insights into what different levels of questioning can develop especially the different sets of skills among the students. Lower-order questions usually develop simple recall, concept formulation, and simple understanding while higher-order questions are geared towards the development of critical thinking and problem-solving skills.

On the other hand, Fisher and Frey (2016), in "Improving Adolescent Literacy: Content Area Strategies at Work," navigated questioning techniques specifically designed to improve literacy in different content areas. Their work provides valuable insights into tailoring questioning strategies to suit various subjects and grade levels, supporting this study on how questioning strategies can be adapted and implemented effectively in diverse educational contexts. The adaptation of these techniques is crucial for addressing the unique challenges and needs of students in elementary education.

Additionally, Van der Valk and De Jong (2018) explored how questioning strategies can be adapted to suit various learning contexts in their article "Adapting Questioning Strategies to Different Learning Contexts." They provided a framework for understanding the contextual application of questioning techniques, aligning with the study's focus on the adaptation of questioning strategies in different subjects and grade levels.

Furthermore, Franke and Kazemi (2018) explored the alignment between teaching practices, including questioning, and teachers' beliefs in mathematics education in "Teaching Practices and Beliefs in Mathematics Education." They provided insights into how questioning strategies are adapted to different subjects, such as mathematics.

In addition, Gibbons (2017) in his study "Scaffolding Language, Scaffolding Learning: Teaching English Language Learners in the Mainstream Classroom" explored how questioning strategies can be adapted to support English language learners. This provides insights into the adaptation of questioning techniques for diverse student needs and contexts.

Moreover, Gordon and Boudett (2017) investigated questioning strategies specific to early childhood education in "Effective Questioning in Early Childhood Education." They offered insights into how

questioning can be adapted for younger learners, aligning with the study's research on questioning strategies in elementary education.

Challenges Encountered in Implementing Questioning Strategies

Koul and Bamberger (2020) explored the practical challenges teachers face when implementing questioning strategies in their article "Challenges in Implementing Questioning Strategies in the Classroom." They highlighted obstacles such as classroom management issues, time constraints, and the varying abilities of students. These real-world difficulties are pertinent to this study's focus on identifying and addressing challenges in the implementation of questioning techniques.

On the other hand, Evertson and Weinstein (2020) in "Classroom Management for Middle and High School Teachers" included sections on questioning strategies to foster a positive learning environment. Although primarily focused on classroom management, this provides insights into managing questioning in various grade levels.

Jalongo (2010) explained that almost 80 percent of teachers' discussions are directed at giving instructions, providing information, or correcting behaviour. Out of these tasks, 80 percent consist of questions that require the learners to simply recall details instead of posing questions that would help develop critical thinking skills.

Teacher Reflection and Continuous Improvement in Questioning Strategies

Nielsen and Gagnon (2021) investigated how teachers reflect on and improve their questioning strategies through case studies in "Teacher Reflection and Questioning Strategies: A Case Study Approach." They emphasized the importance of reflective practice in teaching, showing how teachers can refine their questioning techniques to enhance student engagement and learning outcomes. This aligns with the interest in teacher reflection within this study.

Elliott (2019) discussed the role of questioning in practitioner research and its impact on instructional practices in "Practitioner Research in Education: What It Is and How to Do It." This is relevant for understanding how teachers adapt and reflect on questioning strategies in their practice.

Richards & Lockhart (2020) in their "Reflective Teaching in Second Language Classrooms" provided insights into reflective teaching practices, including questioning. This work can be applied to general teaching contexts and helps address how teachers reflect on and improve their questioning strategies.

Albert (2013) of the Philippines' National Statistics Coordination Board stated that numbers describing the current situation of public-school teachers have been collated and presented in one place. Graduation rates in teacher education are less than 20 percent and for those who graduate, only 20-30 percent pass the licensure exam. This means only four to six percent of students in teaching colleges qualify to practice the profession. The faculty in teaching institutions lacks advanced degrees. Less than half of higher education faculty have degrees beyond the bachelor's degree. Only about 10 percent hold a doctorate. Philippine public-school teachers are leaving the country for better conditions and opportunities.

It can be inferred based on the articulation made by Albert that teachers' training and advanced studies are important elements to continuously improve their skills as teachers, particularly in the operation of classroom activities. It was presented by Albert that almost 70 percent of teachers are baccalaureate degree holders without master's degree units. This implies that learning and development among teachers are wanting hence, the training program for teachers and scholarships should be part of the policy to upgrade the competencies of classroom teachers.

Stipulated in the DepEd Order No. 42, s. 2017 known as the National Adoption of the Philippine Professional Standards for Teachers, teacher professional development happens in a continuum from

beginning to exemplary practice. The following statements, which define the work of teachers at different career stages, make explicit the elements of high-quality teaching for the 21st century. The descriptors represent a continuum of development within the profession by providing a basis for attracting, preparing, developing, and supporting teachers. Career Stage 1 or Beginning Teachers have gained the qualifications recognized for entry into the teaching profession. They manage to learn varied strategies that promote learning based on the learning needs of their students. They seek advice from experienced colleagues to consolidate their teaching practice. Career Stage 2 or Proficient Teachers are professionally independent in the application of skills vital to the teaching and learning process. They provide focused teaching programs that meet curriculum and assessment requirements.

They are reflective practitioners who continually consolidate the knowledge, skills, and practices of Career Stage 1 teachers. Career Stage 3 or Highly Proficient Teachers consistently display a high level of performance in their teaching practice. They have high education-focused situation cognition, are more adept in problem-solving, and optimize opportunities gained from experience. They continually seek to develop their professional knowledge and practice by reflecting on their own needs, and those of their colleagues and students. Career Stage 4 or Distinguished Teachers embody the highest standard for teaching grounded in global best practices. They exhibit an exceptional capacity to improve their teaching practice and that of others. They are recognized as leaders in education, contributors to the profession, and initiators of collaborations and partnerships. They consistently seek professional advancement and relevance in pursuit of teaching quality and excellence.

Teachers are classified according to the number of their years in service in the department of education including their level of competencies and other characteristics. In this present study teachers' questioning strategies are classified, their expertise and experiences inside the classroom. It is expected that master teachers or expert teachers are already veterans in asking questions in the classroom. On the other hand, new teachers need lots of training and experience to develop their level of confidence and competence in asking questions. This means the mastery and non-mastery of the questioning strategies of the teachers are assumed to be dependent on the position occupied by the teachers as well as the exhaustiveness of their experience in the classroom.

It is an accepted fact that teachers' questioning skills play a vital role in the teaching and learning process. It is one of the many effective strategies to fully understand a lesson and to get the learners' attention and be involved in the discussion. The interest of the learners would also depend on the questions given by the teacher and the way it is presented.

Lewis (2010) also asserted that the skill of asking and answering questions is of prime importance in the learning process. When appropriately utilized, these skills could be very useful in the quest for new knowledge in any given subject area. Further, Lewis enumerates the role of questions in learning. He cited that it is important because the search for information is directed, the synthesis or summary of what has been discovered is guided, and the conclusions drawn are evaluated through questions. The said concepts are also recognized by this study.

The literature reinforces the previous ideas because it was made clear that the questioning skills of the teachers would lead to the full understanding of the lessons given to the students. The critical thinking of the learners will be reinforced if the lessons are properly executed with the use of guided questions. These are deemed significant to the present study.

In addition, Boudett, City, and Murnane (2018) explored the role of questioning in using assessment data to inform instruction in "Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve

Teaching and Learning." They provided a systematic approach to using data-driven questioning strategies to improve teaching and learning, relevant to the study of how teachers reflect and improve their questioning techniques.

Impact of Questioning Strategies on Student Learning and Engagement

Goff (2018) said that an artful question by teachers accelerates student understanding. , him, people begin asking questions almost as early as they begin to speak. Questions solicit information to understand something. Everyday questions are different from the questions effective teachers ask because effective teachers formulate questions intending to increase someone else's understanding. Questions designed to drill for rote answers require little imagination but mastering the art of questioning teaches learners how to think. Purposeful dialogue is like a dance between the teacher and learners. Lesson plans should take into consideration the importance of questioning in teaching.

Furthermore, he presented three opportunities to use different types of questioning skills: before, during, and after class. Questions before a class provide a framework that will orient the student in advance to what is important in the assignment. The importance of questioning in teaching is essential in gauging how well learners understand, and classroom questions also allow learners to ask the teacher clarifying questions. Reflective questions which are after the class require no immediate answers, but those are designed to get learners thinking more deeply about a topic, and even to question their assumptions, which can be asked at the end of a class. The various types of questioning skills quickly facilitate the learners' understanding of a subject.

The ideas presented above are significant to the present study since they discussed the concept of the art of questioning and even its importance in the teaching-learning process. This study will deal with the learners' response which then is related to the art of questioning the teachers.

Moreover, Lewis stated that in the learning process, the ability to ask and answer questions is an essential component of the learners' understanding of the topic. In many classroom activities, discussions are primarily based on questions and answer techniques. However, to be effective, the questions to be raised should be significant motivating, purposeful, and guided by the teachers. They should consider primarily the learners' participation, so they can engage actively well during the discussion. Questioning is likewise a vital tool to facilitate a meaningful and active learning process.

On the other hand, without good questioning of a teacher, there would be no meaningful discussion, and it may lead to no learning at all. It is observed that slow learning can be attributed to poor questioning skills of the teachers, hence it is deemed necessary to investigate the teaching strategies of teachers to ensure the learners develop critical thinking skills and understand the lesson with active participation.

Cotton (2016) stated that teachers' questions are instructional cues or stimuli that help clarify the content elements to be learned and steps or procedures to be done. There are several reasons why the questioning strategy is commonly used by teachers. This helps learners to actively participate in classroom discussions, check their homework or seatwork completion, review past lessons, and motivate them to continue acquiring new knowledge on their own. It also aids in developing learners' critical thinking skills and in evaluating the accomplishment of instructional goals versus the target objectives.

These are realized through the teachers' art of questioning which elicits learners' responses. During class interaction, learners follow a series of steps in answering the questions. Said steps include listening to and deciphering the meaning of the question, formulating a response in one's mind, and expressing or even revising a response based on the teacher's feedback. These ideas stated by Cotton led the researcher to identify the questioning strategies of the elementary teachers.

Also, Dawson (2016) enumerated the purposes of questioning in effective teaching and learning processes. , him questioning is to interest, engage and challenge pupils, to check on prior knowledge and understanding, to stimulate recall, mobilize existing knowledge and experience to create new understanding and meaning, to focus pupils' thinking on key concepts and issues, to help pupils to extend their thinking from the concrete and factual to the analytical and evaluative, to lead pupils through a planned sequence which progressively establishes key understandings, to promote reasoning, problem-solving, evaluation and the formulation of hypotheses, and lastly is to promote pupils' thinking about the way they have learned.

This statement is very relevant to the present study because it talks about the importance of using effective questioning strategies in the teaching and learning process. The author cited the purposes of asking questions to the learners and how it affects learner's thinking and understanding of the lesson. This is part of the current study which includes the lower and higher-order thinking skills to be developed among the learners as 21st-century thinking skills.

Moreover, Harris and Jones (2019) provided a comprehensive overview of the effectiveness of various questioning strategies in their article "A Review of Teacher Questioning Strategies and Their Impact on Learning." This review synthesizes existing research on the impact of teacher questioning strategies on student learning, discussing how different techniques can influence student engagement and academic outcomes. Their findings are directly relevant to understanding the effectiveness of questioning strategies in elementary education.

On the other hand, Roehrig and Kruse (2015) examined the relationship between questioning techniques and student engagement in their study "Questioning Techniques and Student Engagement: The Role of Questioning in Effective Teaching." Focusing particularly on science education, they provide evidence on how effective questioning strategies can promote deeper understanding and active participation among students. This is relevant to the focus on student engagement in this study.

Moreover, Sadler and Zeidler (2017) discussed the use of questioning within inquiry-based science education in their article "The Role of Questioning in Inquiry-Based Science Education." They highlight how strategic questioning can facilitate deeper understanding and critical thinking, which relates to the study on emerging questioning strategies in elementary education.

Furthermore, Wiliam (2016) discussed various formative assessment strategies, including questioning, and their impact on student outcomes in "The Formative Assessment Strategies that Work." This article provides relevant information on how questioning can be used as an effective tool for formative assessment, enhancing learning and engagement. The use of formative assessment is critical for understanding how questioning strategies can be employed to improve educational practices.

Also, Cameron (2020) investigated the relationship between questioning strategies and student outcomes in elementary education in "Questioning Strategies and Student Outcomes in Elementary Education." This study provides insights into how different questioning techniques can impact learning and engagement, which is essential for understanding the effectiveness of these strategies.

Hattie (2018) in the study "Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement" included a discussion on the effectiveness of various questioning strategies in improving student achievement. This comprehensive meta-analysis provides valuable insights into the impact of questioning on learning outcomes.

King (2015) examined how structured questioning and peer interaction can enhance cognitive and academic growth in "Structuring Peer Interaction to Foster Cognitive and Academic Growth." This article aligns with the research on the effectiveness of questioning strategies in promoting student learning.

Marzano (2017) in "Classroom Instruction that Works: Research-Based Strategies for Increasing Student Achievement" provided research-based strategies for effective classroom instruction, including questioning techniques. This book is relevant for understanding how questioning strategies can be effectively implemented to increase student achievement.

Related Studies

There are several studies conducted along with the questioning strategy for the teaching and learning process, but the researcher chose only some studies related to the present study.

Engaging learners during the discussion is a tough job for the teachers. It requires assessment skills and the right decision-making in choosing what strategy would best fit the type of learners inside the classroom. The teacher's way of managing the learning process depends on the learner's participation during class discussion. They are responsible for the learner's performance, in general.

Exploration of Common Questioning Strategies

Dos et al. (2016) found out in their study that teachers asked divergent questions to draw attention and interest; teachers have a misunderstanding of divergent and convergent questions; teachers mostly ask questions to entire class than an individual; teachers asked most frequently questions aimed at uncovering operational knowledge and least frequently questions whose goal was to uncover metacognitive knowledge; teachers generally used probing questions, prolonged waiting time and did not ask vague questions; and teachers did not use questions as a punishment tool.

Also, they reiterated that the questions teachers ask can be classified, the Revised Bloom Taxonomy in Cognitive Field as "remembering, understanding, applying, analyzing, evaluating and creating (synthesizing)". Remembering, understanding, and applying steps are considered a lower level while analyzing, evaluating, and creating steps are considered a higher level. Teachers are expected to ask higher-level questions for higher-level learning.

The study cited above is similar to the present study since the author talks about Revised Bloom's Taxonomy as the basis for crafting the level of cognition in asking questions. This is part of the current study which includes the lower and higher-order thinking skills to be developed among the learners as 21st-century thinking skills. Questioning has been utilized as a critical assessment tool for centuries. It has been thought that there is a relationship between asking good questions and effective teaching. This is also the concept being currently studied. The difference lies in the focus of the study which is the analysis of the questioning strategies of teachers whereas this study considered the identification of the strategies and types of questions.

Similarly, Yang (2017), in his study about effective questioning strategies in class, found out that the distribution of questions is considered one of the most important questioning strategies, which means that teachers should offer equal chances of thinking and answering questions to each student. Teachers' distribution of questions affects students' learning interests and learning participation. From the author's observations, many teachers have the same higher stress with students, so they are reluctant to spend time in questioning in a 45-minute class, they just ask a few top or active students to answer questions rather than give equal chances to every student. Some teachers would like to choose the way students collectively answer questions so that students can keep what they have been taught at heart.

The previous study is similar to the present study because it tackles effective questioning strategies. The importance of giving equal chances of thinking and answering questions to each student plays a vital role in getting their interest. This is the purpose of this study, to give teachers effective questioning strategies to provide a well-versed and thorough discussion during the teaching and learning experience among the learners.

Haladyana worked on generic questioning strategies for linking teaching and testing. It showed that modern instructional theory and research suggest that the content of instruction should be closely linked with testing. The content of an instructional program should not focus solely on memorization of facts but should also include higher-level thinking. Three uses of tests within any instructional program are (1) practice on objectives, (2) feedback about mastery of those objectives, and (3) summative evaluation. The context-dependent item set is proposed as a useful tool for measuring many higher-level objectives. A generic method for developing context-dependent test item sets is proposed, and several examples are provided. The procedure is useful for developing a larger number of test items that can be used for any of the three uses of tests. The procedure also seems to apply to a wide variety of subject matter.

Zolfaghari et al. (investigated the role of Creative Questioning in the process of learning and teaching focused on the relation between teaching and learning with the art of questioning. Questioning, which is the basis of teaching tasks encourages recalling, deepens the learning process and comprehension, promotes imagination and problem-solving, satisfies the sense of curiosity, and increases creativity. Research shows that primary school teachers and students usually ask one question every two minutes. This amount is much lower in guidance school and high school. On the other hand, only about 8% of the questions are posed to encourage the students' thinking and reflection. Creativity which is the most sublime and exquisite gift of God to humans helps nations and cultures progress rapidly.

The above-cited study bears similarity with the present study with the current realities pointed out. There is no doubt that indeed the level of questioning skills of teachers in the classroom which is the focus of this study needs improvement hence training program is needed as an enhancement activity to update and upgrade the competence level of teachers in asking questions.

Smith and Jones (2015) reviewed a range of questioning techniques used in primary education, including open-ended and probing questions. Their study offers a foundational understanding of these common questioning methods, making it a crucial reference for the present study. By categorizing and describing various questioning techniques, they established a baseline from which the effectiveness and application of these strategies can be measured. Their work is pertinent as it directly informs the exploration of prevalent questioning strategies employed by elementary teachers in the current research. Understanding these common methods allows for a comparative analysis of how they are implemented in practice and how they align with or diverge from theoretical models of questioning. This foundation supports a deeper examination of teachers' lived experiences in using these strategies and provides a context for analyzing their efficacy in different educational settings.

Williams and Brown (2016) examined how different questioning strategies impact student engagement. This study is relevant to the present research as it delves into the practical implications of questioning methods on student involvement. They highlighted the correlation between specific questioning techniques and levels of student engagement, providing critical insights into how teachers' questioning strategies can either enhance or diminish student participation. By focusing on the engagement aspect, their study sheds light on one of the key outcomes of effective questioning and helps in understanding the practical experiences of teachers who employ these strategies. This relevance lies in the study's ability to

bridge the gap between theoretical questioning techniques and their real-world impact on students, thus informing the present research's exploration of teachers' experiences with these strategies.

Lee and Kim (2017) discussed the application of theoretical questioning strategies in real classroom settings. This study is crucial for illustrating the translation of theoretical concepts into practical applications. They provided valuable insights into how theoretical models of questioning are adapted and used in everyday teaching. This understanding helps frame the present study by offering a lens through which teachers' lived experiences with questioning strategies can be examined. The study's relevance is rooted in its exploration of the practical implementation of theoretical questioning strategies, which directly informs the current research's investigation into how these strategies are applied in real classroom contexts and the challenges teachers face in this process.

Johnson and Davis (2018) provided a comparative analysis of questioning techniques across grade levels. Their study is particularly relevant to the present research as it explored how questioning strategies evolve and differ depending on the educational stage. They examined how questioning methods are adapted from one grade level to another, offering insights into the developmental aspects of questioning practices. This comparative analysis helps in understanding the dynamic nature of questioning strategies and their impact on teaching practices at various educational levels. For the present study, this research is significant in highlighting how questioning strategies are modified to meet the needs of students at different stages, thereby enriching the exploration of teachers' experiences with these evolving techniques.

Martin and Collins (2019) focused on how questioning strategies can promote higher-order thinking skills. Their study emphasized the role of questioning in fostering critical thinking, an area of great importance for present research. They demonstrated how effective questioning techniques are instrumental in developing students' higher-order thinking abilities, such as analysis, synthesis, and evaluation. This relevance is evident in the present study's focus on the impact of questioning strategies on cognitive development and critical thinking. By highlighting the connection between questioning techniques and higher-order thinking, their study provides a framework for analyzing how teachers use questioning to enhance students' intellectual engagement and learning outcomes.

Adaptation of Questioning Strategies Across Subjects and Grades

Adedoyin (2010), in his study about the role of teacher questions, revealed that some new and experienced teachers encouraged their students to go further and explored beyond the topic of today's lesson. However, others used the deductive approach by stating questions and expecting certain answers because they did not comprehend or had a lack of time.

This study is relevant to the current study since the researcher aims to achieve effective questioning strategies that would be useful for the teachers, knowing that indeed teachers play a vital role in delivering teaching and learning experiences, hence, effective strategies should be used.

Taylor and Thompson (2015) explored how questioning strategies are adapted for different subjects. This study is significant as it provides insights into how teachers modify their questioning techniques based on the subject matter being taught. They highlighted how questioning strategies are tailored to fit various academic disciplines, thereby aligning with the present study's focus on subject-specific adaptations. Their research helps in understanding the rationale behind these adaptations and how they impact teaching effectiveness. For the present study, this exploration is crucial for examining how questioning strategies are customized to address the unique demands of different subjects, and how these adaptations influence teachers' practices and student outcomes.

White and Gray (2016) investigated how questioning can be differentiated to cater to diverse learners. This study is pertinent for understanding the adaptation of questioning strategies to meet the needs of students with varying abilities. They provided valuable insights into how questioning techniques are adjusted to support diverse learning needs, which is relevant to the present study's exploration of adaptation across subjects and student diversity. By focusing on differentiated questioning, their research highlights the strategies teachers use to ensure that all students, regardless of their abilities, are engaged and challenged appropriately. This understanding aids in examining how teachers navigate the complexities of diverse classrooms and adapt their questioning strategies to foster inclusive learning environments.

Clark and Martin (2017) discussed the adaptation of questioning strategies specifically for science and mathematics instruction. Their study is relevant as it provides practical examples of how questioning techniques are tailored to the unique requirements of science and mathematics subjects. They illustrated subject-specific adaptations, which help in understanding how questioning strategies can be effectively applied in different academic disciplines. For the present study, this research offers insights into the practical considerations and adjustments teachers make when implementing questioning strategies in science and mathematics, contributing to a broader understanding of subject-specific adaptations.

Adams and Peterson (2018) examined the influence of questioning on literacy and numeracy. Their study is valuable for understanding how questioning strategies can be adapted to improve outcomes in key subject areas such as literacy and numeracy. They provided evidence of how effective questioning can enhance students' performance in these fundamental areas, which is pertinent to the present study's exploration of subject-specific adaptations. By highlighting the impact of questioning on literacy and numeracy, their research offers a lens through which to examine how teachers adjust their questioning techniques to support students' learning in these critical domains.

Green and Foster (2019) compared questioning strategies in language arts and social studies. This study provided insight into how questioning methods differ across subjects, offering a valuable perspective for the present research. They explored the variations in questioning strategies between language arts and social studies, helping them to understand the broader context of questioning adaptations. For the present study, this comparison is significant in examining how questioning techniques are tailored to different subject areas and how these adaptations influence teaching practices and student engagement in various disciplines.

Challenges Encountered in Implementing Questioning Strategies

Doherty (2018) said that there is an issue with how classroom questioning strategies can become more effective, as evidence suggests that teachers ask too many questions and too many of these questions are low-level. What the study says, the value of classroom questioning is well documented, and the study tends to focus on the relationship between teachers' questions and student achievement. Here are some of the important findings of the study, too often, questions from teachers are organizational, such as 'What do we always put at the top of our page to begin with?' or instructional, such as 'Who can tell me what an adjective is?' and fail to develop deep learning.

Wragg, (1993) found out that teachers commonly use three types of questions: Management-related, e.g. 'Has everyone finished this piece of work now?' Information recall-related, e.g. 'How many sides does a quadrilateral have?' Higher-order questions, e.g. 'What evidence do you have for saying that?' In Wragg's study, 57 percent of questions were management-related, 37 percent required information recall and only 8 percent challenged higher-order thinking. Closed or convergent questions have low cognitive

involvement and result in limited answers such as 'Yes' or 'No'. Open or divergent questions encourage greater expansion in answers and promote better classroom dialogue (Tofade, Elsner & Haines, 2013). Closed questions are still important, however, and help assist in knowledge retrieval; but proceed with caution here, as the inevitable one-word student answers limit classroom dialogue resulting in what Alexander (2006) called 'cognitively restricting rituals. Lower-attaining students benefit from closed questions, allowing them greater accuracy of response which in turn breeds encouragement while higher-attaining students respond better to more challenging questions (Woolfolk et al., 2008). To maximize assessment for learning in lessons, use different types of questions but limit the procedural and emphasize questions that center on learning, and differentiate them to maximize assessment for learning.

Paramore (2017) identified building skills for effective primary teaching which identified an imbalance of questions often found in teaching. He posited that teacher talk is dominant and an over-reliance on closed questions, providing only limited assessment for learning information for a teacher.

The above-cited studies are relevant to the present study since it is very evident based on previous research that indeed teacher questioning is a powerful tool in developing convergent and divergent thinking among students. Teachers therefore must be able to develop their skill in the art of questioning to the highest level because it will surely improve the academic performance of the students. Furthermore, teachers must carefully plan the unfolding of questions asked inside the classroom in such a way it is logically framed and systematically presented. When teachers' competencies in this aspect are given paramount consideration through in-house training, workshops, and LAC sessions it will surely result in a positive impact on the teaching-learning process and in improving the bar of performance of the learners in the classroom.

Nguyen and Tran (2015) identified common barriers to implementing effective questioning strategies. Their study is relevant for understanding the difficulties teachers face in applying questioning techniques. They provided an overview of the obstacles that hinder the effective use of questioning strategies, which is crucial for the present research's focus on teachers' experiences. By highlighting these barriers, their study helps identify the challenges teachers encounter and the impact these challenges have on their questioning practices. This understanding contributes to a more comprehensive exploration of the difficulties associated with questioning strategies and how teachers navigate these issues in their classrooms.

Baker and Lewis (2016) discussed practical strategies for overcoming obstacles in questioning. Their paper offers solutions to common challenges faced by teachers in implementing effective questioning strategies. They provided actionable insights into how teachers can address difficulties related to questioning, which is valuable for the present study's examination of challenges and solutions. By presenting strategies to overcome obstacles, their research supports a deeper understanding of how teachers can refine their questioning practices and improve their effectiveness despite encountering various challenges.

King and Morgan (2017) addressed the unique challenges of questioning in culturally diverse classrooms. This study is pertinent for understanding how cultural factors influence the effectiveness of questioning strategies. They explored the specific challenges teachers face when implementing questioning techniques in culturally diverse settings, which is relevant to the present research's focus on the complexities of questioning in diverse classrooms. Their study provides insights into how cultural differences impact questioning practices and offers a perspective on the additional considerations teachers must consider ensuring effective questioning in such contexts.

Ellis and Carter (2018) used case studies to highlight specific challenges in implementing questioning strategies. Their approach provides practical examples and solutions relevant to teachers' lived experiences with questioning. They offered case studies that illustrate the difficulties teachers face and how they address these challenges, which is valuable for the present research's exploration of real-world experiences. By presenting detailed case studies, their research provides a nuanced understanding of the challenges associated with questioning strategies and the strategies teachers use to overcome these difficulties.

Morris and Walker (2019) explored how limited resources affect questioning practices. Their study is relevant for understanding the resource-related challenges that teachers encounter in their questioning strategies. They examined how constraints such as lack of materials or time impact the implementation of questioning techniques, which is pertinent to the present research's focus on the practical challenges teachers face. Their findings offer insights into how resource limitations influence questioning practices and the ways teachers adapt their strategies in response to these constraints.

Teacher Reflection and Continuous Improvement in Questioning Strategies

The research of Dimalaluan et al. (2016) aimed to determine the performance of the student teachers in the art of questioning in terms of the quality of questions asked, techniques in questioning, handling students' answers, and handling students' questions. The results revealed that the overall level of performance of the student teachers in the art of questioning based on their self-ratings and the ratings of the cooperating teachers were found to be "very satisfactory". It indicates that the university is providing very good training to its student teachers Despite the very satisfactory performance of the pre-service teachers in the art of questioning this study recommends that the school should provide additional training in the areas where most of the student teachers encountered difficulties such as difficulty in formulating grammatically correct questions, lack of self-confidence and difficulty in formulating higher order thinking skills questions.

Jackson and Roberts (2015) investigated how teachers reflect on their questioning practices. Their study is relevant for understanding the role of reflection in improving questioning strategies. They explored how teachers' reflective practices contribute to the refinement of their questioning techniques, which is crucial for the present research's focus on continuous improvement. By examining the role of reflection, their research highlights the importance of self-assessment and professional growth in enhancing questioning practices, offering valuable insights into how teachers can continuously improve their questioning strategies.

Collins and Baker (2016) discussed the role of professional development in enhancing questioning strategies. Their study highlights how ongoing professional learning supports teachers in refining their questioning practices. They emphasized the impact of professional development programs on teachers' ability to effectively use questioning strategies, which is relevant to the present research's exploration of continuous improvement. Their findings provided evidence of how targeted professional development can lead to more effective questioning techniques and support teachers in their ongoing professional growth.

Harper and Wilson (2017) emphasized the importance of teacher reflection in improving questioning techniques. Their study provides insights into how reflection contributes to more effective questioning strategies. They explored how reflective practices enable teachers to assess and enhance their questioning techniques, which is pertinent to the present research's focus on teacher reflection. By highlighting the connection between reflection and questioning improvement, their research offers a framework for

understanding how teachers can use reflection to refine their practices and enhance student learning outcomes.

Miller and Lewis (2018) explored how feedback mechanisms contribute to the continuous improvement of questioning strategies. Their study is relevant for understanding how feedback supports teachers in refining their questioning techniques. They examined the role of feedback in the development of effective questioning practices, which is crucial for the present research's focus on continuous improvement. By highlighting the impact of feedback mechanisms, their research provides insights into how teachers can leverage feedback to enhance their questioning strategies and improve their teaching effectiveness.

Harris and Allen (2019) assessed how reflective practices impact the effectiveness of questioning strategies. Their study provides evidence on the role of reflection in enhancing questioning practices. They investigated how teachers' reflective practices contribute to more effective questioning techniques, which is relevant to the present research's exploration of teacher reflection. By demonstrating the impact of reflection on questioning effectiveness, their research supports a deeper understanding of how reflective practices can lead to improved questioning strategies and better learning outcomes for students.

Impact of Questioning Strategies on Student Learning and Engagement

Atutubo (2017) in her study about the social science instructors' questioning strategies found out that students perceived the instructor's type of questions in terms of the level of cognition as lower-order thinking skills and always asked by their instructors, and instructors perceived those as higher-order thinking skills and always practiced by themselves. Its effectiveness in the classroom discussion was less effective to students and very effective to teachers while in periodical tests, under lower-order thinking skills was more effective, and higher-order thinking skills appeared less effective to students.

The cited study above bears similarity to the current study. The types of questions asked by the teachers along the level of cognition are also the subject matter of this study. The questioning strategy and its effectiveness studies by the author are likewise considered. However, the difference lies in the students being included in the previous study. The present study only involved elementary school teachers as respondents.

Also, Black et al. (2003) disclosed that questions are an integral part of classroom life and essential to every teacher's pedagogical repertoire. They are also one of the elements of effective formative assessment. Questioning has many purposes; it engages students in the learning process and provides opportunities for students to ask questions themselves. It challenges levels of thinking and informs whether students are ready to progress with their learning. Questions that probe for deeper meaning foster critical thinking skills and higher-order capabilities such as problem-solving and encourage the types of flexible learners and critical thinkers needed in the 21st century.

Davis and Smith (2015) explored the relationship between questioning strategies and student engagement. Their study is crucial for understanding how different questioning techniques affect student involvement in learning. They examined how various questioning methods influence students' engagement levels, providing valuable insights into the effectiveness of questioning strategies in promoting active participation. For the present study, this research is significant in exploring how questioning techniques impact student engagement and how teachers' practices contribute to fostering a more engaging learning environment.

Parker and Lee (2016) examined how questioning strategies influence student academic performance. Their study provides insights into the connection between effective questioning and improved learning outcomes. They highlighted the impact of questioning techniques on students' academic achievement,

which is relevant to the present research's focus on the outcomes of questioning strategies. By exploring how questioning influences academic performance, their research offers evidence of the effectiveness of different questioning methods in enhancing students' learning experiences and achievements.

O'Connor and Green (2017) discussed how strategic questioning enhances student learning. Their study highlights practical applications of questioning techniques that lead to improved educational results. They demonstrated how strategic questioning can be used to enhance various aspects of student learning, which is pertinent to the present research's exploration of questioning techniques. Their findings provide practical examples of how effective questioning can positively impact students' learning experiences and outcomes.

Roberts and Smith (2018) explored the effects of questioning on student motivation and participation. Their study is relevant for understanding how questioning strategies influence students' willingness to engage in class activities. They examined how different questioning techniques affect student motivation and participation, offering insights into the role of questioning in fostering an active and participatory learning environment. For the present study, this research helps in analyzing how questioning methods contribute to students' motivation and engagement in the learning process.

Adams and Wells (2019) provided an in-depth analysis of how questioning techniques impact student learning outcomes. Their study offers evidence of the direct effects of questioning on academic achievement. They explored the relationship between questioning practices and students' learning outcomes, which is valuable for the present research's focus on the impact of questioning strategies. By providing a detailed analysis of how questioning influences academic performance, their research supports a comprehensive understanding of the effects of questioning on student learning.

Peters and Thompson (2020) conducted a longitudinal study on the effects of questioning strategies on student engagement. Their study is valuable for understanding the long-term impact of questioning techniques. They examined how questioning strategies affect student engagement over an extended period, offering insights into the sustained effects of questioning methods on learning. For the present research, this longitudinal perspective provides a deeper understanding of how questioning strategies influence student engagement and learning outcomes over time.

Walker and Taylor (2021) discussed techniques for using questioning to foster student curiosity and critical thinking. Their study highlights how effective questioning can drive deeper learning and cognitive development. They explored how questioning techniques can be used to stimulate students' curiosity and promote critical thinking skills, which is relevant to the present research's focus on the cognitive benefits of questioning. Their research provides insights into how questioning strategies can be employed to enhance students' intellectual engagement and cognitive development.

Greenfield and Black (2022) provided a qualitative analysis of student responses to various questioning techniques. Their study offers insights into how different questioning methods are received by students and their impact on learning experiences. They explored students' perceptions and responses to different questioning techniques, which are valuable for understanding the effectiveness of these methods from the student's perspective. For the present study, this qualitative analysis helps in examining how questioning strategies are experienced by students and their impact on the learning process.

Scott and James (2023) explored how formative questioning contributes to student assessment and feedback. Their study is relevant for understanding how questioning can be integrated into assessment practices to enhance student learning. They investigated the role of formative questioning in providing feedback and guiding student assessment, which is pertinent to the present research's focus on the

assessment aspect of questioning. Their findings offer insights into how questioning strategies can be used to support formative assessment and improve student learning outcomes.

Thompson and Martinez (2024) investigated the effect of questioning strategies on students' problem-solving skills. Their study provides evidence of how questioning can develop critical problem-solving abilities in students. They explored how different questioning techniques influence students' problem-solving skills, which is relevant to the present research's focus on cognitive development. By highlighting the impact of questioning on problem-solving, their research contributes to a deeper understanding of how questioning strategies can enhance students' critical thinking and problem-solving abilities.

The review of related studies has contributed a lot to the present study. The different studies which have been reviewed and analyzed have pertinent relation to the present study in terms of the research methodology. The difference lies in the research objectives, the researcher's respondents, the setting of the study (school) and the variables to be treated in the study.

Gap Bridged by the Study

The study on unveiling the lived experiences of elementary school teachers in the art of questioning strategies aims to bridge several notable gaps in current educational research. One crucial gap lies in the limited exploration of the nuanced and context-specific lived experiences of elementary teachers concerning questioning strategies. This study seeks to fill this void by providing a comprehensive examination of the factors influencing teachers' choices and practices in questioning within the elementary education context.

Additionally, there is a recognized gap in the literature regarding the practical application of questioning strategies in real-world classroom settings. By focusing on the day-to-day implementation of these techniques, the study aims to offer insights with direct implications for teaching practices.

Furthermore, the research seeks to address the underrepresentation of elementary education in questioning studies, recognizing the unique challenges and opportunities associated with this educational level. It also aims to contribute to the understanding of how elementary teachers reflect on their questioning strategies and actively seek improvements; an aspect that may not have been thoroughly explored in previous research. Ultimately, by addressing these gaps, the study strives to provide valuable insights for educators, curriculum developers, and policymakers, enhancing the effectiveness of questioning strategies in elementary education and contributing to the broader field of educational research.

Theoretical Framework

The theoretical framework for the study, unveiling the lived experiences of elementary school teachers in the art of questioning strategies draws upon key educational theories to provide a comprehensive lens through which to examine the dynamics of questioning in elementary education. Constructivism forms a foundational perspective, suggesting that teachers utilize questions as tools to actively engage students in the construction of knowledge based on their experiences and interactions. Socio-cultural theory, emphasizing the role of social interactions and cultural contexts in learning, contributes to an understanding of how questioning practices are shaped by the social and cultural dynamics within the elementary classroom.

Cognitive Load Theory guides the analysis of how teachers structure questions to manage cognitive load, ensuring that questions optimize learning without overwhelming students. Integrating the Zone of Proximal Development concept, the framework explored how teachers scaffold learning through strategic questioning, guiding students within their developmental zones. Kolb's Experiential Learning Theory is

incorporated to illuminate how teachers reflect on their questioning strategies, adapting and refining them based on experiential insights.

Additionally, Cognitive Apprenticeship theory underscored how questioning serves as a form of apprenticeship, with teachers guiding students through cognitive processes to foster problem-solving and critical thinking. This theoretical framework provides a comprehensive and multi-dimensional approach to understanding the theoretical underpinnings that influence elementary teachers' lived experiences in the art of questioning strategies.

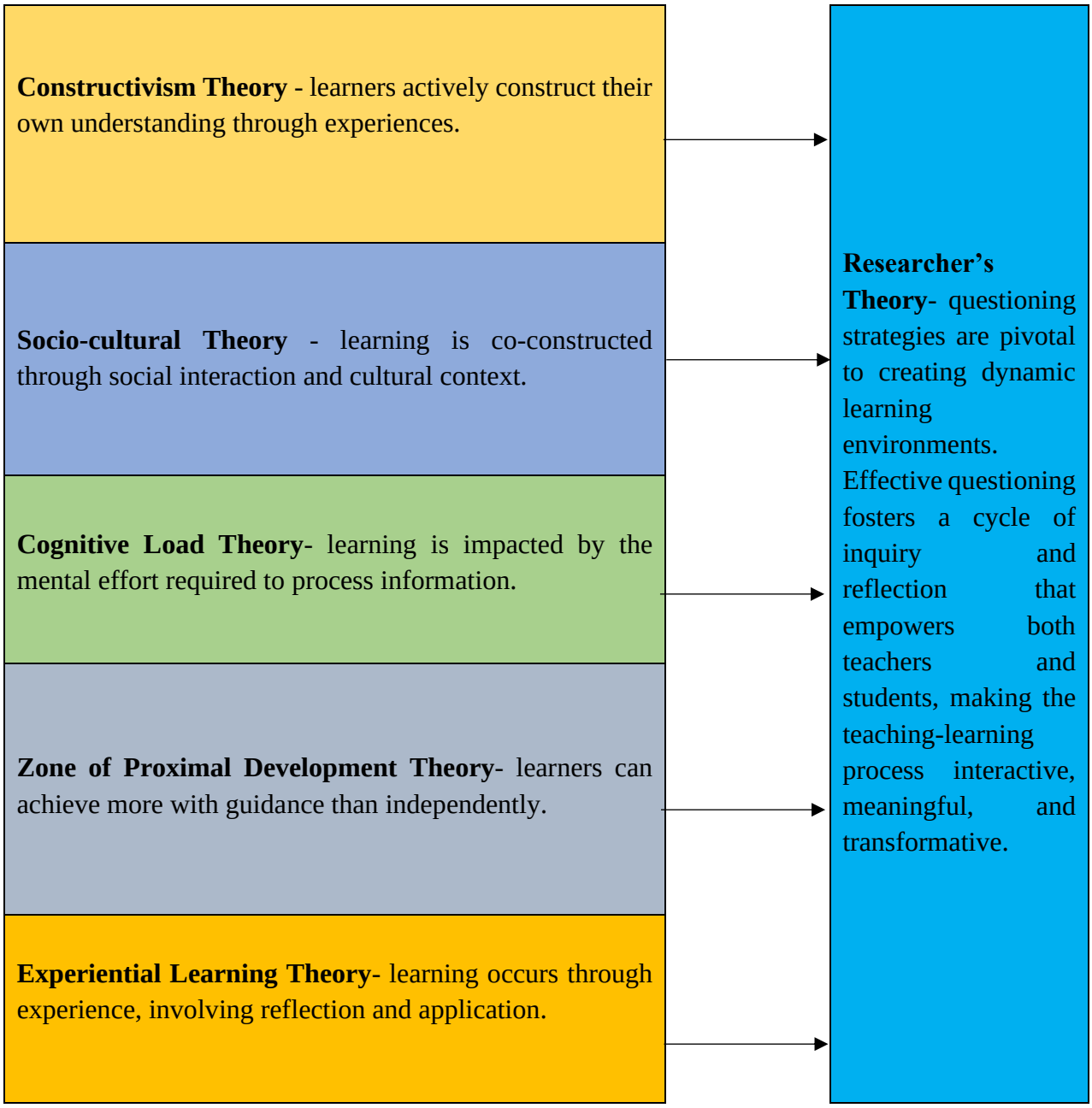


Figure 2: Theoretical Paradigm

Conceptual Framework

This study utilized the system approach model of the Input-Process-Output-Outcome concept which was popularized by Philip Coomba. Figure 2.1 which is the conceptual paradigm describes the input, process, and output components as a pattern to illustrate the flow of this study.

The initial frame is the input which presents the common questioning strategies used by elementary school teachers, elementary school teachers' adaptation of questioning strategies to subjects across all grade levels, the challenges elementary school teachers face in using questioning strategies, the elementary school teachers' reflection on their questioning strategies and continuous development, the impact of questioning strategies on student learning and engagement, and the emerging questioning strategies as a primary skill designed to enhance the art of questioning.

. The process transforms the input into output and encompasses surveys, unstructured interviews, and focused group discussions.

The output is the proposed training program that would improve the questioning strategies of the teachers. The feedback takes place in the accomplishment of the process component that shows the relatedness between the input and output.

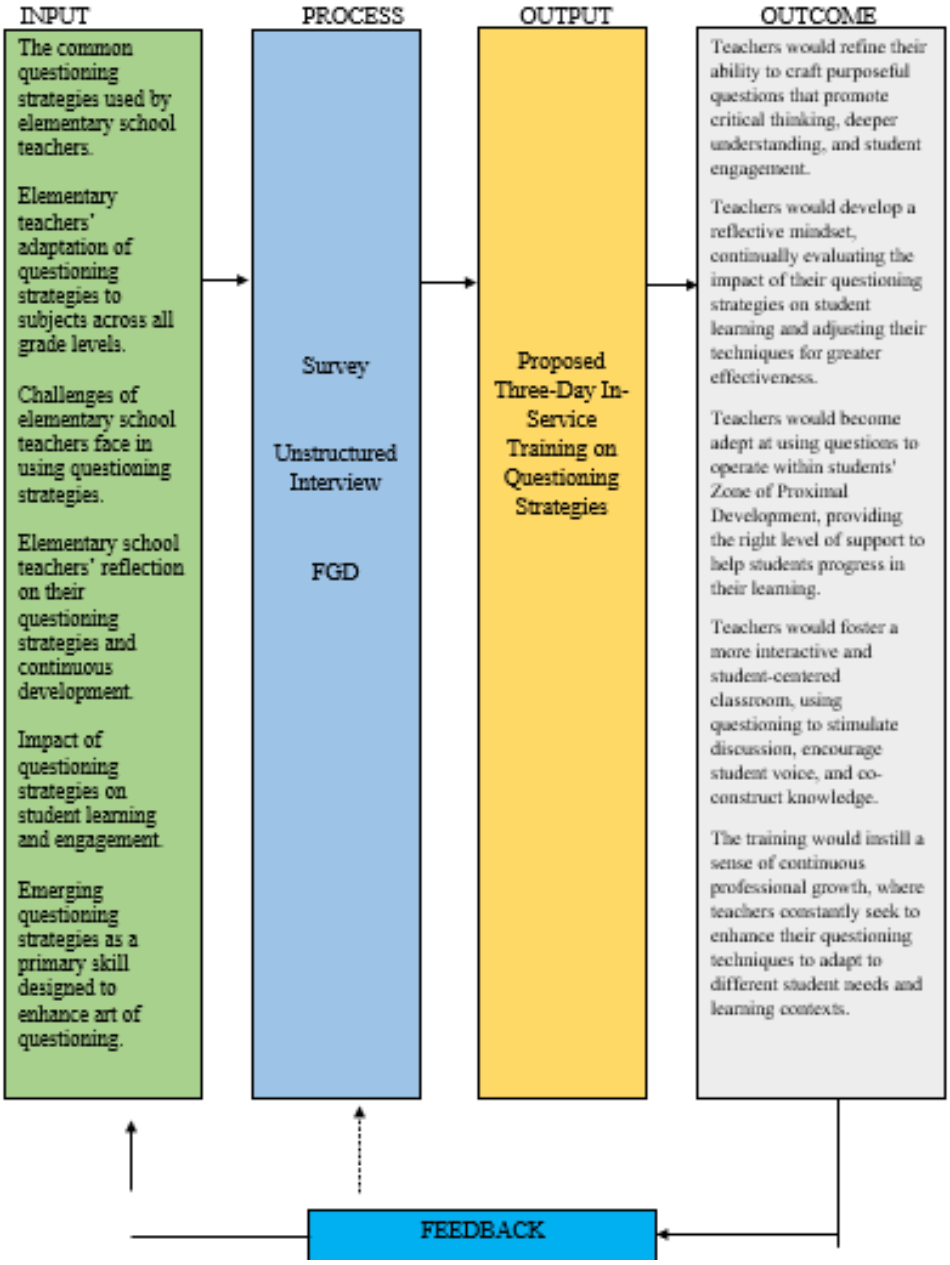


Figure 3. Conceptual Paradigm

CHAPTER III
METHOD AND PROCEDURES

This chapter presents the research design, sample selection, sampling design, research instruments, data gathering procedure, and methods of data analysis.

Appropriateness of Design

This study unveiled the lived experiences of elementary school teachers on the art of questioning strategies in the Irosin District for the SY 2023-2024. The descriptive survey method was used since a questionnaire was utilized in gathering the primary data from the respondents. Likewise, the unstructured interview and focused group discussion with the teachers were used in the validation of their responses.

Research Questions

The qualitative method of research was adopted in this study. A phenomenological design is used by the researcher to determine the lived experiences of elementary school teachers in the art of questioning strategies. The questions for this study guided the comprehensive exploration into the practices and experiences of elementary school teachers concerning questioning strategies. The first question sought to identify and categorize the predominant questioning strategies employed by elementary teachers in their instructional practices, offering an overview of prevalent approaches in the classroom. The second question delved into the adaptability of teachers, investigating how they tailor their questioning techniques across diverse subjects and grade levels within the elementary education context. The third question focused on the challenges encountered by elementary school teachers in implementing questioning strategies, shedding light on potential barriers and complexities associated with their application. The fourth question explored the reflective practices of teachers, investigating how they assess the effectiveness of their questioning techniques and engage in continuous professional development for improvement. Finally, the fifth question investigated the impact of questioning strategies on student learning outcomes and engagement in the elementary classroom, aiming to uncover the pedagogical significance of these techniques and their implications for student success. Collectively, these research questions were designed to provide nuanced insights into the multifaceted aspects of elementary school teachers' experiences with questioning strategies, which contributed valuable knowledge to the field of educational research.

Population and Samples

The participants were selected using deliberate sampling techniques, specifically purposeful sampling, which is commonly employed in qualitative research. This method focused on identifying and selecting individuals who have extensive knowledge and valuable insights about the topic under investigation. The participants for this study are regular, permanent teachers from public elementary schools in the municipality of Irosin.

Instrumentality

The researcher with the assistance of the adviser drafted the tool for the focused group discussion in which the contents were guided by the problems covered in this study.

The data used in the study were obtained through a questionnaire that was distributed to the elementary school teachers in the respondents' district. After the final form of the questionnaires were shown to the adviser, they were distributed to the respondents for the actual survey.

Informed Consent

Informed consent is a crucial ethical component of this research, ensuring that all participants are fully aware of the study's purpose, procedures, and potential impacts before agreeing to take part. Before any

data collection begins, participants will receive detailed information about the research objectives, the nature of their participation, and the expected duration of their involvement.

This information was provided in clear and comprehensible language, allowing participants to make informed decisions about their participation. Participants were informed of their right to withdraw from the study at any time without any negative consequences. This right reinforced the ethical commitment to respect each participant's autonomy and decision-making ability.

The informed consent process emphasized the confidentiality and anonymity of the participants' contributions. Participants were assured that their responses were handled with the utmost care to protect their identity and personal information. All data collected were anonymized, and any identifying information was removed or altered to maintain confidentiality. This assurance was intended to create a safe environment where participants feel comfortable sharing their genuine experiences and perspectives. Furthermore, participants were required to sign a consent form that outlines these details, ensuring that they have a documented understanding and agreement to participate in the research. This process upholds the ethical standards of research and respects the autonomy, and rights of all participants involved.

Pilot Study

In preparation for the main study, a pilot study for "Unveiling the Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies" was undertaken to assess and refine various aspects of the research design. This preliminary investigation served crucial roles in testing and refining research instruments, such as interview protocols or questionnaires, to identify and address any ambiguities or redundancies.

Additionally, procedural testing during the pilot study allowed for the evaluation of data collection methods, participant recruitment processes, and any experimental protocols, enabling the research team to make necessary adjustments for efficiency and effectiveness. Sampling considerations are assessed, ensuring the feasibility and accessibility of intended participants, while insights gained from the pilot study may lead to refinements in research questions or objectives. The feasibility of the overall research plan is evaluated, with a focus on identifying logistical challenges and addressing potential resource constraints. Ethical considerations, including informed consent processes and confidentiality measures, were scrutinized to ensure the protection of participants' rights and privacy.

Through this comprehensive pilot study, the researcher aimed to enhance the quality, validity, and reliability of the main study on elementary school teachers' experiences with questioning strategies.

Data Gathering Procedures

This method was applied following the completion of interviews, surveys, and focus group discussions. Using this data, the researcher categorized responses by themes for analysis. The researcher then identified the appropriate tools for data analysis and justified the participants' responses.

Following the process of interviews, surveys, and focus group discussions, the researcher embarked on a meticulous process of data analysis. Initially, the collected data were organized and transcribed to ensure clarity and accessibility. This involved converting audio or video recordings into text format and cleaning the data to remove any irrelevant or redundant information. Once the data were organized, the researcher categorized the responses by identifying recurring themes through a process known as coding. This involved assigning labels to segments of data that represent specific themes or concepts, which were then grouped into broader themes to identify patterns and insights.

To facilitate this analysis, the researcher utilized traditional manual methods such as color-coding or using index cards. The researcher then justified the participants’ responses through techniques like triangulation,

which involved cross-verifying data from multiple sources to ensure reliability and validity. Member checking was also utilized, where findings were shared with participants to confirm accuracy and interpretation. Additionally, contextual analysis was conducted to consider the context in which responses were given, providing a deeper understanding of the data.

Finally, the researcher interpreted and reported the findings through narrative analysis, crafting a coherent story that integrated the themes and insights derived from the data. The process concluded with drawing conclusions based on the analysis and provided actionable recommendations, ensuring that the data were systematically analyzed, and the findings were robust and credible.

Validity and Reliability

The reliability and validity of the study, "Unveiling the Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies," are pivotal considerations in ensuring the trustworthiness and accuracy of the research findings. Reliability is addressed through consistent and stable research methods, instruments, and data collection procedures. The study endeavors to establish a high level of consistency in its approach, such that if the research are to be conducted under similar conditions, it would yield comparable results. Measures to enhance reliability include meticulous planning of data collection, rigorous research design, and, if applicable, inter-rater reliability checks for qualitative data.

Validity, on the other hand, is maintained by ensuring that the study accurately measures the intended constructs and taps into the genuine experiences of elementary school teachers with questioning strategies. This involves aligning questions and methods with the specific aspects of questioning under investigation, conducting pilot testing to identify and address potential issues, and employing established instruments when applicable. Additionally, the study aims to demonstrate content validity, ensuring that the chosen instruments effectively capture the breadth and depth of the research questions. By upholding these principles of reliability and validity, the study aims to produce robust and credible findings that contribute meaningfully to the understanding of elementary teachers' lived experiences with questioning strategies.

Ethical Considerations

This section outlines how ethical considerations were managed during the research process. It included a discussion of the measures taken to protect the participants' rights and confidentiality, as well as any ethical approvals obtained from relevant research ethics committees.

Confidentiality of the study

Experience of Elementary School Teachers in the Art of Questioning Strategies is of paramount importance to uphold ethical standards and ensure the integrity of the research process. Participant identities were protected using pseudonyms or codes, preventing the disclosure of real names in any research outputs. Rigorous data security measures, including password protection and restricted access, were implemented to safeguard all collected information. The informed consent process was transparently communicated with these confidentiality measures, allowing participants to make informed decisions about their involvement. Reporting of study findings aggregated and anonymized data to present overarching trends and themes rather than individual responses, prioritizing the privacy of participants.

Compliance with the ethical guidelines of an Institutional Review Board ensured that the study design and procedures align with the highest standards of confidentiality. Access to identifiable participant information was limited to the core research team, and dissemination of results were conducted in a manner that preserves the anonymity of individual participants. By steadfastly adhering to these confidentiality protocols, the study sought to build trust, protect participant privacy, and contribute

ethically and responsibly to the understanding of elementary school teachers' experiences with questioning strategies.

CHAPTER 4
PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

In this chapter, the lived experiences of elementary school teachers in the art of questioning strategies are explored through the systematic presentation, analysis, and interpretation of the collected data. This chapter aims to provide a comprehensive understanding of how teachers utilize questioning strategies in their classrooms, highlighting both the challenges and successes they encounter. Drawing on data gathered from interviews, surveys, and focus group discussions, this chapter seeks to illuminate the various techniques and approaches teachers employ to enhance student engagement and learning.

The chapter begins by presenting the demographic profile of the participants, followed by an in-depth analysis of the qualitative data. The themes and patterns that emerged from the data are identified and explored, offering insights into the participants' perspectives and experiences. Each section of the analysis is supported by direct quotes and examples from the data, allowing the voices of the teachers to be heard. The interpretation of these findings is then discussed concerning the existing literature, highlighting how the study contributes to the broader understanding of effective questioning strategies in elementary education.

This chapter ultimately aims to provide valuable insights and implications for educators, policymakers, and researchers interested in improving teaching practices and student outcomes through effective questioning strategies.

I. Questioning Strategies in the Classroom: A Narrative Analysis

The use of questioning strategies plays a crucial role in shaping student learning. To explore the nuances of questioning techniques, a study was conducted to analyze the narratives of participants in a Participant training program. The participants' experiences revealed four distinct questioning themes:

Cognitive Depth and Engagement:

Participant A typically asked open-ended questions to encourage pupils to think more deeply about the issue. These questions start with ‘why’ or ‘how’ and require students to explain their reasoning or thought process. Participant A narrated *"I frequently use open-ended questions to encourage students to think more deeply about the subject matter. These questions often start with 'why' or 'how' and require students to explain their reasoning or thought process."*. For Participant B**,** *"I employ many probing questions, which help students elaborate on their initial responses. This type of questioning allows me to push students to provide more detailed answers and engage more thoroughly with the content."* This type of questioning pushes students to provide more detailed answers and engage more thoroughly with the content. Meanwhile, Participant D *explained “Madalas kong ginagamit ang mga tanong na may mataas na level ng pag-iisip na usually makikita sa Bloom’s Taxonomy, tulad ng mga tanong sa analysis, synthesis, at evaluation. Ang mga questions na ito ay mas lalong nakakapagpalalim sa pag-unawa ng mga mag-aaral, hindi lamang sa simple recall”.* (I often use higher-order thinking questions that align with Bloom's Taxonomy, such as analysis, synthesis, and evaluation questions. These questions challenge students to go beyond basic recall and encourage deeper understanding.) It is important to highlight that higher-order thinking questions (such as analysis, synthesis, and assessment questions) must relate to Bloom's Taxonomy, as they challenge students to go beyond basic memory and stimulate deeper knowledge.

Cognitive engagement refers to students' investment and interest in their learning, motivation to learn, goal setting, perception of relevance of learning, effort directed toward learning, and use of self-regulated learning strategies. Cognitive engagement is important because it influences students' academic and behavioral engagement, with students who are more cognitively engaged more likely to attend school regularly, complete coursework, earn credits, and achieve academically. Though cognitive engagement is a covert subtype of student engagement, meaning it is difficult to observe and measure directly, indicators may be detected indirectly through think-aloud, discussions with students, surveys or questionnaires, or written records. Indicators include valuing learning, demonstrating self-efficacy, setting personal mastery goals, attributing success to effort, investing time and effort into learning, and utilizing self-regulated learning strategies such as appraising tasks, planning, self-monitoring progress, and self-evaluating. Recognizing the indicators of cognitive engagement that are present and absent for students will help to identify students who would benefit from interventions and also inform the selection of appropriate interventions. Interventions may target students' motivation to learn and/or their ability to select and implement self-regulated learning strategies. This chapter discussed in greater detail the indicators and facilitators of cognitive engagement, the importance of cognitive engagement for students' school success, and strategies and interventions that promote cognitive engagement. (Strategies and Interventions for Promoting Cognitive Engagement, 2020)

Wait-Time and Reflection: Participant C preferred wait-time questioning strategies. After posing a question, they give students ample time to think about their responses before answering. Participant C claimed "*Gusto kong gumamit ng mga strategies sa pagtatanong na nagbibigay ng oras sa pag-iisip. Pagkatapos magtanong, binibigyan ko ang mga estudyante ng sapat na oras upang pag-isipan ang kanilang mga sagot bago sila sumagot. Ang pamamaraang ito ay nakakatulong sa lahat ng mga students, kabilang na ang mga nangangailangan ng mas mahabang oras upang mag process ng information" (I like to use wait-time questioning strategies. After posing a question, I give students ample time to think about their responses before they answer. This approach helps all students, including those who may need a little more time to process information.").* This strategy assists all learners, especially those who require additional time to comprehend information. Participant F recounted *"Sakin naman ay gumagamit ako ng mga questions para sa repleksyon sa pagtatapos ng mga aralin. Ang mga questions na ito ay nagpupush sa mga estudyante na mag-isip tungkol sa kanilang natutunan at kung paano nila ito magagamit sa iba't ibang context." (I utilize reflection questions at the end of lessons. These questions prompt students to reflect on what they have learned and how they can apply it in different contexts.")* These questions urge students to think about what they have learned and how they can apply it in different situations.

Wait time refers to two specific practices where instructors deliberately pause. First, wait time 1 constitutes a 3-5-second pause between asking a question and soliciting an answer. Second, wait time 2 is a 3-5 second pause after a student responds. This time provides students with time to think about the question and develop a response, either to the instructor's question or a peer's response. As a result, more students may be willing to answer the question, and responses may be more thoughtful. While this deliberate pause sounds simple to implement, many instructors have been habituated to resisting any silence in the classroom and may find it surprisingly difficult to enact this pause. (Dr. Pamela Takayoshi & Dr. Derek Van Ittersum, 2018)

Interactive Techniques and Participation:

Participant E stated, *"Socratic questioning is a strategy I use frequently. This involves asking a series of guided questions that lead students to discover answers on their own. Big help (siya) to develop critical*

thinking skills": The frequent use of Socratic questioning, which involves asking a series of guided questions that lead students to discover answers on their own, develops critical thinking skills. (1) Critical thinking is considered a fundamental skill in the 21st century, essential for problem-solving, decision-making, and effective communication. As the educational landscape evolves, fostering critical thinking in students has become increasingly important. Lintangsari, Emaliana, and Kusumawardani (2022) stated that, one effective way to nurture this skill is through discussions that stimulate curiosity and deeper engagement with the subject matter.

In traditional classroom settings, discussions often provide a platform for students to explored ideas, ask questions, and engage in critical analysis. However, the shift to online education has introduced new challenges. Various studies have indicated that students may struggle with online discussions due to factors such as a lack of face-to-face interaction, technological issues, and difficulty in maintaining focus and motivation in a virtual environment. These challenges can hinder students' ability to engage meaningfully and develop their critical thinking skills. (Lintangsari, A. P., Emaliana, I., & Kusumawardani, I. N. (2022). (2) furthermore, the observation that Socratic Questioning varies in difficulty is insightful and highlights its adaptability in addressing different student needs. This method's potential to enhance both speaking skills and critical thinking is significant, as it encourages deeper analysis and articulate expression. However, the challenges mentioned, such as self-confidence issues, limited grammar and vocabulary, and insufficient background knowledge, are important to acknowledge. These obstacles suggest the need for additional support and scaffolding to help students overcome these barriers and fully benefit from the Socratic approach. By addressing these challenges, Participants can create a more effective and supportive learning environment that maximizes the advantages of Socratic Questioning. (Manurung, Y. H., & Siregar, F. S. (2018, December)).

On the other hand, Participant G stated *"During group discussions, I use redirecting questions to ensure all students are participating. If one student answers, I might ask another student to add to the response or provide a different perspective."* The approach of using redirecting questions during group discussions is highly effective in ensuring active participation from all students. By prompting one student to add to another's response or offer a different perspective, you not only encourage a more inclusive dialogue but also deepen the level of critical thinking and engagement within the group. This technique helps students to build on each other's ideas, appreciate diverse viewpoints, and develop their analytical skills, ultimately leading to a richer and more collaborative learning experience.

The emphasis on using a variety of strategies to support student learning is crucial, and questioning, particularly redirecting questions, is a powerful tool in this regard. Research has consistently shown the positive impact of effective questioning techniques on student engagement and comprehension. Redirecting questions, in particular, not only promotes deeper thinking but also ensures that all students actively participate and feel included in the discussion. It's noteworthy that questioning is a common practice among Participants, underscoring its value and effectiveness in the educational process. By leveraging these strategies, Participants can create a more dynamic and interactive learning environment that fosters critical thinking and enhances overall student learning outcomes. (Cárdenas, Y. I. C. (2018).)

Participant J manifested *"Most of the time (halos ini-integrate ko ang paggamit ng) technology by using interactive questioning tools like Kahoot! and Google Forms – (halos madami na ang mga gumagamit nito para makapag) create (ng mga) quizzes and surveys. (Sa pamamagitan ng mga tools na ito), these make questioning more dynamic and engaging. Most of the time, I integrate the use of technology by using interactive questioning tools like Kahoot! and Google Forms—many people use these to create quizzes*

and surveys. With these tools, questioning becomes more dynamic and engaging". The integration of technology through interactive questioning tools like Kahoot! and Google Forms is an excellent way to make the learning process more dynamic and engaging. This approach not only enhances student participation but also provides instant feedback, which is invaluable for both students and Participants. The use of these tools can transform traditional questioning into an interactive and enjoyable experience, encouraging students to engage more actively and think critically. By incorporating such technology, Participants can create a more stimulating and effective learning environment that caters to diverse learning styles and keeps students motivated.

The gradual introduction of educational technology has significantly transformed the learning landscape, enhancing both the facilitation of learning and the improvement of outcomes. It has become integral to various aspects of education, including communication, information storage and transfer, and the use and production of audio-visual media. Additionally, technology has revolutionized knowledge sharing, making it more accessible and efficient. Its role has evolved from being a mere study tool to becoming a comprehensive approach, seamlessly integrated into educational practices. This evolution underscored the expanding potential of technology to enrich the educational experience and drive innovative teaching and learning methods. (Tuma, F. (2021).)

Furthermore, the integration of educational technology has revolutionized questioning strategies in classrooms by facilitating dynamic, interactive learning experiences. Tools like Kahoot, Google Forms, and other digital applications enable Participants to create engaging question-based activities that provide immediate feedback and assessment. This technology supports inclusive participation among students, encourages critical thinking, and accommodates diverse learning styles through customizable question formats and difficulty levels. By leveraging educational technology in questioning strategies, educators can foster deeper student engagement, enhance learning outcomes, and adapt teaching methods to better meet individual student needs.

Clarity and Real-World Relevance: Participant H said, "*Clarifying questions is essential in my classroom. They help students think more deeply about their responses and ensure they understand the material fully."* Clarifying questions plays a crucial role in the classroom by enhancing students' understanding and promoting deeper thinking. This perspective aligns with the findings of Aliannejadi et al. (2019), who explored the function of clarifying questions in open-domain information-seeking conversations.

In their study, Aliannejadi et al. (2019) highlighted that clarifying questions are instrumental in bridging knowledge gaps and facilitating effective communication. They emphasize that in information-seeking scenarios, these questions serve to refine and specify the information being sought, enabling a more precise and accurate understanding of the subject matter. Similarly, in an educational context, clarifying questions help students articulate their thoughts more clearly and critically evaluate their understanding of the material.

By integrating clarifying questions into classroom discussions, Participants can encourage students to engage with the content at a deeper level. These questions prompt students to reflect on their initial responses, consider alternative perspectives, and identify areas where their understanding may be incomplete. This process not only reinforces comprehension but also fosters critical thinking and problem-solving skills, as students learn to analyze and evaluate information more effectively.

Moreover, clarifying questions supports the development of metacognitive skills by encouraging students to monitor their understanding and identify when they need further clarification. This aligns with

Aliannejadi et al.'s (2019) findings that clarifying questions can guide individuals toward a more focused and informed inquiry, ultimately leading to a more comprehensive grasp of the topic at hand.

The Participant's emphasis on the importance of clarifying questions is well-founded and supported by research. By employing clarifying questions, educators can create a more interactive and engaging learning environment, where students are encouraged to think deeply, articulate their understanding, and develop essential cognitive skills. This approach not only enhances comprehension but also prepares students to navigate complex information and ideas effectively.

. Participant I responded "*Madalas gumagamit ako ng mga real-world problem-solving questions, lalo na sa math. These questions connect the lesson content sa real-life situations, which makes learning more relevant and talagang nakaka pag encourage sa mga students to engage actively.* (*I often use real-world problem-solving questions. These questions connect the lesson content to real-life situations, making learning more relevant and engaging for students.*) The Participant's use of real-world problem-solving questions, as stated, helps connect lesson content to everyday situations, enhancing student engagement and relevance. This approach aligns with the research by Yu, Fan, and Lin (2015), which explored the benefits of context-based learning in improving students' problem-solving skills. Their study highlights that integrating lesson content with real-world contexts makes learning more meaningful and engaging, as students can see the practical application of their knowledge. By presenting problems related to real-life scenarios, students are more motivated and better able to apply theoretical concepts to practical situations.

This method not only increases student interest but also fosters critical thinking and problem-solving abilities, as students are challenged to analyze and resolve complex issues. Context-based learning, as supported by Yu et al. (2015), effectively bridges the gap between academic content and real-life applications, leading to a deeper understanding and retention of knowledge. In summary, the Participant's strategy of using real-world problems is well-supported by research, as it enhances engagement, relevance, and the development of essential problem-solving skills.

The analysis of participant narratives illuminated the multifaceted nature of questioning strategies in the classroom. Each technique offers unique benefits and can significantly impact student learning outcomes. By adopting these questioning themes, Participants can foster critical thinking, encourage deeper understanding, and create an engaging and inclusive learning environment for all students.

Cultivating Cognitive Depth and Engagement: A Participant's Toolkit

Effective teaching isn't about simply delivering information; it's about igniting a spark of curiosity, nurturing critical thinking, and fostering a love of learning within students. This article explored key strategies employed by exemplary Participants to achieve this goal, focusing on the interconnected aspects of cognitive depth, engagement, and real-world relevance.

Cognitive Depth: Beyond Surface-Level Understanding. Participants like A, B, and D actively challenge students to move beyond rote memorization and delve into the 'why' and 'how' of concepts. Participant A encourages critical thinking in science by prompting students to analyze relationships within ecosystems. Asking 'Why do you think certain animals are found in specific habitats?' invites students to consider the complex interplay of factors that shape the natural world. Participant B reinforces mathematical understanding through metacognition. By asking students to explain their problem-solving process, they learn to articulate their reasoning and identify potential errors, strengthening their comprehension. Participant D promotes higher-order thinking in literature by requiring students to interpret texts beyond a literal level. Asking 'What do you think the author is trying to convey through this

character's actions?' encourages students to delve into themes, symbolism, and authorial intent. The Participant's approach of using open-ended questions, probing techniques, higher-order thinking questions, and real-world problem-solving aligns well with established educational research on effective questioning strategies.

Fatah, Suryadi, and Sabandar (2016) stated that open-ended questions play a crucial role in cultivating students' creative thinking and self-esteem. Their study highlights that questions beginning with "why" or "how" encourage students to explore their reasoning and elaborate on their responses, thereby fostering deeper cognitive engagement and creativity in problem-solving. Gillies (2016) further supports the use of dialogic interactions, including probing questions, in the cooperative classroom. This approach promotes meaningful discussions, allowing students to refine their answers and engage more deeply with the content. Probing questions facilitates a deeper exploration of students' initial responses, aligning with Gillies' emphasis on dialogic teaching to enhance understanding.

Additionally, Gozali et al. (2021) discussed the importance of Higher-Order Thinking Skills (HOTS) questions in challenging students to move beyond basic recall. By incorporating analysis, synthesis, and evaluation questions, Participants encourage students to develop a more profound understanding of the material, as highlighted in their study. The Participant's use of real-world problem-solving questions complements these strategies by making learning more relevant and engaging. Connecting lesson content to practical situations enhances student motivation and applies theoretical knowledge in meaningful contexts, as supported by these references.

The Participant's approach is well-justified by research, emphasizing that open-ended, probing, and higher-order thinking questions, along with real-world applications, effectively promote deeper understanding and engagement in students.

Wait-Time and Reflection: Contemplation for Deeper Learning.

Participants C and F recognized the importance of providing ample time for reflection, allowing students to formulate thoughtful responses and connect concepts. Participant C said, *"I like to use wait-time questioning strategies. After posing a question, I give students ample time to think about their responses before they answer. This approach helps all students, including those who may need a little more time to process information" (*Participant C utilizes wait time in history lessons, allowing students to grapple with complex events and their consequences. Asking 'How do you think this event impacted society at the time?' encourages students to consider multiple perspectives and develop nuanced interpretations). Participant F uttered**,** *"I utilize reflection questions at the end of lessons. These questions prompt students to reflect on what they have learned and how they can apply it in different contexts"* Participant F encouraged reflection by prompting students to connect historical events to contemporary issues. Asking 'How can we apply the lessons learned from this historical event to today's world?' facilitates deeper understanding and strengthens the relevance of historical study.

Yang (2017) explored various effective questioning strategies in the classroom, emphasizing the importance of wait time. , Yang, providing students with ample time to think after posing a question allows them to process information more thoroughly and formulate well-considered responses. This approach benefits all students, including those who may require additional time to process their thoughts. Wait time not only supports deeper cognitive engagement but also encourages more thoughtful and complete answers, as it allows students to reflect and articulate their understanding more effectively.

Chang (2019) highlighted the significance of reflection in learning. Reflection questions, used at the end of lessons, prompt students to consider what they have learned and how they can apply this knowledge in

various contexts. Chang's research underscored that reflection helps students consolidate their learning, make connections between new and existing knowledge, and enhance their ability to transfer skills to different situations. This practice fosters a deeper understanding of the material and supports the development of critical thinking and problem-solving skills. The Participant's strategies of using wait time to facilitate thoughtful responses and reflection questions to consolidate learning are well-supported by research. Yang (2017) demonstrated that wait time enhances the quality of student responses by allowing more time for processing, while Chang (2019) showed that reflection questions help students integrate and apply their learning more effectively. These strategies contribute to a more inclusive and engaging learning environment, ultimately enhancing student comprehension and application of knowledge.

Interactive Techniques and Participation: Engaging Minds, Fostering Collaboration.

Participants E, G, and J used diverse strategies to actively engage students in the learning process, encouraging participation and fostering a sense of ownership. The Participant uses Socratic questioning to guide discussion on government, prompting students to articulate their understanding and defend their viewpoints. Questions like 'What are the essential functions of government?' and 'Why do you think these functions are important?' stimulate critical thinking and active participation. Participant G ensures group participation through strategic redirection of questions. Asking 'Do you agree with that answer? Why or why not?' encourages students to engage with each other's ideas, fostering collaboration and peer learning**.** Participant J utilizes technology to create interactive learning experiences. Interactive quizzes like Kahoot! Make learning fun and engaging, encouraging active participation and promoting mastery of vocabulary.

The responses illustrate different questioning strategies and tools that enhance student engagement and critical thinking. Participant E's frequent use of Socratic questioning is a well-established strategy for fostering critical thinking skills. Wilberding (2021) stated that, the Socratic method is effective in encouraging students to engage in deep dialogue through a series of guided questions, allowing them to explored complex ideas and arrive at conclusions independently. This method cultivates an environment where students learn to question assumptions, articulate their thoughts, and develop problem-solving abilities. By guiding students to discover answers on their own, Socratic questioning enhances their analytical skills and promotes a deeper understanding of the subject matter.

Participant G's used of redirecting questions during group discussions is an effective way to promote active participation and inclusivity. Wangru (2016) highlighted that redirecting questions ensures all students are involved in the learning process by encouraging them to contribute additional insights or perspectives. This technique fosters a collaborative learning environment where students build on each other's responses and engage in meaningful dialogue. Redirecting questions also helps students develop critical thinking skills by encouraging them to consider diverse viewpoints and refine their understanding of the topic being discussed.

Participant J's integration of technology through tools like Kahoot! and Google Forms makes the questioning process more dynamic and engaging. Chaiyo and Nokham (2017) found that these interactive tools positively impact students' perceptions and engagement in the classroom. By providing immediate feedback and creating a gamified learning environment, these tools motivate students and enhance participation. Interactive questioning tools also offer diverse question formats that cater to different learning styles, allowing for real-time assessment and adaptation of instruction to meet students' needs. In summary, these questioning strategies and tools are supported by research and effectively promote student engagement, critical thinking, and active participation. Socratic questioning fosters deeper understanding,

redirecting questions ensures inclusivity and collaboration, and interactive tools make learning more engaging and adaptable.

Clarity and Real-World Relevance: Making Learning Meaningful

Participants H and I emphasized clarity and relevance by connecting concepts to students' own experiences and everyday life. Participant H responded, *"Clarifying questions is essential in my classroom. They help students think more deeply about their responses and ensure they understand the material fully."* The response promotes clarity in science by encouraging students to explain their understanding. Asking 'Can you clarify what you mean by that?' allows students to articulate their thoughts and identify any gaps in their understanding. Participant I said, *"Madalas gumagamit ako ng mga real-world problem-solving questions, lalo na sa math. These questions connect the lesson content sa real-life situations, which makes learning more relevant and talagang nakaka pag encourage sa mga students to engage actively*. *I often use real-world problem-solving questions. These questions connect the lesson content to real-life situations, making learning more relevant and engaging for students*. The response integrates real-world problem-solving** into money literacy lessons. Asking 'How would you budget your allowance for a month?' connects abstract concepts to practical situations, making learning more relevant and meaningful. The responses from Participant H and Participant I highlight the importance of questioning strategies in enhancing student learning and engagement. Participant H emphasized the role of clarifying questions in helping students think more deeply and ensuring they fully understand the material. This aligns with the findings of Aliannejadi et al. (2019), who discussed the significance of clarifying questions in open-domain information-seeking conversations. Their research demonstrates that clarifying questions help bridge knowledge gaps and refine understanding by prompting students to articulate their thoughts more clearly and critically evaluate their responses. By encouraging students to explore their reasoning, clarifying questions enhance comprehension and foster deeper cognitive engagement.

On the other hand, Participant I's use of real-world problem-solving questions connects lesson content to practical situations, making learning more relevant and engaging. Akben (2020) supports this approach by highlighting the positive effects of problem-posing on students' problem-solving skills and metacognitive awareness. By presenting students with real-world scenarios, Participants can enhance students' ability to apply theoretical knowledge in practical contexts, thereby promoting critical thinking and problem-solving skills. This connection to real-life situations motivates students and helps them see the value and applicability of their learning, leading to a more engaged and effective learning experience. These strategies demonstrate how effective Participants actively engage students in the learning process, fostering cognitive depth and real-world relevance. By encouraging critical thinking, reflection, and active participation, educators create a dynamic learning environment where students develop meaningful understanding, cultivate a love for learning, and prepare themselves to thrive in an ever-changing world.

II. Questioning Strategies: Adapting for Learning in Every Subject and Grade

Effective Participants are masters of the art of questioning. Their questions are not just random inquiries; they are carefully crafted tools designed to spark curiosity, promote critical thinking, and guide students toward deeper understanding. This article explored how Participants adapt their questioning strategies across different subjects and grade levels, demonstrating the versatility and importance of this pedagogical technique.

Subject-Specific Adaptation:

Participant A said, "*In math, I focus on procedural and conceptual questions to ensure students understand both the 'how' and the 'why' of problem-solving. In language arts, I use more inferential and analytical*

questions to develop students' reading comprehension and critical thinking", Participant A adapts questioning in math and language arts. Math focuses on procedural and conceptual questions. In language arts, inferential and analytical questions for reading comprehension and critical thinking. Participant A's approach to questioning strategies in math and language arts reflects a deep understanding of how different types of questions can foster distinct cognitive skills in students. In mathematics, focusing on both procedural and conceptual questions helps students grasp not only the mechanics of problem-solving but also the underlying principles behind the procedures. This dual focus is essential for developing a comprehensive understanding of mathematical concepts. Rittle-Johnson and Schneider (2015) pointed out that, integrating both procedural and conceptual knowledge in math education leads to improved student outcomes, as students learn to apply mathematical concepts flexibly and accurately. By ensuring students understand the "how" and "why," Participant A prepares them for more advanced problem-solving tasks.
In language arts, the use of inferential and analytical questions is crucial for developing reading comprehension and critical thinking skills. These types of questions encourage students to go beyond surface-level understanding and engage with texts more deeply. This approach is supported by the work of Murphy, Wilkinson, Soter, Hennessey, and Alexander (2009), who found that inferential questioning strategies significantly enhance students' critical thinking and comprehension abilities. By prompting students to infer meanings and analyze texts, Participants help them develop the ability to interpret and evaluate information critically. Participant A's strategies in both math and language arts are aligned with contemporary educational research, highlighting the importance of diverse questioning techniques to promote deeper learning and cognitive development in students.
Meanwhile, Participant B said, *"For science, I use inquiry-based questions that encourage students to explored and experiment. In social studies, I use more discussion-based questions that prompt students to think about historical events and their impact on society"*. It adjusts questioning for science and social studies. Participant B uses inquiry-based questions in science and discussion-based questions in social studies. Participant B's use of inquiry-based and discussion-based questions in science and social studies aligns with research that emphasized the importance of active learning strategies to enhance student engagement and understanding. In science education, inquiry-based questions encourage students to explore and experiment, fostering a hands-on approach that is vital for developing scientific thinking and skills. By prompting students to ask questions, form hypotheses, and conduct experiments, Participants help students construct their understanding of scientific concepts. This approach is supported by the work of Hmelo-Silver, Duncan, and Chinn (2007), who found that inquiry-based learning enhances students' critical thinking, problem-solving abilities, and content knowledge in science.
In social studies, discussion-based questions are instrumental in helping students understand historical events and their impact on society. Such questions encourage students to engage in dialogue, consider multiple perspectives, and develop a deeper understanding of historical contexts and their relevance to contemporary issues. This method aligns with research by Hess and McAvoy (2015), who highlighted that discussion-based teaching strategies in social studies promote civic engagement and critical thinking by allowing students to analyze and debate complex social issues. By employing these questioning strategies, Participant B not only enhances student comprehension but also fosters a classroom environment that supports inquiry, critical analysis, and active participation.
On the other hand, Participant E uttered, "*In language arts, I use a lot of text-based questions to encourage students to cite evidence from their reading. In math, I use problem-solving questions that require students to apply mathematical concepts to real-world scenarios."* Participant E's strategies in language arts and

math reflect an effective use of questioning techniques to deepen student learning and understanding. In language arts, the use of text-based questions that require students to cite evidence encourages close reading and critical analysis of texts. This approach aligns with Common Core State Standards, which emphasize the importance of students supporting their answers with evidence from the text. Research by Shanahan, Fisher, and Frey (2016) supports this method, demonstrating that text-dependent questioning enhances reading comprehension by prompting students to engage more deeply with the text and develop their analytical skills.

In math, the use of problem-solving questions that apply mathematical concepts to real-world scenarios helps students see the relevance of mathematics in everyday life. This approach encourages students to think critically and apply their knowledge in practical situations, fostering a deeper understanding of mathematical principles. Boaler (2016), problem-solving and real-world applications in math education enhance student engagement and improve mathematical proficiency by encouraging students to explore multiple solutions and strategies. Participant E's focus on text-based and problem-solving questions in language arts and math not only supports student learning but also encourages students to think critically and apply their knowledge in meaningful ways.

Grade-Level Differentiation:

Participant D responded "*For younger grades in science, I use more concrete questions related to observations and experiments. For older grades, I introduce more abstract questions that require critical thinking and hypothesis testing"*. The response adapts science questions for younger and older grades. Concrete questions for observations and experiments in younger grades, abstract questions requiring critical thinking in older grades. Participant D's approach to using questioning strategies in science education reflects an understanding of cognitive development and aligns with research on effective instructional practices. For younger grades, focusing on concrete questions related to observations and experiments is crucial as students at this stage benefit from hands-on experiences and tangible learning activities. Research by Kallery and Loupidou (2016), pointed out that young children learn best through direct interaction with their environment, which helps them develop basic scientific concepts and skills through observation and experimentation.

As the student progresses to older grades, introducing more abstract questions that require critical thinking and hypothesis testing aligns with their cognitive development, allowing them to engage in higher-order thinking. At this stage, students are better equipped to handle complex and abstract ideas, and questions that challenge them to hypothesize and test ideas encourage deeper understanding and scientific inquiry. A study by Koenig, Schenke, and Renshaw (2018) supported this approach, highlighting that abstract questioning promotes critical thinking and problem-solving skills, which are essential for advanced scientific learning.

By tailoring questioning strategies to match the cognitive development of students, Participant D effectively fosters a deeper understanding of scientific concepts and encourages the development of critical thinking skills in both younger and older students.

On the other hand, Participant I said, *"I use more interpretive and evaluative questions to develop higher-level thinking"*, emphasizing the various language arts questions for younger and older students. Direct and literal questions for foundational skills in younger students, interpretive and evaluative questions for higher-level thinking in older students. Participant I's use of interpretive and evaluative questions to develop higher-level thinking aligns with research emphasizing the importance of fostering critical thinking skills in students. Interpretive questions require students to go beyond surface-level

understanding and engage with the material in a way that promotes deeper comprehension and reflection. Evaluative questions, on the other hand, push students to assess and make judgments about information, which enhances their ability to think critically, and form reasoned opinions.

Research by Dinsmore and Alexander (2016) highlighted that students who engage with interpretive and evaluative questions develop a more profound understanding of content and are better able to apply knowledge in novel situations. These types of questions encourage students to analyze information, synthesize ideas, and evaluate evidence, which are crucial components of higher-level thinking. Additionally, a study by Zohar and Barzilai (2015) emphasized that teaching strategies incorporating higher-order questioning can significantly improve students' critical thinking skills, thereby preparing them for complex problem-solving and decision-making tasks.

By employing interpretive and evaluative questions, Participant I effectively promotes a learning environment that encourages students to develop higher-order thinking skills. This approach aligns with current educational research advocating for instructional practices that challenge students to think deeply and critically about the content they are learning.

Holistic Approach: Participant F uttered, "*In social studies, I use questions that encourage students to compare different historical events and perspectives. In science, I use questions that promote inquiry and investigation.*: Encourages comparison and critical thinking in social studies and promotes inquiry in science. Participant F's approach to using questions that encourage students to compare different historical events and perspectives in social studies and promote inquiry and investigation in science is well-supported by educational research. In social studies, questions that require students to compare and contrast historical events foster critical thinking and a deeper understanding of history by encouraging students to examine causes, consequences, and the interconnectedness of events. Schreiber and Valle (2019) stated that such questions help students develop a nuanced understanding of history, as they must evaluate multiple perspectives and consider the broader context of historical events. This approach not only enhances students' analytical skills but also promotes empathy and appreciation for diverse viewpoints.

In science, inquiry-based questions that promote investigation are essential for developing scientific literacy and fostering a sense of curiosity and exploration. Research by Zangori and Forbes (2016) highlighted the importance of using inquiry-based questioning strategies to engage students in the scientific process, encouraging them to ask questions, design experiments, and draw evidence-based conclusions. This method helps students develop critical thinking skills and a deeper understanding of scientific concepts by actively involving them in the learning process and encouraging them to think like scientists.

By integrating these questioning strategies, Participant F effectively fosters a learning environment that encourages students to think critically and engage deeply with the material, aligning contemporary educational practices that emphasize the importance of inquiry and analysis in both social studies and science education.

Meanwhile, Participant G said, "*For math, I use more structured questions to guide students through problem-solving steps. In language arts, I use more open-ended questions to encourage creative thinking and personal connections to the text.* Balances structured math questions with open-ended language arts questions. Participant G's approach of using structured questions in math to guide students through problem-solving steps and open-ended questions in language arts to encourage creative thinking and personal connections is well-supported by educational research. In mathematics, structured questions that

guide students through the problem-solving process are essential for building foundational skills and confidence. These questions help students understand the steps involved in solving problems and develop a logical approach to mathematics. Zazkis and Liljedahl (2020), structured questioning in math education provides students with a scaffolded learning experience that enhances their problem-solving abilities and mathematical reasoning. This method allows students to break down complex problems into manageable steps, promoting a deeper understanding of mathematical concepts and procedures.

In language arts, open-ended questions encourage students to think creatively and make personal connections to the text. These questions foster critical thinking and allow students to explore different interpretations and perspectives, enhancing their engagement and comprehension. Research by Newell, Bloome, and Hirvela (2019) emphasized the importance of open-ended questioning in language arts as it promotes higher-order thinking and allows students to express their ideas and insights creatively. By encouraging students to connect personally with the text, open-ended questions also help develop empathy and a deeper appreciation for literature.

By integrating these questioning strategies, Participant G effectively addresses the distinct needs of students in math and language arts, fostering both analytical and creative thinking skills. This approach aligns with contemporary educational practices that emphasize the importance of differentiated questioning strategies to support diverse learning objectives in different subjects.

Furthermore, Participant H responded, "*in science, I use hypothesis-driven questions that prompt students to make predictions and test their ideas. In social studies, I use questions that encourage critical thinking about historical events and their implications"*, Participant H uses hypothesis-driven science questions and encourages critical thinking in social studies. Participant H's strategy of using hypothesis-driven questions in science and critical thinking questions in social studies is well-grounded in contemporary educational research. In science education, hypothesis-driven questions encourage students to engage with the scientific method by making predictions and testing their ideas through experiments and observations. This approach not only enhances students' understanding of scientific concepts but also develops their ability to think critically and logically. Chin and Brown (2015) stated that encouraging students to formulate hypotheses and design experiments helps them develop a deeper understanding of scientific inquiry and fosters a more active and engaged learning environment.

In social studies, questions that promote critical thinking about historical events and their implications are crucial for developing students' analytical skills and understanding of complex social and political dynamics. By encouraging students to consider the causes and effects of historical events, Participants can help students develop a more nuanced understanding of history and its relevance to contemporary issues. VanSledright (2020) emphasized the importance of using questions that challenge students to think critically about historical narratives and consider multiple perspectives, thereby fostering a more comprehensive understanding of history and its implications.

Overall, Participant H's approach aligns with best practices in education that emphasize the importance of developing students' critical thinking skills through targeted questioning strategies. By using hypothesis-driven questions in science and critical thinking questions in social studies, Participant H effectively supports students' cognitive development and encourages them to engage deeply with the subject matter.

Problem-Solving and Analysis:

Participant J confidently stated, "*In math, I focus on questions that break down complex problems into manageable steps. In English, I use questions that encourage students to analyze characters, themes, and*

plot developments in the texts they read: Participant J Focused on breaking down complex math problems and analyzing literature in English.

Participant J's response emphasized the use of tailored questioning strategies to enhance student learning in different subject areas. In math, Participant J focused on questions that break down complex problems into manageable steps, a strategy supported by the research of Tchoshanov (2011), which highlighted the importance of scaffolding questions in mathematics. By deconstructing complex problems, Participants can guide students through the problem-solving process, helping them develop a systematic approach to tackling difficult tasks and building their confidence and competence in mathematics. This approach encourages analytical thinking and helps students understand the underlying principles of mathematical concepts. In English, Participant J used questions that encourage students to analyze characters, themes, and plot developments, fostering a deeper understanding of the text. Beach and Swiss (2016) pointed out that literature analysis questions enhance critical thinking by prompting students to engage with texts at a more sophisticated level, encouraging them to interpret and evaluate various literary elements. This questioning strategy helps students develop interpretive skills and a deeper appreciation for literature by connecting textual analysis to broader themes and real-world contexts. By employing subject-specific questioning techniques, Participant J effectively promotes critical thinking and comprehension across disciplines, fostering a more engaging and meaningful learning experience for students.

III. Adapting the Inquiry: How Participants Tailor Questions for Different Grade Levels

Effective questioning is a cornerstone of successful teaching. But what makes a question effective can vary significantly depending on the age and developmental stage of the students. This article examines how Participants adapt their questioning strategies across grade levels, drawing on participant narratives to illustrate key themes.

Foundational vs. Complex Questions:

Simple to Sophisticated: Participant A, *"Absolutely. With younger students, I use simpler, more direct questions to build their foundational skills. For older students, I use more complex, open-ended questions that challenge their critical thinking and problem-solving abilities",* Participant A's approach reflects a common practice – using simpler, direct questions for younger students ('What color is the apple?') and more complex, open-ended questions for older students ('How does the author's use of imagery affect the reader's understanding?'). This shift helps students grapple with increasingly nuanced concepts and develop higher-order thinking skills.

Participant A's response underscored the significance of tailoring questioning strategies to align with students' developmental stages and cognitive capabilities. For younger students, employing simpler, more direct questions is essential in building foundational skills. This approach allows students to gain confidence and competence in their learning by focusing on basic concepts and straightforward thinking. Supporting this strategy, Taboada Barber and Buehl (2016) emphasized that clear and direct questioning in early education helps young learners grasp essential skills and knowledge, providing a foundation for more complex learning in the future. As students mature, Participant A transitions to using complex, open-ended questions that foster critical thinking and problem-solving abilities. This aligns with the findings of Sari and Guven (2020), who demonstrate that open-ended questions promote higher-order thinking by encouraging students to explored multiple perspectives, formulate reasoned arguments, and engage in reflective thinking. By adapting questioning strategies to the developmental needs of students, Participants can effectively promote cognitive growth and create an environment that challenges students to deepen

their understanding and enhance their problem-solving skills. This differentiated approach supports a continuum of learning that evolves as students develop greater intellectual maturity.

Basic to Advanced: Participant B said, *"With lower grades, I focus on questions that help build basic comprehension and recall. With upper grades, I incorporate more analytical and evaluative questions that require deeper thought and understanding",* Participant B highlighted the progression from basic comprehension and recall questions ('Who were the main characters?') in lower grades to analytical and evaluative questions ('What is the author's message, and how is it conveyed?') in upper grades. This approach allows students to move beyond surface-level understanding and engage in critical analysis.

Participant B's response highlighted the necessity of adapting questioning strategies to meet the cognitive and developmental needs of students at different grade levels. In the lower grades, questions that emphasize basic comprehension and recall are essential for establishing a strong foundation of knowledge. These types of questions support the development of fundamental skills and ensure that students have a solid grasp of core concepts. Zohar and Barzilai (2015) stated that focusing on comprehension and recall questions in early education is crucial for building a base of knowledge upon which more complex understanding can be developed. This approach lays the groundwork for more advanced cognitive skills as students progress in their education. In the upper grades, Participant B shifted to incorporating more analytical and evaluative questions, which are essential for developing critical thinking and deeper understanding. This strategy is supported by the research of Yan et al. (2021), who found that analytical and evaluative questioning encourages students to engage in higher-order thinking processes, such as analysis, synthesis, and evaluation. These questions challenge students to think critically, make connections between ideas, and develop their reasoning skills. By employing differentiated questioning strategies, Participants can effectively support the cognitive development of students and foster an environment that encourages deeper learning and intellectual growth.

Concrete vs. Abstract Questions:

Visual to Conceptual: Participant D mentioned, "*For younger students, I use a lot of visual aids and ask questions that are directly related to what they see. For older students, I use questions that require them to infer and deduce information from their prior knowledge and the material presented*", Participant D's strategy demonstrated a shift from concrete, observable questions ('What do you see in the picture?') for younger students to questions requiring inference and deduction ('What can we infer about the character's emotions based on their actions?') for older students. This progression helps students develop their ability to interpret information and draw conclusions.

Participant D's approach highlighted the effective use of questioning strategies that are tailored to the cognitive development and learning needs of students across different age groups. For younger students, the use of visual aids combined with questions directly related to what they observe can significantly enhance comprehension and engagement. Visual aids serve as concrete references that help younger students make sense of new information, supporting their ability to process and retain knowledge. Moreno and Mayer (2016) pointed out that using visual aids in conjunction with targeted questions can aid in constructing mental models, thereby improving understanding and recall in young learners. This approach aligns with cognitive theories suggesting that visual learning is particularly beneficial for younger students who are still developing their verbal and abstract reasoning skills.

For older students, Participant D employs questions that require inference and deduction, encouraging them to draw on their prior knowledge and the material presented. This strategy aligns with the findings of Kaddoura (2019), who emphasized that inferential and deductive questioning promotes critical thinking

and deeper comprehension. By challenging students to connect new information with what they already know, Participants help students develop higher-order thinking skills, such as analysis and synthesis, which are crucial for advanced learning and problem-solving. This approach not only enhances students' ability to think critically but also prepares them for more complex cognitive tasks. By adapting questioning strategies to suit the developmental stages of learners, Participant D effectively fosters a learning environment that supports both foundational knowledge and advanced cognitive skills.

Factual to Abstract: Like Participant D, Participant E said, *"With younger students, my questions are more concrete and factual to help them build a solid knowledge base. With older students, I ask more abstract and open-ended questions to encourage higher-order thinking",* Participant E emphasized the move from factual questions ('What is the capital of France?') for younger students to questions encouraging abstract thinking ('How does the geographical location of a country influence its culture?') for older students. This approach builds a foundation of knowledge while fostering deeper understanding and critical analysis.

Participant E's approach to questioning strategies emphasized the importance of adapting questions to the developmental stages of students, thereby enhancing learning outcomes. For younger students, Participant E uses concrete and factual questions to help build a solid knowledge base. This approach is supported by the research of Robinson and Meyer (2019), who found that concrete questioning helps young learners establish a foundation of factual knowledge and understanding, which is essential for future learning. By focusing on direct and clear questions, Participants can ensure that younger students grasp fundamental concepts and develop confidence in their knowledge. Such an approach aligns with cognitive development theories that highlight the necessity of concrete experiences in early learning stages to facilitate comprehension and retention.

With older students, Participant E shifted to asking more abstract and open-ended questions that encourage higher-order thinking. This method is validated by the work of Gose (2016), who asserted that abstract and open-ended questions promote critical thinking and creativity by requiring students to analyze, synthesize, and evaluate information. These questions encourage students to explore different perspectives, form their own opinions, and engage in reflective thinking. By challenging students with complex questions, Participants can foster an environment that supports cognitive growth and intellectual curiosity. This strategy not only develops students' ability to think critically but also prepares them for more advanced academic and real-world problem-solving situations. Overall, Participant E's differentiated questioning strategies effectively support cognitive development by providing a continuum of learning experiences that evolve with the student's abilities.

Guided vs. Independent Questioning:

Scaffolding to Independence: Participant F stated, "*I use more guided and scaffolded questioning with younger students to support their learning. With older students, I use more independent and challenging questions to foster their critical thinking and problem-solving skills*", Participant F exemplifies the importance of scaffolding with guided questions for younger students ('What are some reasons why the character might be feeling sad?') and then transitioning to more independent and challenging questions ('How would you describe the character's emotional arc throughout the story?') for older students. This gradual release of responsibility allows students to become more self-directed learners.

Participant F's approach to questioning strategies reflected a thoughtful adaptation to the developmental needs of students across age groups, effectively supporting their cognitive growth and learning. For younger students, the use of guided and scaffolded questioning is crucial in providing the support needed

to build foundational knowledge and skills. This strategy is supported by the research of Chiu (2016), who emphasized that scaffolded questioning helps young learners by gradually increasing the complexity of questions, allowing students to develop confidence and competence as they acquire new knowledge. Scaffolding provides a structured learning environment where students can build on prior knowledge and gradually develop their understanding, fostering a supportive atmosphere for cognitive development.

With older students, Participant F employs more independent and challenging questions to promote critical thinking and problem-solving skills. This approach aligns with the findings of Saeed and Zyngier (2018), who found that challenging, open-ended questions encourage students to engage in higher-order thinking processes, such as analysis, synthesis, and evaluation. By encouraging students to think independently and tackle complex problems, Participants help students develop the skills necessary to navigate academic challenges and real-world issues. This method not only enhances critical thinking but also fosters self-reliance and confidence in students' abilities to explore and solve problems independently. Participant F's use of differentiated questioning strategies effectively supports a continuum of learning experiences that align with students' developmental stages, promoting both foundational knowledge and advanced cognitive skills.

Basic to Critical: Participant G responded, *"For primary grades, I use simple, direct questions to ensure understanding of basic concepts. For intermediate grades, I use more complex questions that require students to apply their knowledge and think critically*", Participant G emphasized the need to ensure understanding of basic concepts with simple questions ('What is the difference between a noun and a verb?') for primary grades, but then introduces more complex questions requiring critical thinking ('How does the author use figurative language to create a specific effect?') for intermediate grades.

Participant G's approach to questioning strategies highlighted the importance of adjusting questioning techniques to meet the developmental needs of students across different grade levels. For primary grades, using simple and direct questions is crucial for ensuring that students understand basic concepts. This method is supported by the research of Alsaid and Saleh (2017), who found that straightforward questioning helps young learners solidify their foundational knowledge and facilitates their ability to comprehend and retain essential information. By focusing on clear and direct questions, Participants can create an environment where young students feel confident in their understanding and are better able to engage with the material.

For intermediate grades, Participant G employs more complex questions that challenge students to apply their knowledge and think critically. This strategy aligns with the findings of Pede (2017), who emphasized that complex questioning encourages students to engage in higher-order thinking by requiring them to analyze, synthesize, and evaluate information. These types of questions stimulate critical thinking and problem-solving skills by prompting students to make connections between different concepts and apply their understanding in new contexts. By transitioning from simple to complex questioning as students' progress through grade levels, Participants can effectively support cognitive development and foster a deeper understanding of the material. Participant G's differentiated approach to questioning not only builds foundational skills but also promotes intellectual growth and prepares students for more advanced academic challenges.

Recall vs. Application/Analysis Questions:

From remembering to applying: Participant H uttered, *"In early elementary, I used a lot of recall and recognition questions. As students get older, I use more application and analysis questions to deepen their understanding and encourage independent thinking,"* Participant H demonstrates the shift from recall and

recognition questions ('What is the definition of photosynthesis?') in early elementary to application and analysis questions ('How does photosynthesis contribute to the cycle of life?') as students mature. This progression helps students move beyond rote memorization and apply their knowledge to real-world situations.

Participant H's approach to questioning strategies reflects a developmental understanding of how questioning can enhance learning by catering to the cognitive growth of students at different educational stages. In early elementary, employing recall and recognition questions is critical for helping young learners solidify their foundational knowledge. This technique is supported by research of Bermejo, de la Mata, and Lopez-Serrano (2017), who found that questions focusing on recall and recognition are effective in reinforcing memory and ensuring that students grasp basic concepts. By using these types of questions, Participants help students build a strong knowledge base, which is essential for future learning.

As students progressed, Participant H shifted to using application and analysis questions, which are instrumental in deepening understanding and fostering independent thinking. This strategy is aligned with the findings of Anderson and Krathwohl (2016), who emphasized that application and analysis questions encourage students to engage in higher-order thinking by requiring them to apply what they have learned to new situations and analyze complex information. By incorporating these more challenging questions, Participants can promote critical thinking and problem-solving skills, encouraging students to become more autonomous in their learning process. This approach not only aids in developing deeper comprehension but also prepares students for more advanced academic tasks by cultivating their ability to think independently and critically. Overall, Participant H's use of differentiated questioning strategies effectively supports cognitive development and enhances learning outcomes across different educational stages.

Understanding to Synthesis: Participant I, *"With younger students, I ask more questions that check for basic understanding and recall. With older students, I ask questions that require them to synthesize information and make connections between different concepts,"* Participant I's approach focuses on checking basic understanding and recall ('What are the key events in the story?') for younger students while asking questions that synthesize information and connect concepts ('How does the character's actions in the story reflect the theme of perseverance?') for older students. This approach fosters deeper understanding and encourages critical thinking.

Participant I's approach to questioning strategies highlighted the importance of adapting questions to suit the cognitive development of students across different age groups. For younger students, asking questions that check for basic understanding and recall is essential for building a strong foundation of knowledge. This approach is supported by research of Chi et al. (2018), who found that recall questions help reinforce memory retention and ensure that students grasp fundamental concepts. These types of questions provide students with the opportunity to practice retrieving information, which is crucial for establishing a solid base of factual knowledge.

As students mature, Participant I transitions to asking questions that require synthesis and the making of connections between different concepts. This strategy aligns with the findings of Merritt et al. (2017), who emphasized that synthesis questions promote higher-order thinking by encouraging students to integrate information from multiple sources and apply it to novel situations. By challenging older students with questions that require them to analyze and combine ideas, Participants can foster critical thinking and problem-solving skills. These questions not only deepen students' understanding of the material but also help them develop the ability to think independently and make informed decisions. Overall, Participant I's

differentiated questioning strategies effectively support the cognitive development of students by providing appropriate challenges that align with their developmental stages, thereby enhancing learning outcomes.

Confidence Building vs. Critical Thinking:

Foundation to Exploration*:* Participant J responded, *"For younger grades, I use more straightforward, concrete questions to build their confidence and understanding. For older grades, I use more challenging questions that encourage them to think critically and explored different perspectives,"* Participant J effectively builds confidence and understanding in younger grades through straightforward, concrete questions ('What is the main idea of this paragraph?') and then encourages critical thinking and exploration of different perspectives in older grades ('What are the potential consequences of the character's actions, and how might different perspectives influence our interpretation?'). This approach focuses on both fostering a positive learning environment and developing higher-level thinking skills.

Participant J's approach to questioning strategies emphasized the importance of tailoring questions to the developmental stages of students, thereby enhancing their learning experiences. For younger graders, using straightforward and concrete questions is crucial for building confidence and understanding. This approach is supported by the research of Liu and Chai (2019), who found that clear, simple questions help young learners solidify foundational knowledge and encourage active participation. These types of questions provide students with the opportunity to engage with the material in a manner that is accessible and comprehensible, fostering a sense of achievement and boosting their confidence in learning.

As students progress to older grades, Participant J shifts to using more challenging questions that encourage critical thinking and exploration of different perspectives. This strategy aligns with the findings of King and McInerney (2016), who emphasize that complex, thought-provoking questions stimulate higher-order thinking by prompting students to analyze information, evaluate different viewpoints, and synthesize ideas. By exposing students to questions that require deeper analysis and critical reflection, Participants can promote intellectual curiosity and independent thinking. These questions not only deepen students' understanding of the subject matter but also prepare them for complex problem-solving and decision-making tasks in real-world contexts. Participant J's differentiated approach to questioning effectively supports cognitive development by providing appropriate challenges that foster both foundational knowledge and advanced cognitive skills.

These participant narratives demonstrate the key principles of adapting questioning strategies for different grade levels. Effective Participants recognize that questions are not one-size-fits-all. They carefully tailor their questioning approaches to match the developmental stage of their students, moving from foundational to complex, concrete to abstract, guided to independent, recall to application/analysis, and confidence-building to critical thinking. This thoughtful approach ensures that all students are engaged in meaningful learning experiences that support their growth and success.

IV. Addressing Challenges in Implementing Questioning Strategies

Enhancing student engagement and participation through questioning strategies is a multifaceted endeavor. Participants face diverse challenges in this process, which can be grouped into several key themes based on their narratives.

Student Engagement and Participation:

Ensuring Equal Participation: Participants strive to create an inclusive environment where all students feel comfortable contributing, regardless of personality or prior knowledge. Participant A said, *"One challenge is ensuring that all students feel comfortable participating. Some students may be shy or hesitant*

to speak up, so I need to create a safe and supportive environment where everyone feels encouraged to share their thoughts, ensuring all students feel comfortable participating.

Participant A highlighted a significant challenge in implementing effective questioning strategies: ensuring that all students feel comfortable participating. This challenge is particularly pronounced in classrooms where students may be shy or hesitant to speak up. Participant A's approach to overcoming this challenge involves creating a safe and supportive environment where every student feels encouraged to share their thoughts. It underscored the importance of fostering a classroom atmosphere that promotes student engagement and participation. Dörnyei and Muir (2019) stated that creating a motivating classroom environment is crucial for encouraging student involvement. They emphasize that a supportive atmosphere can significantly enhance students' willingness to participate, thereby improving the overall effectiveness of questioning strategies. Participant A's strategy aligns with Dörnyei and Muir's (2019) recommendations by focusing on the emotional and psychological safety of students. By ensuring that students feel valued and respected, Participants can mitigate the reluctance some students may feel about participating in class discussions. This approach not only addresses the immediate challenge of student participation but also contributes to a more inclusive and dynamic learning environment.

Participant A's experience highlighted the critical role of a supportive classroom environment in the successful implementation of questioning strategies. By prioritizing student comfort and encouragement, Participants can create a more engaging and effective educational experience.

Balancing Participation: Managing the flow of discussion to ensure quieter students have opportunities to participate without being overshadowed by more vocal peers. Participant G responded, *"Some students may dominate the conversation, making it hard for quieter students to participate. I need to find ways to balance participation and ensure that all voices are heard."* Emphasized balancing participation so that quieter students have a chance to contribute.

Participant G identifies a common challenge in classroom dynamics: the tendency for some students to dominate conversations, which can hinder quieter students from participating. This issue necessitates finding strategies to balance participation and ensure that all voices are heard. This challenge is well-documented in educational research. Sedova and Navratilova (2020) explored the participation patterns of silent students in classroom discussions. They highlight that quieter students often struggle to contribute to environments where more vocal students dominate. This imbalance can lead to a less inclusive classroom atmosphere and limit the overall effectiveness of questioning strategies.

Participant G's approach to addressing this challenge involves actively seeking ways to balance participation. This might include techniques such as structured turn-taking, using small group discussions, or implementing specific questioning techniques that encourage quieter students to speak up. By doing so, Participant G aims to create a more equitable environment where every student has the opportunity to contribute.

Sedova and Navratilova (2020) emphasize that recognizing and addressing the participation patterns of silent students is crucial for fostering an inclusive classroom. Participant G's efforts to balance participation align with these findings, highlighting the importance of intentional strategies to ensure all students are heard.

Participant G's experience underscored the need for deliberate efforts to balance classroom participation. By implementing strategies that encourage quieter students to engage, Participants can create a more inclusive and effective learning environment, as supported by the research of Sedova and Navratilova (2020).

Differentiation and Varying Student Needs:

Tailoring Questions: Adjusting the complexity and level of questions to accommodate diverse understanding levels among students. Participant B uttered, *"Differentiating my questions to meet the diverse needs of my students can be challenging. I have to consider their varying levels of understanding and tailor my questions accordingly to ensure everyone is engaged and learning."*, it emphasized tailoring questions to meet diverse student understanding levels.

Participant B highlighted a significant challenge in the art of questioning: differentiating questions to meet the diverse needs of students. This involves considering the varying levels of understanding among students and tailoring questions accordingly to ensure that everyone is engaged and learning. This challenge is well-supported by educational research. Tomlinson and Imbeau (2023) discussed the complexities of leading and managing a differentiated classroom. They emphasize that differentiation is essential for addressing the diverse needs of students, which includes varying their questioning strategies to cater to different levels of understanding and learning styles.

Participant B's approach to differentiation involves a thoughtful consideration of each student's unique needs. This might include using a range of question types, from simple recall questions for those who need more support to higher-order thinking questions for advanced learners. By doing so, Participant B aims to create an inclusive learning environment where all students can participate meaningfully. Tomlinson and Imbeau (2023) highlight that effective differentiation requires ongoing assessment and adjustment. Participant B's strategy aligns with this by continuously evaluating student responses and adapting questions to better meet their needs. This dynamic approach ensures that questioning strategies remain effective and inclusive.

Participant B's experience underscored the importance of differentiation in questioning strategies. By tailoring questions to meet the diverse needs of students, Participants can enhance engagement and learning for all. This approach is supported by Tomlinson and Imbeau's (2023) research on managing a differentiated classroom, which emphasized the need for flexibility and responsiveness in teaching practices.

Striking a Balance: Finding the appropriate balance between challenging students and overwhelming them with overly complex questions. Participant, I said, *"Creating questions that are both challenging and appropriate for the student's level can be difficult. I need to strike the right balance to keep students engaged without overwhelming them."* Striking the right balance between challenging questions and not overwhelming students.

Participant I identifies a critical challenge in the art of questioning: creating questions that are both challenging and appropriate for the student's level. This involves striking the right balance to keep students engaged without overwhelming them. This challenge is well-documented in educational research. Barkley and Major (2020) discussed various student engagement techniques and emphasize the importance of crafting questions that stimulate critical thinking while being accessible to all students. They highlight that questions should be designed to challenge students just enough to promote engagement and learning without causing frustration or disengagement.

Participant I's approach to addressing this challenge involves carefully considering the difficulty level of questions. This might include using scaffolding techniques, where questions gradually increase in complexity, or differentiating questions based on individual student needs. By doing so, Participant I aims to maintain a balance that keeps all students actively involved in the learning process. Barkley and Major (2020) emphasize that effective questioning requires a deep understanding of a student's current

knowledge and abilities. Participant I's strategy aligns with this by continuously assessing student responses and adjusting questions to ensure they are appropriately challenging. This dynamic approach helps to create a stimulating and supportive learning environment.

Participant I's experience highlighted the importance of balancing question difficulty to enhance student engagement. By carefully crafting questions that are both challenging and appropriate, Participants can foster a more effective and inclusive learning experience. This approach is supported by Barkley and Major's (2020) research on student engagement techniques, which underscored the need for thoughtful and responsive questioning strategies.

Time Management and Curriculum Coverage:

Managing Depth: Engaging students in deep and meaningful questioning within the constraints of limited class time. Participant C, *"Time management is a significant challenge. Deep, meaningful questioning can take up a lot of class time, and balancing this with the need to cover the curriculum can be difficult."*: Managing deep, meaningful questioning within limited class time.

Participant C highlighted a significant challenge in the art of questioning: time management. Deep, meaningful questioning can consume a substantial amount of class time, making it difficult to balance this with the need to cover the curriculum. This challenge is well-documented in educational research. Pollock and Tolone (2020) discussed strategies for improving student learning and emphasize the importance of effective time management in the classroom. They highlight that while deep questioning is essential for fostering critical thinking and deeper understanding, it must be balanced with the practical constraints of curriculum coverage.

Participant C's approach to addressing this challenge involves finding a balance between engaging students in meaningful discussions and ensuring that all necessary content is covered. This might include integrating questioning strategies into various parts of the lesson, using quick formative assessments to gauge understanding, or prioritizing key concepts that require deeper exploration. Pollock and Tolone (2020) emphasize that effective time management involves strategic planning and flexibility. Participant C's strategy aligns with this by continuously evaluating the effectiveness of questioning techniques and adjusting the pace of lessons as needed. This dynamic approach helps to ensure that both deep learning and curriculum requirements are met.

Participant C's experience underscored the importance of balancing deep questioning with curriculum coverage. By strategically managing class time and integrating questioning throughout the lesson, Participants can create a more effective and engaging learning environment. This approach is supported by Pollock and Tolone's (2020) research on improving student learning, which highlighted the need for thoughtful and responsive time management in teaching practices.

Assessing Effectiveness: Evaluating the efficacy of questioning techniques while simultaneously covering the curriculum efficiently. Participant H manifested, *"Assessing the effectiveness of my questioning strategies in real-time can be challenging. I must be constantly aware of how students respond and adjust on the fly to ensure they are understanding the material."*: Assessing questioning effectiveness in real-time while covering the curriculum.

Participant H highlighted a significant challenge in the art of questioning: assessing the effectiveness of questioning strategies in real time. This requires constant awareness of student responses and the ability to make immediate adjustments to ensure comprehension. This challenge is well-documented in educational research. Fuller and Dawson (2017) discussed the use of student response systems for formative assessment, emphasizing the importance of real-time feedback in the classroom. They

highlighted that effective formative assessment involves continuously monitoring student understanding and making on-the-fly adjustments to teaching strategies.

Participant H's approach to addressing this challenge involves being highly attentive to student reactions and responses during questioning. This might include observing body language, facial expressions, and the quality of student answers to gauge understanding. By doing so, Participant H can identify when students are struggling and adjust questions or explanations accordingly. Fuller and Dawson (2017) emphasize that student response systems can be a valuable tool for real-time assessment. These systems allow Participants to quickly gather and analyze student responses, providing immediate insights into student comprehension. While Participant H may not explicitly mention using such systems, the underlying principle of real-time assessment remains crucial.

In practice, Participant H's strategy involves a dynamic and responsive approach to questioning. This includes being prepared to rephrase questions, provide additional context, or offer hints to guide students toward the correct understanding. By maintaining this level of flexibility, Participant H ensures that questioning strategies remain effective and that all students are supported in their learning. Participant H's experience underscored the importance of real-time assessment in the effective implementation of questioning strategies. By continuously monitoring student responses and making necessary adjustments, Participants can enhance student understanding and engagement. This approach is supported by Fuller and Dawson's (2017) research on formative assessment, which highlighted the value of real-time feedback in improving student learning outcomes.

Elaboration and Depth of Responses:

Encouraging Elaboration: Guiding students to provide more detailed and thoughtful responses that demonstrate a deeper understanding of concepts. Participant D, *"Sometimes, students give very brief or surface-level answers and getting them to elaborate and think more deeply can be challenging. I must use follow-up questions effectively to draw out more detailed responses."*: Encouraging students to elaborate and think more deeply beyond brief answers.

Participant D identifies a common challenge in the art of questioning: students often provide brief or surface-level answers, making it difficult to encourage deeper thinking and more detailed responses. To address this, Participant D emphasized the importance of using follow-up questions effectively. This challenge is well-documented in educational research. Chiles (2023) discussed strategies for powerful questioning, highlighting the role of follow-up questions in improving learning and retention. Chiles emphasized that follow-up questions are essential for prompting students to think more deeply and articulate their thoughts more fully.

Participant D's approach involves carefully crafting follow-up questions that encourage students to expand on their initial responses. This might include asking students to explain their reasoning, provide examples, or consider alternative perspectives. By doing so, Participant D aims to move students beyond surface-level answers and engage them in more meaningful discussions. Chiles (2023) underscored that effective follow-up questions should be open-ended and thought-provoking. They should challenge students to reflect on their answers and explore the underlying concepts in greater depth. Participant D's strategy aligns with this by focusing on questions that require students to elaborate and justify their responses.

In practice, Participant D's use of follow-up questions involves a dynamic and responsive approach. This includes being attentive to student answers and ready to probe further when responses are brief or superficial. By maintaining this level of engagement, Participant D ensures that questioning strategies are effective in promoting deeper understanding and critical thinking. Participant D's experience highlighted

the importance of follow-up questions in addressing the challenge of brief or surface-level student responses. By using follow-up questions strategically, Participants can encourage students to think more deeply and provide more detailed answers. This approach is supported by Chiles' (2023) research on powerful questioning, which emphasized the role of follow-up questions in enhancing learning and retention.

Handling Incorrect Answers: Creating a positive atmosphere where incorrect answers are seen as learning opportunities rather than discouragements. Participant E, *"Another challenge is dealing with incorrect answers. It's important to handle these situations in a way that encourages students to keep trying and not feel discouraged, which can be tricky.":* Handling incorrect answers to encourage persistence without discouragement.

Participant E highlighted a significant challenge in the art of questioning: dealing with incorrect answers. Handling these situations in a way that encourages students to keep trying and not feel discouraged can be tricky but is crucial for maintaining a positive learning environment. This challenge is well-documented in educational research. Doyle (2023) discussed strategies for facilitating learning in a learner-centered environment, emphasizing the importance of how Participants respond to incorrect answers. Doyle highlighted that the way Participants handle mistakes can significantly impact students' willingness to participate and their overall learning experience.

Participant E's approach involves creating a supportive atmosphere where incorrect answers are seen as learning opportunities rather than failures. This might include providing constructive feedback, asking follow-up questions to guide students toward the correct answer, and reinforcing the idea that making mistakes is a natural part of the learning process.

Doyle (2023) underscored that effective handling of incorrect answers involves maintaining a balance between correction and encouragement. Participants should aim to correct misconceptions without discouraging students. This can be achieved by acknowledging the effort, providing hints or partial credit, and encouraging students to think critically about their responses.

In practice, Participant E's strategy involves being mindful of the language and tone used when addressing incorrect answers. This includes avoiding negative or dismissive comments and instead focusing on positive reinforcement and constructive guidance. By doing so, Participant E ensures that students remain motivated and engaged, even when they make mistakes.

Participant E's experience highlighted the importance of handling incorrect answers in a way that encourages continued effort and participation. By creating a supportive and constructive environment, Participants can help students view mistakes as valuable learning opportunities. This approach is supported by Doyle's (2023) research on learner-centered environments, which emphasized the need for thoughtful and encouraging responses to student errors.

Attention and Focus:

Sustaining Engagement: Maintaining the attention and interest of younger students during questioning sessions. Participant F, *"Keeping students focused and on-task during questioning sessions can be difficult, especially with younger students who have shorter attention spans. I must find ways to keep them engaged and interested.":* Keeping younger students engaged during questioning sessions.

Participant F highlighted a significant challenge in the art of questioning: keeping students focused and on-tasking during questioning sessions, particularly with younger students who have shorter attention spans. This requires finding effective ways to keep them engaged and interested. This challenge is well-documented in educational research. Gregory and Kaufeldt (2015) discussed strategies for improving

student attention, engagement, and perseverance in their work, "The Motivated Brain." They emphasize that maintaining student engagement is crucial for effective learning, especially for younger students who are more prone to distractions.

Participant F's approach to addressing this challenge involves using a variety of techniques to capture and maintain students' attention. This might include incorporating interactive and hands-on activities, using visual aids, and varying the types of questions to keep the sessions dynamic and interesting. By doing so, Participant F aims to create an engaging learning environment that holds students' attention. Gregory and Kaufeldt (2015) highlight that the brain's natural curiosity can be harnessed to improve attention and engagement. They suggest that Participants can use novelty, choice, and relevance to make learning more appealing. Participant F's strategy aligns with these recommendations by focusing on making questioning sessions interactive and relevant to the students' interests and experiences.

In practice, Participant F's approach involved being attentive to the student's responses and adjusting the questioning techniques as needed to maintain engagement. This might include breaking up longer questioning sessions with short, interactive activities or using storytelling to make the questions more relatable and interesting.

Participant F's experience underscored the importance of keeping students engaged and focused during questioning sessions. By using a variety of techniques to capture and maintain attention, Participants can create a more effective and enjoyable learning experience. This approach is supported by Gregory and Kaufeldt's (2015) research on improving student attention and engagement, which emphasized the need for dynamic and interactive teaching strategies.

Critical Thinking Transition:

Fostering Critical Thinking: Gradually transitioning students from rote learning to higher-order thinking skills through questioning techniques. Participant J, *"Encouraging critical thinking in students who are used to rote learning can be challenging. I need to gradually build their confidence and skills in answering open-ended and higher-order questions.":* Gradually fostering critical thinking skills in students accustomed to rote learning.

Participant J highlighted a significant challenge in the art of questioning: encouraging critical thinking in students who are accustomed to rote learning. This involves gradually building their confidence and skills in answering open-ended and higher-order questions. This challenge is well-documented in educational research. Gee (2023) explored the use of questioning in the classroom to stimulate critical thinking, emphasizing the difficulties Participants face when transitioning students from rote learning to more analytical and evaluative thinking. Gee highlighted that students who are used to memorization and recall often lack the confidence and skills needed to tackle open-ended questions.

Participant J's approach to addressing this challenge involved a gradual and supportive method. This might include starting with simpler open-ended questions and progressively introducing more complex, higher-order questions as students become more comfortable. By doing so, Participant J aims to build students' confidence and critical thinking skills incrementally. Gee (2023) underscored that fostering critical thinking requires patience and persistence. Participants need to provide continuous encouragement and constructive feedback to help students develop these skills. Participant J's strategy aligns with this by focusing on gradual skill-building and consistent support.

In practice, Participant J's approach involved creating a classroom environment where students feel safe to take risks and make mistakes. This includes praising effort and improvement, providing specific feedback on how to enhance their responses, and modeling critical thinking through think-aloud strategies.

By maintaining a supportive atmosphere, Participant J helps students transition from rote learning to more sophisticated thinking processes. Addressing these challenges requires Participants to be reflective practitioners who continually adapt and refine their questioning strategies. By understanding these common themes, educators can better prepare for and overcome the obstacles that arise in implementing effective questioning in their classrooms.

Participant J's experience highlighted the importance of gradually building students' confidence and skills in critical thinking. By using a supportive and incremental approach, Participants can help students move beyond rote learning and engage more deeply with open-ended and higher-order questions. This approach is supported by Gee's (2023) research, which emphasized the need for patience and persistence in fostering critical thinking in the classroom.

Exploring the Challenges of Questioning Strategies: Situations Where They Fall Short

Questioning strategies are indispensable tools in the hands of educators, fostering critical thinking, comprehension, and engagement among students. However, these strategies don't always yield the expected results. This article delves into the participants' narratives, uncovering the underlying reasons for these failures and identifying possible themes based on their experiences.

Lack of Context and Background. Open-ended questions proved ineffective when students lacked the necessary context or background knowledge to provide meaningful answers. Participant A encountered this challenge, leading to brief and confusing responses. Ensuring adequate contextualization and scaffolding is crucial to support students in providing informed contributions. Participant A, *"Once, I asked an open-ended question during a science lesson expecting a range of responses, but the students gave very brief answers and seemed confused. I realized I hadn't provided enough context or background information for them to answer thoughtfully."*: Open-ended questions led to brief answers and confusion due to insufficient context.

Participant A's experience revealed that even well-intentioned open-ended questions can fall short if students are not sufficiently prepared to engage with them. This aligns with the findings of Saxton, Miller, Laidlaw, and O'Mara (2018), who emphasized the importance of scaffolding in the questioning process to enhance student understanding and engagement. Participant A's experience illustrates a common pitfall in questioning strategies: the assumption that students possess the requisite background knowledge to respond effectively. The brief and confused responses from students indicate a gap in their understanding, which can be attributed to the lack of contextual information provided before posing the question. This scenario highlighted the importance of scaffolding, as discussed by Saxton et al. (2018), who advocated for a structured approach to questioning that builds on students' existing knowledge and gradually introduces more complex concepts.

The challenges faced by Participant A suggest that effective questioning strategies require more than just the formulation of open-ended questions. They necessitate a thoughtful consideration of the student's current knowledge base and the provision of sufficient context to bridge any gaps. This approach not only facilitates deeper thinking but also encourages more meaningful and comprehensive responses from students. By incorporating scaffolding techniques, Participants can create a more supportive learning environment that fosters critical thinking and active participation.

Participant A's experience served as a valuable lesson in the art of questioning. It underscored the need for careful planning and preparation to ensure that questions are not only open-ended but also accessible and engaging for all students. As Saxton et al. (2018) suggested, asking better questions involves a

dynamic interplay between the Participant's intent and the student's readiness to engage, ultimately leading to a more enriching educational experience.

Content Familiarity and Readiness. Higher-order thinking questions can be challenging for students unfamiliar with the content. *"During a history lesson, I tried using higher-order thinking questions to spark a discussion, but the students were not familiar enough with the content. They struggled to engage, and I had to revert to more basic questions to build their understanding first."* Participant B faced this issue, finding that probing questions left students struggling due to a lack of understanding. Building content knowledge and assessing readiness before introducing complex questions is essential. The Participant's experience reflects a common issue in classrooms: the difficulty in balancing higher-order thinking (HOT) questions with students' current level of knowledge. While HOT questions aim to encourage critical thinking, analysis, and deeper understanding, they often assume that students have a sufficient grasp of basic facts and concepts. In this case, students' unfamiliarity with the historical content made it difficult for them to engage in more complex questions, requiring the Participant to revert to lower order questioning strategies. This illustrates the importance of scaffolding—Participants need to provide gradual steps that help students build the necessary knowledge before introducing HOT questions. The use of foundational questions enables students to construct a base of understanding, which can later support more advanced cognitive tasks. Participants must ensure that students are proficient in basic content knowledge before attempting to challenge them with complex questions (Baniabdelrahman, 2019). Participant B's higher-order thinking questions were too advanced for students unfamiliar with the content.

Participant C uttered, *"I once used probing questions in a math class, expecting students to explain their problem-solving steps. However, many students gave vague answers, and I realized they didn't fully understand the concepts. I had to reteach the material before using those questions again."*. Probing questions didn't work because students lacked understanding of the concepts. The Participant's use of probing questions in a math class is aimed at promoting deeper understanding by having students explain their problem-solving processes. However, the vague responses from students indicate that they may not have fully grasped the underlying concepts. This response suggests that while probing questions are useful for assessing understanding, they are only effective when students have solid foundational knowledge.

This situation highlighted the importance of formative assessment. Probing questions, while valuable for eliciting students' reasoning, can expose gaps in their understanding. When these gaps are identified, as in this case, reteaching becomes necessary to reinforce the conceptual knowledge before advancing to higher-level questioning strategies. The Participant's decision to reteach the material underscored the need for adaptive instruction based on student responses, a practice that is key in responsive teaching.

The study by Jacobs, Lamb, and Philipp (2017) found that when Participants use probing questions, they gain insight into students' thinking, which can reveal misconceptions. However, probing questions must be paired with instructional strategies that help students clarify and refine their understanding. The research emphasized that Participants need to be flexible in their instruction, using student responses as a guide to reteach or reinforce concepts when needed.

Student Engagement and Confidence.

Wait-time questioning, and Socratic methods require active student engagement and confidence. However, *"I used wait-time questioning in an English lesson, but the students seemed disengaged and hesitant to respond. I realized I needed to build their confidence and establish a more supportive classroom environment before expecting them to take their time and think deeply."* Participant D's

experience highlighted student disinterest leading to failed attempts. Moreover, it reflects the importance of the classroom environment in the effectiveness of questioning techniques like wait-time. While wait-time is a strategy intended to give students more time to think and process their answers, it requires a classroom culture where students feel comfortable and confident enough to participate. In this case, students' hesitation and disengagement suggest that they may have felt insecure or unmotivated, which limited the effectiveness of wait-time questioning.

A supportive classroom environment that fosters trust and encourages students to take intellectual risks is crucial for the success of this strategy. Research suggests that increasing wait time alone does not guarantee deeper thinking unless paired with strategies that build students' confidence and create a non-threatening learning environment. Establishing rapport, offering positive reinforcement, and modeling the process of thinking deeply are all necessary to support students in engaging with such questioning strategies.

A study by Rowe (2015) emphasized the benefits of wait-time in promoting deeper thinking and student participation but notes that the effectiveness of this strategy depends largely on the classroom environment. The study suggests that Participants must first create a supportive atmosphere where students feel safe expressing their ideas. Without this foundation, students may become more disengaged, as was observed in the Participant's experience. Similarly, Participant E found Socratic questioning too difficult without adequate scaffolding to promote critical thinking. Fostering a positive learning environment and supporting students' self-esteem is crucial for effective questioning. Participant D's wait-time questioning failed due to student disengagement and lack of confidence. Participant E, *"I tried using Socratic questioning in a social studies class, but the students found it too challenging and became frustrated. I had to adjust my approach and scaffold the questions more to help them develop their critical thinking skills gradually."* Socratic questioning was too challenging, adjustments were needed to scaffold critical thinking skills. The Participant's attempt to use Socratic questioning—which encourages critical thinking by prompting students to explored ideas deeply through a series of reflective and probing questions—revealed that students were not ready for the level of cognitive demand required. The frustration felt by students stemmed from their lack of preparation or familiarity with the reflective nature of this method.

To address this, the Participant adjusted the approach by scaffolding the questions, providing a more structured pathway to guide students toward developing critical thinking skills. Scaffolding in this context means breaking down the complex questions into more manageable steps, gradually increasing the difficulty as students become more comfortable with the process. This incremental approach helps students build confidence and critical thinking abilities without overwhelming them.

A relevant study by Chin and Osborne (2018) emphasized the importance of scaffolding when introducing students to complex questioning techniques like Socratic questioning. Their research shows that students benefit from gradually introduced critical thinking tasks, as scaffolding helps bridge the gap between basic understanding and more advanced cognitive processes. The study also highlighted that while Socratic questioning is effective, it needs to be introduced in a way that matches students' current cognitive abilities.

Inclusive Participation and Atmosphere. Redirecting questions to specific students can create an intimidating atmosphere, highlighting the importance of inclusive prompts. *"In a group discussion, I used redirecting questions to encourage participation from all students. However, some students felt put on the spot and shut down. I learned to use more gentle prompts and build a more inclusive discussion atmosphere."* Participant F's experience emphasized the need to ensure all students feel comfortable

participating. Clarifying questions during experiments also revealed confusion, underscoring the significance of providing clear explanations and fostering a safe learning space. Redirecting questions—where the Participant shifts a question from one student to another to involve more participants—is an effective strategy for encouraging broad participation in class discussions. However, as seen in this case, if not applied carefully, redirecting questions can make some students feel pressured, leading them to "shut down" or disengage. This response highlighted the need for a sensitive and inclusive approach when using such strategies.

The Participant recognized that more gentle prompts and a nurturing discussion environment are necessary to avoid putting students on the spot. Creating an inclusive atmosphere requires building trust and ensuring that students feel supported and not judged for their responses. This approach allows students to contribute without feeling intimidated or forced to speak before they are ready. Redirecting can be effective when paired with strategies that consider students' comfort levels, such as offering positive reinforcement, giving them time to prepare, and encouraging collaborative contributions, thereby fostering a more inclusive learning environment.

A study by Tadesse and Gillies (2015) on classroom discussions underscored the importance of creating a supportive environment to foster student participation. The research shows that while strategies like redirecting questions can promote engagement, the Participant's tone, timing, and the overall classroom climate are critical factors in ensuring that students feel safe to contribute. When Participants scaffold participation with gentle prompts and positive reinforcement, students are more likely to stay engaged and participate in discussions.

Real-World Relevance and Contextualization. Real-world problem-solving questions can sometimes miss the mark when students fail to relate to them. *"I tried using real-world problem-solving questions in a math lesson, but the students struggled to relate the problems to their own experiences. I needed to provide more examples and context to help them make the connection."* Participant H encountered this issue, suggesting the need for questions that connect to students' experiences. Additionally, technology-based questioning tools (e.g., Kahoot!) may not always work as expected, necessitating backup plans. The Participant's attempt to use real-world problems aims to engage students by demonstrating the practical application of mathematical concepts. However, when students struggle to relate these problems to their own experiences, it indicates a gap between the mathematical content and the students' real-life contexts. This disconnect can lead to frustration and disengagement, as students may find it difficult to see the relevance of the math concepts being taught.

To address this issue, the Participant recognizes the need to provide more examples and contextual information that align with students' lives and experiences. Contextualizing math problems can help students make connections between abstract concepts and their everyday situations, thereby increasing motivation and understanding. Effective teaching practices in mathematics often involve using culturally relevant examples or scenarios that resonate with students' backgrounds and interests. By incorporating relatable contexts, Participants can facilitate deeper engagement and enhance students' problem-solving skills.

A study by Gonzalez et al. (2017) emphasized the importance of contextualization in mathematics education. The researchers found that students who are presented with real-world problems that relate to their experiences are more likely to engage with the material and develop a better understanding of mathematical concepts. The study highlighted that Participants should strive to connect learning objectives with students' lives to improve engagement and learning outcomes.

Depth of Reflection and Practice. Reflection questions may not always elicit the desired level of introspection. *"I used reflection questions at the end of a lesson, expecting students to share their thoughts and insights. However, many students gave very surface-level responses. I realized I needed to model reflective thinking more and give them time to practice it."* Participant J found that students provided surface-level responses, indicating a need for modeling reflective thinking and providing opportunities for practice. Encouraging students to engage in metacognitive strategies can foster deeper understanding.The Participant's intention to use reflection questions at the end of a lesson is a valuable strategy for encouraging students to synthesize their learning and articulate their thoughts. However, the prevalence of surface-level responses suggests that students may not yet have developed the skills or confidence necessary to engage in deeper reflective thinking.

The realization that modeling reflective thinking is essential indicates a need for the Participant to provide explicit examples of what thoughtful reflection looks like. By demonstrating the process of reflective thinking, the Participant can help students understand how to analyze their learning experiences critically. Additionally, allowing students sufficient time to practice reflecting on their learning can facilitate a shift from superficial responses to more meaningful engagement with the material. This approach underscored the idea that reflection is a skill that can be developed over time, requiring both guidance from the Participant and practice from the students.

A study by Dewey (2016), although a classic reference, has been revisited in contemporary research to highlight the importance of teaching reflection. Dewey posits that reflection is crucial for meaningful learning, and without proper modeling and practice opportunities, students may struggle to engage in it. This study emphasized the role of educators in providing structured reflection experiences to deepen students' understanding.

In a more recent study, Pérez, et al. (2020) found that when Participants model reflective practices and give students time to engage in reflective thinking, students tend to produce richer and more in-depth responses. Their research suggests that incorporating reflection as a routine practice enhances critical thinking and self-assessment skills among students.

Questioning strategies are invaluable teaching tools, but they can encounter challenges that limit their effectiveness. Understanding the reasons behind these failures allows educators to adapt their strategies and create more conducive learning environments. By addressing issues related to context, familiarity, engagement, inclusivity, real-world relevance, and reflective practice, educators can optimize questioning strategies to maximize student learning and critical thinking skills.

V. Unveiling the Layers of Questioning: A Look at Participant Approaches to Reflection

Effective questioning forms the bedrock of engaging and impactful teaching. But how do Participants reflect on their questioning strategies to ensure they're maximizing their impact? This article explored the diverse approaches Participants employ, drawing out potential themes that emerge from their narratives.

Monitoring Student Engagement and Responses. Participants A, C, and H illustrate a focus on direct observation as a primary mode of reflection. *"I reflect on my questioning strategies by reviewing student responses and engagement levels during lessons. If students are actively participating and providing thoughtful answers, I know my questions are effective."* Participant A reviews responses and engagement levels during lessons, while Participant C observes student behavior and participation. *"I reflect by observing student behavior and participation. If students seem engaged and curious, it suggests that my questions are stimulating their interest and thinking."* Participant H, *"I observe student work and discussions to see how well they understand and apply the material. If students can explain concepts and*

make connections, it indicates that my questioning strategies are effective" in turn, analyzes student work and discussions to gauge understanding. This theme highlighted the value of real-time feedback in shaping questioning strategies. By observing students directly, Participants can gauge the effectiveness of their questions in prompting thought, eliciting responses, and fostering active participation. Participants A, C, and H exemplify the practice of using direct observation to inform their reflective processes regarding questioning strategies. Each Participant utilizes different facets of observation—student responses, behavior, engagement levels, and discussions—to evaluate the effectiveness of their questioning techniques. This real-time feedback is crucial, as it allows Participants to adjust their instructional methods promptly based on student reactions and interactions.

By monitoring engagement and participation, these Participants can identify which questions stimulate interest and provoke thoughtful responses. The ability to observe how students process and apply material during lessons gives educators valuable insights into student understanding and the effectiveness of their questioning strategies. This ongoing reflection and adjustment are essential components of effective teaching, as they enable educators to create more responsive and engaging learning environments.

A study by Duncan and Noonan (2018) highlighted the role of observation in teaching practice and reflection. Their research indicates that Participants who actively observe student interactions and responses can make more informed decisions about their instructional strategies. The study emphasized that direct observation serves as a critical feedback mechanism that can enhance teaching effectiveness and student learning outcomes.

Assessment and Feedback. Participant B said, *"I often use formative assessments to gauge the effectiveness of my questioning. If students perform well on these assessments, it indicates that my questioning strategies are helping them understand the material."* Participant D uttered, *"I use student feedback to reflect on my questioning strategies. I sometimes ask students how they felt about the questions and whether they helped them understand the lesson better."* Also, Participant I mentioned, *"I reflect by analyzing student performance on assignments and projects. If students are demonstrating a deep understanding of the material, it shows that my questioning strategies are working."* this emphasized the crucial role of formal and informal assessments in shaping reflection. Participant B utilizes formative assessments to gauge the effectiveness of their questioning, while Participant D relies heavily on student feedback. Participant I analyzes student performance on assignments and projects to gain insights. This theme emphasized the importance of data-driven reflection. By analyzing the results of various assessments, Participants can identify areas where their questioning strategies need refinement to better cater to student needs and learning styles. Participants B, D, and I demonstrate a commitment to using various forms of assessment and feedback to evaluate the effectiveness of their questioning techniques. Participant B employs formative assessments as a direct measure of student understanding. When students perform well, it serves as an indicator that the questioning strategies used were effective in facilitating comprehension. This approach aligns with the formative assessment philosophy, which emphasizes continuous feedback to improve learning outcomes.

Meanwhile, Participant D utilizes student feedback to gauge the impact of questions on student understanding. By asking students about their experiences with the questions posed, Participant D opens a channel of communication that allows for insight into students' perceptions of the learning process. This feedback can guide adjustments in questioning techniques to better meet student needs. On the other hand, Participant I analyzes student performance on assignments and projects to reflect on questioning

effectiveness. A deep understanding demonstrated through student work suggests that the questions have successfully engaged students in higher-order thinking and application of knowledge.

Overall, these reflective practices emphasize the importance of ongoing assessment and student voice in informing teaching strategies. By integrating formative assessments and soliciting feedback, Participants can refine their questioning methods and enhance student learning.

A relevant study by Hattie and Timperley (2017) discussed the impact of formative assessment and feedback on student learning. The research highlighted that formative assessments not only provide valuable insights into student understanding but also foster a growth mindset among students. By actively engaging with student performance and feedback, Participants can make informed adjustments to their instructional strategies, leading to improved educational outcomes.

Collaboration and Professional Development. Participant E uttered, *"I reflect by discussing my questioning strategies with colleagues. We share experiences and suggestions, which helps me refine my approach and try new techniques."* Participant J, *"I keep a reflective journal where I jot down my observations and thoughts about my questioning strategies. This helps me track my progress and make continuous improvements."* Participant F, *"I review my lesson plans and note which questions worked well and which didn't. This helps me adjust my strategies for future lessons and improve my questioning techniques."* highlighted the power of shared learning and continuous improvement. Participant E actively engages in discussions with colleagues about questioning strategies, while Participant J keeps a reflective journal to document their observations and areas for growth. Participant F reviews lesson plans and adjusts strategies based on their reflections. This theme emphasized the importance of ongoing professional development. By collaborating with peers and engaging in self-reflection, Participants can continually refine their questioning approaches, drawing upon collective wisdom and individual experiences. Together, these practices illustrate the significance of both collaborative and individual reflection in professional development. By sharing experiences, documenting observations, and analyzing lesson plans, Participants can cultivate a growth mindset and make ongoing improvements in their questioning techniques.

A study by Loughran (2019) emphasized the importance of reflective practices among educators. The research suggests that collaborative reflection, such as discussions with colleagues, significantly enhances Participants' professional growth and their ability to adapt instructional strategies. The study also highlighted the value of maintaining a reflective journal, which helps Participants articulate their thoughts and monitor their development over time.

Self-Reflection and Adaptation. Participant G said, *"I use self-assessment and reflection after each lesson. I think about what went well, what didn't, and how I can improve my questions to better support student learning."* exemplifies the importance of self-assessment and reflection. By engaging in this process, Participant G can critically analyze their questioning practices and identify areas for improvement. This theme highlighted the intrinsic motivation of self-reflection in driving continual growth. By taking ownership of their professional development, Participants can become more self-aware, adaptable, and responsive to the evolving needs of their students.

The Participant's practice of engaging in self-assessment and reflection after each lesson demonstrates a proactive approach to professional development. By taking the time to consider what went well and what did not, the Participant is actively participating in a cycle of continuous improvement. This reflective process allows the educator to critically evaluate the impact of their questioning techniques on student learning outcomes. The focus on improvement suggests that the Participant is committed to refining their

questioning strategies to better support students' understanding. By identifying specific areas for enhancement, the Participant can make informed decisions about future lessons and adapt their approach based on student needs and responses. This practice not only fosters personal growth but also promotes a mindset oriented towards effective teaching and learning.

A relevant study by Schön (2017) emphasized the importance of reflection in professional practice. Schön argues that reflective practice allows professionals, including Participants, to assess their actions and outcomes critically. The study highlighted that through self-assessment, educators can identify effective strategies and areas needing improvement, leading to enhanced teaching effectiveness and better student learning experiences.

It is important to note that these themes are not mutually exclusive. A Participant may combine multiple approaches, using both observation and assessment data, or engaging in self-reflection while collaborating with colleagues. This interconnectedness reflects the multifaceted nature of teaching and the intricate process of reflecting upon questioning strategies. By analyzing Participant narratives and identifying these recurring themes, we can gain valuable insights into the diverse ways Participants approach reflection. This knowledge can be leveraged to support Participants in refining their questioning strategies, fostering deeper engagement, and ultimately, empowering students to become more active and engaged learners.

Professional Development and Learning as a Path to Enhance Questioning Techniques

Effective questioning is a cornerstone of successful teaching, as it fosters critical thinking, comprehension, and active learning. Educators constantly seek ways to refine their questioning techniques, and their approaches can be categorized into several key themes.

Collaboration and Feedback. Collaboration with colleagues plays a crucial role in improving questioning skills. Participants can observe one another's classes, provide feedback, and share ideas. This allows for diverse perspectives and opportunities to learn from each other's experiences. Additionally, seeking feedback from students is invaluable, as they can provide insights into what types of questions are most effective for their learning. Participant C, *"I collaborate with colleagues to share and discussed questioning strategies. We often observe each other's classes and provide feedback, which helps us improve our techniques."* Collaborates with colleagues, observes classes and provides feedback. Participant D, *"I use student feedback to improve my questioning. I ask students what types of questions they find most helpful and adjust my approach based on their responses."* Uses student feedback to adjust questioning approaches. Participant G, *"I participate in online forums and communities for educators. These platforms provide valuable insights and suggestions from other Participants who have experience with different questioning techniques."* Participates in online forums and communities for insights from other educators. Participant H, *"I seek out mentoring and coaching from more experienced Participants. Their guidance and feedback help me refine my questioning techniques and develop new strategies."* Seeks mentoring and coaching from experienced Participants. Participant C's collaboration with colleagues through observing classes and providing feedback underscored the power of peer learning. This practice not only facilitates the sharing of effective questioning strategies but also promotes a culture of continuous improvement among educators. Collaborative approaches like these have been shown to enhance teaching effectiveness and student learning outcomes. Participant D's use of student feedback to inform questioning strategies emphasized the importance of student voice in the classroom. Actively soliciting input from students about their learning experiences enables Participants to adjust their approaches based on what resonates most with their learners. This responsiveness can lead to increased student engagement and a deeper understanding of the material. Also, Participant G's participation in online forums and communities

reflects the growing trend of leveraging digital platforms for professional development. Engaging with a wider network of educators allows Participants to gain diverse insights and share experiences that can enrich their instructional practices. Online communities provide a space for continuous learning and adaptation of teaching strategies.

On the other hand, Participant H's pursuit of mentorship and coaching demonstrates the value of experienced guidance in refining teaching practices. Accessing support from veteran Participants can help less experienced educators navigate challenges and adopt effective questioning strategies. Mentorship is a vital component of professional growth, providing tailored feedback and support. Fletcher, A. (2016) emphasized the impact of collaborative professional development on teaching practices. The peer study found that Participants who engage in peer observation and feedback improve their instructional strategies and student outcomes.

Self-Reflection and Adaptation. Self-reflection is essential for Participants to grow and adapt their teaching strategies. Participants can reflect on their lessons, noting what worked well and what could be improved. Experimenting with different question types and observing student responses enables Participants to identify which approaches are most suitable for their students. Self-assessment tools and reflective practices help Participants evaluate their questioning skills and identify areas for improvement. Participant E said, *"I reflect on my questioning techniques after each lesson and note what worked well and what didn't. This helps me identify areas for improvement and make adjustments for future lessons."* It reflects on lessons, notes what worked well, and identifies areas for improvement. Participant F uttered, *"I experiment with different types of questions and observe how students respond. This trial-and-error approach helps me find the most effective questioning strategies for my students."* It experiments with different question types and observe student responses. Also, Participant I stated, *"I use self-assessment tools and reflective practices to evaluate my questioning techniques. This helps me identify strengths and areas for improvement and develop a plan for enhancing my skills."* It uses self-assessment tools and reflective practices.

These responses highlight the reflective and experimental practices of Participants E, F, and I in evaluating and improving their questioning strategies. Participant E engages in reflection after each lesson, noting what questioning techniques were effective and which were not. This practice allows for critical self-evaluation and encourages a continuous cycle of improvement. By systematically identifying areas for enhancement, Participant E can make informed adjustments to questioning strategies, ultimately leading to more effective teaching and better student understanding. Participant F adopts a trial-and-error approach by experimenting with different types of questions and observing student responses. This willingness to explore various questioning techniques helps Participant F discover which strategies resonate most with students. Such experimentation fosters a dynamic classroom environment where the Participant can adapt to student needs and preferences, enhancing engagement and learning outcomes. Also, Participant I employs self-assessment tools and reflective practices to evaluate questioning techniques.

By systematically assessing their strengths and areas for improvement, Participant I can develop targeted plans for skill enhancement. This structured approach to reflection promotes professional growth and leads to more effective questioning strategies over time. Together, these practices illustrate the importance of reflection, experimentation, and self-assessment in developing effective questioning techniques. By engaging in these practices, Participants can enhance their instructional methods and better support student learning.

Graham et al. (2017) discussed the importance of reflective practices in Participant development. Their research highlighted that systematic reflection enables Participants to critically evaluate their practices and make meaningful improvements in their instruction.

Professional Development and Learning. Workshop attendance and training sessions provide Participants with opportunities to learn new questioning techniques and approaches. By staying updated on current research and best practices through educational literature, Participants can incorporate evidence-based strategies into their classroom practices. Participant A said, *"I attend professional development workshops and training sessions focused on questioning strategies. These opportunities provide new ideas and techniques that I can incorporate into my teaching."* Attends workshops and training sessions to learn new ideas and techniques. Meanwhile, Participant B mentioned, *"I regularly read educational literature and research on effective questioning. This helps me stay updated on best practices and new approaches that can enhance my questioning techniques."* Regularly reads educational literature and research to stay updated on best practices. The responses from Participants A and B reflect their commitment to professional development and stay informed about effective questioning strategies. Participant A emphasized the value of attending professional development workshops and training sessions focused on questioning strategies. Engaging in these structured learning experiences allows Participant A to acquire new ideas and techniques that can be directly implemented in the classroom. Workshops often provide opportunities for hands-on practice and collaboration with peers, fostering a supportive learning environment.

This continuous professional development is essential for enhancing teaching practices and ensuring that educators remain effective in their roles. Participant B highlighted the importance of reading educational literature and research on effective questioning. By staying updated on best practices and emerging approaches, Participant B can incorporate evidence-based strategies into their teaching. This proactive approach to professional learning not only enriches the Participant's repertoire of questioning techniques but also enhances their ability to adapt to the evolving educational landscape. Engaging with current research helps educators critically evaluate their practices and make informed decisions that positively impact student learning. Together, these practices underscore the significance of ongoing professional development and engagement with educational research in improving questioning strategies. Participants who actively seek out new knowledge and skills are better equipped to meet the diverse needs of their students. Darling-Hammond et al. (2017) discussed the impact of professional development on Participant effectiveness. Their research indicates that participation in targeted training workshops leads to improved teaching practices and enhanced student learning outcomes.

Incorporating Technology. Integrating technology into questioning can enhance engagement and foster active learning. Participants can use interactive tools and apps to create engaging question formats, collect student responses, and track progress. Digital platforms can also facilitate collaboration and feedback between Participants and students. Participant J, *"I incorporate technology and interactive tools into my questioning strategies. These tools can make questioning more engaging and dynamic, which helps improve student participation and learning."* It integrates technology and interactive tools for engaging questioning strategies by implementing these themes, Participants can improve their questioning skills, create a more dynamic and engaging learning environment, and ultimately foster student success.

Participant J emphasized the use of technology and interactive tools in questioning strategies, which reflects a modern approach to teaching. Incorporating these tools can transform traditional questioning into more dynamic and engaging experiences for students. Technology facilitates various questioning

methods, such as polls, quizzes, and interactive platforms, which can motivate students to participate actively. By leveraging digital resources, Participant J can create a more interactive learning environment that fosters collaboration and critical thinking among students.

The integration of technology not only supports student engagement but also allows for immediate feedback and assessment of understanding. This responsiveness helps the Participant adjust their questioning techniques in real time based on student responses, promoting a more adaptive teaching approach. The use of interactive tools can also accommodate diverse learning styles and preferences, making questioning more inclusive and effective. Hwang and Chang (2018) explored the impact of technology on student engagement in classrooms. Their study indicates that incorporating digital tools enhances student participation and improves learning outcomes, particularly when questioning strategies are used.

VI. Unlocking Potential: How Questioning Strategies Shape Learning and Engagement

Educators are constantly seeking strategies to enhance student learning and engagement. One powerful tool gaining traction is the strategic use of questions. Through a recent survey of Participants, several key themes emerged regarding the impact of questioning strategies on student learning and engagement:

Enhanced Learning and Critical Thinking. Participants universally agreed that effective questioning strategies are crucial for fostering deeper learning. , Participant A, *"Effective questioning strategies significantly enhance student learning and engagement. They encourage students to think critically, explored different perspectives, and articulate their understanding, which leads to deeper learning."* emphasized that questions encourage students to think critically and explored different perspectives, leading to a richer understanding of concepts. While Participant E, *"Questioning strategies help students develop critical thinking and problem-solving skills. These skills are essential for academic success and can be applied across different subjects and real-life situations."* echoed this sentiment, highlighting the role of questioning in developing problem-solving skills that are essential for academic success.

The responses from Participants A and E emphasize the role of effective questioning strategies in enhancing student learning, engagement, and the development of critical thinking skills. Participant A highlighted that effective questioning strategies not only enhance student learning but also foster critical thinking and exploration of different perspectives. By encouraging students to articulate their understanding, Participants can facilitate deeper learning experiences. This approach nurtures an environment where students feel comfortable expressing their thoughts and engaging in meaningful discussions, ultimately leading to a more enriched understanding of the subject matter. Then, Participant E underscored the importance of questioning strategies in developing essential skills such as critical thinking and problem-solving. These skills are crucial for academic success and are transferable across various subjects and real-life contexts. By employing effective questioning techniques, Participants can equip students with the cognitive tools necessary to analyze, evaluate, and apply knowledge in diverse situations.

King (2016) investigates the impact of questioning strategies on student engagement and critical thinking. The study finds that when Participants employ effective questioning techniques, students demonstrate higher levels of engagement and improved critical thinking skills.

Active Engagement and Ownership. The transformative power of questions extends beyond knowledge acquisition. Participant B, *"Questioning strategies help create a more interactive and dynamic classroom environment. When students are actively engaged in answering questions, they are more likely to stay focused and participate in the lesson."* noted that questioning creates an interactive and dynamic classroom

environment, keeping students focused and participating. Participant F, *"Effective questioning encourages students to take ownership of their learning. When they are actively involved in answering questions, they are more likely to be motivated and invested in their education."* added that effective questioning encourages students to take ownership of their learning enhancing their motivation and investment in the educational process.

The responses from Participants B and F highlight the positive impact of questioning strategies on classroom dynamics, student engagement, and ownership of learning. Participant B emphasized that effective questioning strategies contribute to a more interactive and dynamic classroom environment. When students are engaged in responding to questions, they become active participants in their learning process, leading to improved focus and involvement in the lesson. This active engagement not only enhances student understanding but also fosters a collaborative atmosphere where learners feel comfortable sharing their thoughts and ideas. An interactive classroom setting encourages communication and interaction among peers, further enriching the learning experience.

Participant F points out that effective questioning encourages students to take ownership of their learning. When students are involved in the questioning process, they develop a sense of agency and responsibility for their education. This involvement fosters motivation and investment in their learning, as students recognize that their contributions are valued and essential to the classroom discourse. By promoting student ownership, Participants can cultivate intrinsic motivation, leading to deeper engagement and sustained interest in the subject matter.

Hattie and Donoghue (2016) explored the role of questioning in promoting student engagement and interaction. Their findings indicate that effective questioning strategies lead to increased student focus and participation, ultimately enhancing the learning environment.

Inclusivity and Participation. Questioning strategies are not only about individual learning but also foster a sense of community within the classroom. Participant G, *"Questioning strategies help create a more inclusive classroom environment. By encouraging all students to participate, I can ensure that everyone's voice is heard and valued."* stressed the importance of questioning in promoting inclusivity ensuring that every student feels valued and encouraged to participate**.** Participant H, *"Questioning strategies help me assess student understanding in real-time. This allows me to provide immediate feedback and support, which enhances student learning and helps address any misconceptions."* this highlighted the use of questioning for real-time assessment enabling Participants to identify and address student misconceptions, further contributing to effective learning.

The responses from Participants G and H highlight the dual roles of questioning strategies in promoting inclusivity and providing real-time assessment of student understanding. Participant G emphasized that questioning strategies are essential for creating a more inclusive classroom environment. By encouraging all students to participate, Participants can ensure that diverse perspectives are represented and valued. This inclusivity fosters a sense of belonging among students, as they recognize that their contributions are important to the learning process. Effective questioning strategies can help to level the playing field, inviting contributions from students who might otherwise feel hesitant to share their thoughts. By creating a space where every voice is heard, Participants promote equity in the classroom, which is vital for a collaborative learning environment. Participant H highlighted the use of questioning strategies as a tool for real-time assessment of student understanding. By actively engaging students in questioning, Participants can gather immediate feedback on student comprehension.

This real-time assessment allows for timely intervention and support, addressing misconceptions as they arise. Providing immediate feedback not only enhances student learning but also empowers students to take charge of their learning journey. When students receive prompt clarification and guidance, they are more likely to stay on track and develop a deeper understanding of the material.

Florian and Linklater (2016) explored the role of questioning in fostering an inclusive classroom environment. Their research indicates that effective questioning strategies promote participation from all students, ensuring that diverse voices are heard and valued.

Higher Achievement and Growth Mindset. The impact of questioning transcends immediate learning, shaping student attitudes and performance. Participant I, *"When students are challenged with thought-provoking questions, they are more likely to engage with the material and develop a deeper understanding. This leads to higher levels of academic achievement."* emphasized that thought-provoking questions lead to deeper understanding and higher academic achievement. Participant J, *"Questioning strategies help foster a growth mindset in students. By encouraging them to think critically and explored different perspectives, they develop confidence in their abilities and a willingness to take on new challenges."* this highlighted the role of questioning in fostering a growth mindset building student confidence and willingness to embrace challenges.

The responses from Participants I and J underscore the significant impact of thought-provoking questioning strategies on student understanding, academic achievement, and the development of a growth mindset. Participant I asserts that thought-provoking questions encourage students to engage deeply with the material. This engagement is crucial for fostering a richer understanding of concepts, as it prompts students to think critically and reflect on their learning. When students are challenged with questions that require them to analyze, synthesize, and evaluate information, they are more likely to invest effort in understanding the content. This deeper engagement often correlates with higher levels of academic achievement, as students develop the skills necessary to tackle complex ideas and perform well academically.

Participant J highlighted that questioning strategies are instrumental in fostering a growth mindset among students. By encouraging critical thinking and exploration of diverse perspectives, Participants help students build confidence in their abilities. A growth mindset, characterized by the belief that abilities can be developed through effort and learning, motivates students to embrace challenges and persist in the face of difficulties. When students feel empowered to think critically and tackle new challenges, they are more likely to engage in their learning and strive for academic success.

Dumont et al. (2016) investigate the relationship between questioning, engagement, and academic achievement. Their research indicates that thought-provoking questions significantly enhance student engagement and lead to improved academic performance.

The Power of Inquiry. These insights from educators demonstrate the multifaceted impact of questioning strategies. By skillfully posing questions, Participants can create an environment where students: Actively engage with the material. Develop critical thinking skills. Feel valued and included. Become confident and self-directed learners. The study settles that questioning strategies are not merely a teaching technique but a powerful tool for transforming classrooms into vibrant, intellectually stimulating spaces where every student thrives**.**

VII. Unlocking Potential: How Questioning Strategies Enhance Student Learning and Engagement

Effective questioning in the classroom is a powerful tool that can transform passive learning into a dynam-

ic, engaging, and inclusive experience. By analyzing the narratives of Participants, we can gain valuable insights into how different questioning techniques contribute to student success. This article explored key themes emerging from Participants' experiences, highlighting the positive impact of intentional questioning on student learning and engagement.

Deepening Conceptual Understanding. Participant A, *"During a science lesson on the water cycle, I asked students to explain each stage in their own words. This questioning strategy helped them internalize the concept and engage more deeply with the material. Their responses showed a clear understanding of the process."* While Participant F said, "*In a science experiment, I asked students to predict the outcome and explain their reasoning. This questioning strategy helped them engage more deeply with the experiment and develop a better understanding of scientific principles."* Also, Participant H uttered, *"In a language arts lesson, I asked students to compare and contrast two different texts. This higher-order thinking question helped them analyze the texts more deeply and develop critical thinking skills."* emphasize the transformative power of questioning in building deep conceptual understanding. Participant A observed that strategic questioning helped students internalize complex concepts like the water cycle, leading to a clear and comprehensive understanding. Similarly, Participant F found that predicting outcomes in science experiments fostered deeper engagement and enhanced understanding of scientific principles. Participant H, using higher-order thinking questions, sparked deeper analysis and critical thinking skills, ultimately leading to a more nuanced comprehension of the subject matter.

The responses from Participants A, F, and H illustrate how specific questioning strategies in various subjects can enhance student engagement, understanding, and critical thinking skills. Participant A discussed the effectiveness of questioning students about the water cycle by having them explain each stage in their own words. This strategy not only promotes deeper engagement with the material but also encourages students to internalize the concept. By articulating their understanding, students demonstrate a clear grasp of the content, which reinforces their learning.

This type of reflective questioning fosters a sense of ownership over their learning process and helps solidify their comprehension of complex scientific concepts. Participant F highlighted the value of asking students to predict the outcome of a science experiment and explain their reasoning. This strategy encourages active participation and critical engagement with the scientific method. By making predictions, students are not only recalling prior knowledge but also applying their understanding to new situations. This approach fosters deeper engagement with the experiment and enhances their grasp of scientific principles, as students learn to link theory with practical applications.

Participant H emphasized the use of higher-order thinking questions in a language arts lesson, specifically through comparing and contrasting two texts. This type of questioning requires students to analyze, evaluate, and synthesize information, which are key components of critical thinking. By engaging in this analytical process, students develop critical thinking skills that are applicable across various disciplines. The ability to critically analyze texts enhances their comprehension and appreciation of literature, promoting deeper learning experiences.

Gonzalez et al. (2018) examine the role of questioning in promoting engagement and understanding in science education. Their study shows that reflective questioning strategies enhance students' internalization of concepts and improve comprehension.

Fostering Application and a Real-World Relevance: Connecting classroom learning to real-world applications is crucial for student motivation and retention. Participant C responded, *"During a math lesson on fractions, I asked students to explain how they would divide a pizza among friends. This real-*

world problem-solving question helped students relate the concept to their own experiences and improved their understanding of fractions." While Participant E said, *"During a group project, I asked students to reflect on their roles and contributions. This reflection question helped students think about their learning process and improved their collaboration and participation in the project."* This showcased how strategically designed questions can bridge this gap. Participant C's example of using real-world problem-solving questions (dividing a pizza) helped students relate math concepts to everyday experiences. Participant E, on the other hand, highlighted the effectiveness of reflection questions during group projects, fostering collaboration and active participation while encouraging students to apply their knowledge practically.

The responses from Participants C and E highlight the effectiveness of using real-world problem-solving questions and reflection questions to enhance student understanding and collaboration. Participant C describes the use of a real-world problem-solving question related to dividing a pizza among friends in a math lesson on fractions. This approach effectively contextualizes the mathematical concept, allowing students to relate the abstract idea of fractions to a familiar, everyday scenario.

By engaging with a problem that resonates with their personal experiences, students are more likely to understand and retain the concept. This strategy not only enhances their comprehension of fractions but also demonstrates the relevance of mathematics in real-life situations, fostering a deeper appreciation for the subject. On the other hand, Participant E emphasized the importance of reflection questions in a group project setting. By prompting students to think about their roles and contributions, this questioning strategy encourages metacognition—the awareness and understanding of one's thought processes. This reflective practice improves students' collaboration and participation by fostering a sense of accountability and ownership over their learning. When students reflect on their contributions, they become more aware of their strengths and areas for improvement, which can lead to more effective teamwork and enhanced learning outcomes.

Cohen and Lotan (2016) explored the impact of real-world problem-solving questions on student engagement and understanding in mathematics. Their findings suggest that contextualizing mathematical concepts through relatable scenarios significantly enhances students' comprehension and retention**.**

Cultivating Critical Thinking and Exploration: Participant B stated, *"In a literature class, I asked students to analyze a character's motivations and predict their future actions. This questioning strategy sparked a lively discussion and helped students develop a deeper understanding of the character and the story."* While Participant D mentioned, *"In a social studies class, I used Socratic questioning to explore the causes and effects of a historical event. This approach encouraged students to think critically and make connections between different events, enhancing their understanding of the material."* Also, Participant J said, *"In a history lesson, I asked students to debate the impact of a historical event. This questioning strategy encouraged them to think critically and engage more deeply with the material, leading to a better understanding of the event."* These underscore the vital role of questioning in promoting critical thinking and exploration. Participant B observed that analyzing character motivations in literature sparked lively discussions and fostered a deeper understanding of the text. Participant D's use of Socratic questioning in social studies encouraged critical thinking and the ability to connect historical events, enabling students to analyze and interpret information. Participant J, focusing on debating the impact of historical events, demonstrated how questioning can foster critical engagement and a nuanced understanding of complex historical contexts.

The responses from Participants B, D, and J illustrate the power of analytical and critical questioning strategies in literature, social studies, and history lessons. These strategies foster deeper understanding and engagement with the material. Participant B describes using analytical questioning to have students assess a character's motivations and predict future actions in a literature class. This approach not only sparks lively discussions but also promotes critical thinking as students analyze character development and thematic elements. By dynamically engaging with the material, students deepen their understanding of the text, enhancing their analytical skills and encouraging them to make personal connections with the narrative. Participant D emphasized the effectiveness of Socratic questioning in a social studies class to explore the causes and effects of a historical event. This method encourages students to engage in dialogue and debate, prompting them to think critically about historical contexts and the interplay of events. By making connections between different events, students develop a more nuanced understanding of history, recognizing the complexity and interrelatedness of historical occurrences.

This type of inquiry not only enhances their knowledge but also cultivates essential skills in critical thinking and reasoning. On the other hand, Participant J highlighted the use of debate as a questioning strategy in a history lesson, asking students to discuss the impact of a historical event. Debating fosters active engagement and encourages students to articulate their thoughts and support their arguments with evidence. This strategy not only helps students understand the material better but also develops their ability to analyze perspectives and construct coherent arguments. Engaging in debate promotes a deeper understanding of historical significance and fosters critical engagement with the content.

Elder and Paul (2016) discussed the benefits of Socratic questioning in social studies education. Their research indicates that this method effectively encourages critical thinking and helps students make meaningful connections between historical events. It provides support for the assertion that analytical, Socratic, and debate questioning strategies significantly enhance student engagement, understanding, and critical thinking skills across literature, social studies, and history.

Ensuring Inclusivity and Participation: *"During a class discussion on a controversial topic, I used redirecting questions to ensure all students participated. This strategy helped create a more inclusive discussion and allowed students to hear different perspectives, enhancing their understanding."* Participant G's experience highlighted the importance of inclusive questioning strategies. By redirecting questions effectively, Participant G ensured all students felt heard and valued, thereby fostering a positive classroom environment where everyone felt comfortable participating in discussions. Also, it highlighted the importance of using redirecting questions in discussions, especially on controversial topics. This approach fosters inclusiveness and enhances students' understanding by encouraging diverse viewpoints. Redirecting questions serves to engage all students in the discussion, ensuring that quieter voices are heard alongside more dominant ones. In the context of a controversial topic, this strategy is particularly valuable as it invites students to share their perspectives and challenge assumptions. By facilitating a dialogue that includes multiple viewpoints, Participant G helps students develop critical thinking skills and fosters a deeper understanding of the topic at hand. The inclusive nature of this questioning strategy not only empowers students to express their opinions but also promotes a classroom environment where differing perspectives are valued. This is essential in discussions involving sensitive or controversial issues, as it encourages respect and empathy among peers. By hearing various viewpoints, students can broaden their understanding and refine their own opinions, contributing to a richer learning experience.

Zhang (2017) explored the role of redirecting questions in promoting student participation and inclusivity in classroom discussions. The study finds that such questioning techniques significantly enhance students'

engagement and understanding by facilitating a more balanced exchange of ideas. It supports the notion that redirecting questions is instrumental in creating an inclusive environment that enhances student participation and understanding, particularly in discussions of complex and controversial issues.

The narratives of these Participants present a compelling picture of the transformative power of strategic questioning. By carefully crafting questions that encourage critical thinking, deep understanding, real-world application, and inclusive participation, Participants can create a learning environment that empowers students to become active learners, problem-solvers, and critical thinkers. This, in turn, fosters a more dynamic and fulfilling learning experience for all involved.

Innovative Questioning Strategies

Questioning plays a crucial role in effective teaching and learning. This article explored the innovative questioning strategies implemented by Participants and categorizes them into distinct themes based on the participants' narratives.

Technology Integration. Digital platforms, such as Padlet, enable real-time student responses, facilitating immediate feedback and fostering classroom engagement. Gamification tools like Kahoot! and Quizizz add an element of fun and competition to questioning, promoting active participation. Participant A said, *"I've recently started using digital platforms like Padlet to pose questions and allow students to respond in real-time. This has made questioning more interactive and engaging, especially for students who might be hesitant to speak up in class."* Participant A used digital platforms like Padlet for real-time student responses. While Participant B said, *"I've tried using gamification in my questioning strategies, such as creating quiz games using tools like Kahoot! and Quizizz. This approach has increased student engagement and made learning more fun and dynamic."* Participant B used Gamification through tools like Kahoot! and Quizizz.

The responses from Participants A and B highlight the integration of digital platforms and gamification into questioning strategies, which enhance student engagement and interaction in the classroom. Participant A mentions the use of Padlet, a digital platform that facilitates real-time interaction. This approach allows students to respond to questions anonymously or in a less intimidating format, which can be particularly beneficial for those who are hesitant to participate in traditional classroom discussions. By using Padlet, Participant A fosters a more inclusive learning environment where all students can contribute their thoughts and ideas without the pressure of speaking up in front of their peers. This interactive method not only encourages participation but also helps Participants gauge student understanding in real time, allowing for immediate adjustments to instruction as needed.

Meanwhile, Participant B discussed the implementation of gamification through tools like Kahoot! and Quizizz. This approach transforms questioning into a fun and competitive experience, which can significantly boost student motivation and engagement. Gamification leverages game elements, such as scoring and competition, to make learning more dynamic and enjoyable. By incorporating game-based questioning strategies, Participant B not only captures students' attention but also creates an environment where learning feels less daunting and more enjoyable. This can lead to higher levels of participation and retention of knowledge, as students are more likely to engage deeply with content that is presented interactively and enjoyably.

Baker et al. (2020) investigates the impact of digital platforms like Padlet on student engagement and participation. Their findings indicate that such platforms can enhance real-time interaction and contribute to a more inclusive learning environment. Similarly, Hamari et al. (2016) examine the effects of gamification on student motivation and engagement in educational settings. Their research suggests

gamified learning experiences, such as those created with Kahoot! and Quizizz, can significantly increase student engagement and improve learning outcomes. These studies support the assertion that integrating digital platforms and gamification into questioning strategies enhances student engagement, participation, and overall learning experiences.

Student-Centered Approaches. Encouraging student-generated questions empowers learners and promotes deeper thinking. Think-pair-share techniques create opportunities for collaborative discussions, where students can share diverse perspectives and build upon one another's ideas. Participant *C "I've been experimenting with student-generated questions. I ask students to come up with their questions about the lesson material, which encourages deeper thinking and active participation."* Encouraging student-generated questions to foster deeper thinking. Meanwhile, Participant D responded, *"I've started using think-pair-share questioning techniques more frequently. This allows students to discuss their thoughts with a partner before sharing with the whole class, which helps build confidence and encourage participation."* Participant D is implementing think-pair-share techniques for collaborative discussions.

The responses from Participants C and D illustrate effective questioning techniques that promote active participation and deeper learning among students. Participant C emphasized the value of student-generated questions. By encouraging students to formulate their questions about the lesson material, Participant C fosters a sense of ownership over their learning. This strategy not only promotes deeper thinking but also encourages students to engage more actively with the content. When students create their questions, they must analyze and synthesize information, which enhances their understanding and retention of the material. This approach aligns with constructivist learning theories, which advocate active involvement in the learning process. Likewise, Participant D discussed the think-pair-share technique, which allows students to first think about their responses individually, then discussed their thoughts with a partner, and finally share their insights with the entire class.

This method serves multiple purposes: it provides students with time to reflect, reduces the pressure of speaking in front of the whole class, and fosters collaboration and communication skills. By working in pairs, students can articulate their thoughts in a low-stakes environment, which can build their confidence and prepare them for sharing with the larger group. This strategy not only enhances participation but also encourages students to engage in meaningful discussions, thereby deepening their understanding of the material.

Harris and Hofer (2018) explored the impact of student-generated questions on engagement and understanding. Their study finds that allowing students to formulate questions encourages critical thinking and fosters a deeper connection to the material. Lyman (2016) provides an overview of the think-pair-share strategy and its effectiveness in promoting student participation and confidence. The research indicates that this technique helps students articulate their thoughts and fosters a collaborative learning environment. These studies support the notion that techniques like student-generated questions and think-pair-share significantly enhance student engagement, critical thinking, and collaboration.

Real-World Application. Project-based learning questions connect theoretical knowledge to practical scenarios. By relating questions to real-world applications, students gain a deeper understanding of the relevance and significance of the content. Participant E, *"I've tried incorporating more project-based learning questions. These questions require students to apply their knowledge to real-world projects, which enhances their understanding and makes learning more relevant."* It is incorporating project-based learning questions to connect knowledge to practical scenarios.

Participant E's response highlighted the integration of project-based learning (PBL) questions into the classroom, emphasizing the importance of applying knowledge to real-world contexts. Project-Based Learning Questions: Participant E's approach focuses on crafting questions that require students to engage in project-based learning, which allows them to apply their knowledge and skills to real-world problems. This method encourages students to take an active role in their learning by working on projects that are relevant to their lives or the community. By engaging in PBL, students not only deepen their understanding of the content but also develop critical skills such as problem-solving, collaboration, and communication. Enhancing Relevance and Engagement: Incorporating real-world applications into questioning strategies helps students see the value of their education beyond the classroom. This relevance can increase motivation and interest in the subject matter, as students are more likely to engage with content that they perceive as meaningful and applicable to their lives. Moreover, PBL fosters a sense of ownership and autonomy in learning, allowing students to explore topics that intrigue them and develop solutions to challenges they identify.

Thomas (2017) investigates the impact of project-based learning on student engagement and understanding. The findings suggest that PBL enhances students' ability to apply knowledge in practical situations, thereby fostering deeper learning experiences. Krajcik and Blumenfeld (2016) highlight the importance of real-world contexts in project-based learning. Their research demonstrates that when students work on projects that are relevant to their lives, they develop a greater understanding of the material and retain knowledge more effectively. These studies support the assertion that incorporating project-based learning questions into instructional practices significantly enhances student engagement, understanding, and relevance of the material.

Multimedia and Visuals. Incorporating visual prompts and multimedia content enhances questioning by catering to different learning styles. Visual aids can stimulate student imagination, clarify concepts, and foster engagement. Participant F stated, *"I've been using visual prompts and multimedia to enhance my questioning strategies. For example, I might show a video clip and ask students to analyze it, which engages different learning styles and makes questioning more dynamic."* It is enhancing questioning with visual prompts and multimedia content.

Participant F's response highlighted the use of visual prompts and multimedia to enhance questioning strategies in the classroom. Use of Visual Prompts and Multimedia: By incorporating visual aids such as video clips into questioning strategies, Participant F taps into various learning styles, thereby accommodating diverse student needs. Visual stimuli can capture students' attention, stimulate interest, and provide context that enhances understanding. Engaging students through multimedia not only makes learning more dynamic but also fosters critical thinking as they analyze and interpret visual information. Engaging Different Learning Styles: The integration of multimedia supports multiple intelligences, catering to visual and auditory learners while providing a more interactive and immersive learning experience. By prompting students to analyze video clips or other visual content, Participant F encourages them to think critically about the material and articulate their thoughts, which can lead to deeper engagement and understanding of complex concepts.

Mayer (2017) discussed the significance of multimedia learning in enhancing student engagement and comprehension. The study emphasized that well-designed multimedia materials can facilitate deeper learning by allowing students to process information through various channels. Hegarty and Just (2016) explored the effectiveness of visual aids in supporting learning processes. Their research demonstrates that visual prompts can enhance students' ability to understand and retain complex information, making

learning experiences more effective. These studies provide evidence that using visual prompts and multimedia in questioning strategies can significantly improve student engagement, facilitate understanding, and support diverse learning styles.

Flipped Classroom Model. Pre-lesson questions facilitate student preparation in a flipped classroom approach, where learners encounter content before the class session. This allows for more focused and interactive questioning during the face-to-face time. Participant G, *"I've recently started using a flipped classroom model, where I pose questions for students to think about before the lesson. This prepares them for deeper discussions and allows us to use class time more effectively."* It is using pre-lesson questions in a flipped classroom approach. Participant G's response highlighted the implementation of a flipped classroom model as a strategy to enhance questioning and engagement in the learning process. Flipped Classroom Model: By posing questions for students to consider before the lesson, Participant G effectively shifts some of the cognitive load to students outside of the classroom.

This preparatory approach allows students to come to class with a foundational understanding of the material, enabling deeper discussions and more meaningful interactions during class time. It transforms the traditional learning dynamic, allowing Participants to focus on higher-order thinking skills and collaborative learning during class.

Effective Use of Class Time: The flipped classroom model not only prepares students for in-depth discussions but also optimizes classroom time. With students having engaged with the content beforehand, class time can be dedicated to problem-solving, application of knowledge, and fostering critical thinking through open dialogue and interactive activities. This strategy enhances student ownership of learning and encourages a more participatory classroom environment.

Bergmann and Sams (2015) provide a comprehensive overview of the flipped classroom approach, discussing its impact on student engagement and learning outcomes. Their research indicates that flipping the classroom encourages active learning and allows for more in-depth exploration of topics.

Interdisciplinary Connections. Questions that bridge concepts from different subjects foster critical thinking and promote a holistic understanding of interconnected knowledge. Interdisciplinary questions encourage students to make connections beyond subject boundaries. Participant H, *"I've been integrating more interdisciplinary questions that connect concepts from different subjects. This approach helps students see the connections between different areas of learning and think more holistically."* Integrating questions that bridge concepts from different subjects. Participant G's response emphasized the integration of interdisciplinary questions in the classroom as a strategy to enhance student understanding and engagement. By connecting concepts from different subjects, Participant G encourages students to think beyond traditional subject boundaries. This approach fosters a holistic understanding of knowledge, allowing students to see how different disciplines interact and influence one another. Interdisciplinary questioning promotes critical thinking as students analyze relationships between concepts, leading to richer discussions and deeper learning.

Integrating interdisciplinary questions helps students make real-world connections, enhancing the relevance of their learning experiences. When students can apply knowledge from various subjects to solve problems or analyze situations, they are more likely to retain information and develop a well-rounded perspective. This method encourages collaborative learning and helps students appreciate the interconnectedness of knowledge, fostering a more comprehensive understanding of complex topics.

Becker and Park (2011) explored the benefits of interdisciplinary teaching, highlighting how it enhances student engagement and motivation. Their research indicates that students are more likely to find learning

meaningful when they can draw connections across subjects. Dahlgren and Pacheco (2016) discussed the significance of interdisciplinary learning in developing critical thinking skills. Their findings suggest that students benefit from exploring concepts across disciplines, as it encourages them to synthesize information and think critically about complex issues. These studies provide evidence that integrating interdisciplinary questions can significantly enhance student engagement and foster critical thinking, leading to a more holistic understanding of the subject matter.

Peer Interaction. Peer questioning fosters active participation and learning from each other. Participants can facilitate peer-to-peer questioning through group work or structured discussions, enhancing collaboration and knowledge exchange. , Participant I, *"I've tried using peer questioning, where students take turns asking each other questions about the material. This encourages active participation and helps students learn from each other."* It is promoting peer questioning for active participation and learning from each other. Participant I's response highlighted the strategy of peer questioning as a method to enhance student engagement and learning. By implementing a peer questioning strategy, Participant I fosters a collaborative learning environment where students actively engage with the material and each other. This approach not only promotes active participation but also empowers students to take ownership of their learning process. When students ask and answer questions among themselves, they deepen their understanding of the content and develop critical thinking skills as they articulate their thoughts and clarify their ideas.

Peer questioning facilitates knowledge sharing and collaboration, allowing students to gain different perspectives on the material. This interaction can lead to more robust discussions, as students challenge each other's understanding and provide support. The social aspect of learning can also enhance motivation and confidence, as students feel more comfortable expressing their ideas in a collaborative setting.

Liu, Wang, and Zhang (2019) examined the effectiveness of peer questioning in promoting student engagement and understanding. Their findings indicate that students who engage in peer questioning perform better academically and demonstrate improved critical thinking skills. Gulikers, Bastiaens, and Kirschner (2015) explored the role of peer learning and questioning in developing deeper learning outcomes. Their research suggests that peer questioning not only enhances comprehension but also fosters a sense of community among students. These studies support the effectiveness of peer questioning as a strategy to enhance student engagement and foster deeper learning through collaborative inquiry**.**

Metacognition and Reflection. Reflective questioning techniques encourage students to reflect on their learning and develop metacognitive skills. Questions prompt students to assess their understanding, identify areas for improvement, and transfer knowledge to new situations. , Participant J, *"I've been using more reflective questioning techniques, such as asking students to write about their learning process in journals. This helps them think more deeply about their learning and develop metacognitive skills."* It is employing reflective questioning techniques to deepen students' understanding and develop metacognitive skills

Participant I's response emphasized the use of reflective questioning techniques, particularly through journaling, to enhance student learning and metacognitive development. By encouraging students to write about their learning processes in journals, Participant I is promoting reflection on their thought processes, decisions, and understanding of the material. This reflective practice fosters deeper learning as students analyze their own experiences and articulate their insights.

Reflective questioning prompts students to consider not just what they learned but how they learned it, enhancing their awareness of their cognitive strategies. Moreover, Metacognition—the awareness and

understanding of one's thought processes—is crucial for effective learning. By engaging in reflective questioning, students develop metacognitive skills that enable them to evaluate their comprehension and adjust their learning strategies accordingly. This self-regulation empowers students to become more independent learners, as they can identify their strengths and areas for improvement.

Dunlosky and Metcalfe (2019) highlight the importance of reflective practices in education. Their research indicates that reflective questioning techniques, such as journaling, can significantly enhance students' metacognitive skills and overall academic performance. Schraw and Dennison (2017) emphasize the role of reflection in fostering metacognitive awareness among students. Their study suggests that structured reflective practices, including reflective questioning, contribute to improved self-regulation and learning outcomes. These studies provide evidence that reflective questioning techniques can significantly enhance students' metacognitive skills and lead to deeper learning experiences.

The innovative questioning strategies shared by participants demonstrate a diverse array of approaches that can enhance classroom questioning. By categorizing these strategies into distinct themes, educators can identify and adopt those that best align with their teaching and learning objectives. Effective questioning strategies stimulate student engagement, foster critical thinking, and promote meaningful learning experiences.

The Art of Questioning: Unlocking Student Potential Through Effective Dialogue

Effective questioning is a cornerstone of engaging and impactful teaching. It sparks curiosity, encourages critical thinking, and fosters deep learning. But the art of asking powerful questions goes beyond simply posing a query; it involves a tapestry of essential skills that Participants must cultivate.

Active Listening: The Key to Meaningful Dialogue. Participant A, *"Active listening is essential for effective questioning. Participants need to listen carefully to student responses and build on them with follow-up questions. This skill can be developed through practice and by being fully present during interactions with students."* It emphasized the crucial role of active listening in effective questioning. By closely attending to student responses, Participants can not only understand their thinking but also tailor follow-up questions that delve deeper into the subject matter. Active listening transforms questioning from a one-way street into a dynamic conversation, building upon students' ideas and fostering authentic learning.

Participant A's response highlighted the critical role of active listening in the effectiveness of questioning strategies in the classroom. Participant A emphasized that active listening is fundamental for effective questioning. By paying close attention to student responses, Participants can tailor their follow-up questions to deepen understanding and encourage further exploration of ideas. This responsive approach not only validates student contributions but also creates a dynamic learning environment where students feel heard and valued. When Participants actively listen, they can identify key themes, misconceptions, and interests in student responses, allowing them to craft questions that extend learning. This process encourages critical thinking as students are prompted to elaborate on their ideas or reflect on their thought processes. It also fosters a supportive classroom atmosphere, where students are more likely to engage in discussions and share their thoughts openly. Participant A suggests that active listening can be developed through practice and mindfulness. Educators can benefit from training and strategies that enhance their listening skills, which in turn can improve the quality of classroom interactions and questioning techniques.

Gonzalez et al. (2018) discussed the impact of active listening on Participant-student interactions. Their research indicates that Participants who engage in active listening significantly enhance student

engagement and comprehension, leading to more effective learning experiences. Egan (2017) explored how active listening techniques can improve classroom discourse and student engagement. The study underscored the importance of listening in building rapport and understanding students' needs, which enhances the effectiveness of questioning strategies. These studies reinforce the idea that active listening is a vital component of effective questioning, significantly impacting student engagement and learning outcomes.

Critical Thinking: Shaping Questions that Matter. Participant B uttered, *"Critical thinking is crucial for formulating meaningful questions. Participants need to think deeply about the material and consider different perspectives. This skill can be developed through professional development and collaboration with colleagues."* It emphasized the importance of critical thinking in crafting meaningful questions. This skill allows Participants to consider diverse perspectives, analyze the underlying assumptions behind questions, and design inquiries that stimulate higher-order thinking. Critical thinking ensures that questions are not merely superficial but rather serve to challenge preconceptions and facilitate deeper understanding.

Participant B's response underscored the importance of critical thinking in crafting meaningful questions in the classroom. Participant B highlighted that formulating meaningful questions requires deep engagement with the material and consideration of various perspectives. Critical thinking enables Participants to analyze content critically, anticipate student responses, and design questions that provoke thought, encourage discussion and foster deeper understanding. By asking insightful questions, Participants can challenge students to think critically and explored concepts from multiple angles.

Moreover, Participant B emphasized the value of professional development and collaboration among educators to enhance critical thinking skills. Workshops, training sessions, and collaborative discussions can provide Participants with strategies for developing questions that stimulate critical thinking. Sharing experiences with colleagues can lead to a richer understanding of how to approach content and engage students effectively. By focusing on critical thinking in questioning, Participants can create a classroom culture that values inquiry and exploration. This approach encourages students to take ownership of their learning, as they are prompted to consider different perspectives and develop their critical thinking skills in response to thoughtfully constructed questions.

Paul and Elder (2014) discussed the importance of critical thinking in education and how it can enhance questioning strategies. They argue that educators who develop critical thinking skills are better equipped to design questions that promote deeper engagement and understanding among students. Zohar and Dori (2018) explored the relationship between Participants' critical thinking and their questioning techniques in the classroom. Their study indicates that Participants who engage in critical reflection and collaborative practices are more likely to ask higher-order questions that facilitate meaningful learning experiences. These studies support the assertion that critical thinking is essential for effective questioning and can be cultivated through professional development and collaborative efforts among educators.

Patience and Wait-Time: Allowing Minds to Bloom. Participant C stated, *"Patience is important for effective questioning. Participants need to give students time to think and respond without rushing them. This skill can be developed by practicing wait-time techniques and being mindful of the pace of questioning."* It highlighted the importance of patience and providing sufficient wait-time. This allows students time to process information, formulate their thoughts, and respond thoughtfully. Rushing the process can stifle creativity and discourage participation. Patience allows students to feel heard and valued, fostering a supportive learning environment.

Participant C's response highlighted the significance of patience in the effectiveness of questioning strategies in the classroom. Participant C emphasized that allowing students sufficient time to think and formulate their responses is critical for effective questioning. This practice, known as "wait time," encourages deeper cognitive processing and enables students to articulate their thoughts more clearly. When Participants rush students, they may miss opportunities for insightful responses, leading to surface-level engagement with the material. The notion of being mindful about the pace of questioning reflects a Participant's awareness of individual student needs. By adopting a more deliberate pace, educators can create an environment where all students feel comfortable contributing, thereby fostering greater participation and inclusivity.

This patience helps build a classroom culture that values thoughtful responses over quick answers. Furthermore, Participant C suggests that the skill of patience can be developed through practice. Implementing wait-time techniques involves consciously allowing a few extra seconds after asking a question before calling on a student to respond. This practice can enhance student engagement, as they are more likely to feel that their contributions are valued.

Rowe (2017) discussed the impact of wait time on student responses and learning outcomes. The research indicates that increased wait time enhances the quality of student answers, promotes deeper thinking, and encourages higher levels of engagement. Nicol and Macfarlane-Dick (2016) explored the concept of formative assessment and the role of wait time in improving student learning. Their findings suggest that patience in questioning strategies positively impacts student learning by allowing them to engage in critical thinking. These studies support the notion that patience and the practice of wait-time are essential components of effective questioning, significantly enhancing student engagement and learning outcomes.

Flexibility and Adaptability: Meeting Students Where They Are. Participant D, *"Flexibility is key for adapting questions to different situations and student needs. Participants can develop this skill by being open to trying new questioning strategies and adjusting their approach based on student responses."* It recognizes the need for flexibility and adaptability in questioning strategies. Different situations and student needs require varied approaches. Effective Participants can adjust their questioning style based on the learning context, ensuring that questions remain relevant and engaging for all students.

Participant D's response emphasized the importance of flexibility in questioning strategies within the classroom context. It highlighted that flexibility allows educators to adapt their questioning techniques to meet the varying needs of students. Different students may respond to different types of questions and being able to adjust questions based on student understanding, engagement levels, and dynamics within the classroom is essential for fostering effective learning environments. This adaptability enhances the chances of eliciting meaningful responses and maintaining student interest. The willingness to try new questioning strategies is a crucial aspect of professional growth for Participants. By experimenting with various approaches—whether through higher-order questions, Socratic questioning, or real-world applications—Participants can discover what resonates best with their students. This openness to innovation contributes to a more dynamic classroom environment, where questioning becomes a tool for engagement and deeper understanding.

Furthermore, Participant D's approach to adjusting questions based on student responses also points to the importance of real-time assessment. Effective Participants constantly assess student understanding during lessons and can pivot their questioning strategies accordingly. This ongoing assessment allows educators to scaffold learning, ensuring that questions are challenging yet achievable, which can lead to improved student outcomes.

Fisher and Frey (2015) discussed the role of flexibility in instruction, emphasizing that Participants must adapt their questioning and instructional methods to align with student needs and responses. This adaptability fosters a responsive learning environment. Bruscia (2019) explored the significance of flexibility in questioning techniques, stating that Participants who can adjust their questions based on student feedback can facilitate a more inclusive and engaging classroom atmosphere. This adaptability is vital for promoting active learning and critical thinking. These studies support the idea that flexibility in questioning is a key component of effective teaching practices, leading to improved engagement and learning outcomes for students.

Clear Communication: The Foundation of Understanding. Participant E, *"Communication skills are essential for clearly and effectively posing questions. Participants can develop this skill through practice, feedback from colleagues, and professional development focused on questioning techniques."* It underscored the fundamental role of clear communication in effective questioning. Questions should be concise, well-articulated, and free from ambiguity. Clear communication ensures that students understand the intent of the question and can confidently respond, promoting a shared understanding of the subject matter.

Participant E's response highlighted the critical role of communication skills in effective questioning within the classroom. It emphasized that clear communication is fundamental when posing questions to students. Well-articulated questions can significantly enhance student understanding and engagement. If questions are vague or poorly constructed, students may struggle to comprehend what is being asked, leading to superficial or incorrect responses. Therefore, refining communication skills is vital for ensuring that questions are understood in the way they are intended. Additionally, effective questioning that stems from strong communication skills can encourage students to participate more actively in discussions. When students perceive that their Participants communicate clearly and thoughtfully, they are more likely to feel comfortable engaging in dialogue and sharing their thoughts. This increased participation not only enhances their learning experience but also fosters a classroom culture where students feel valued and heard.

Moreover, Participant E mentions the importance of professional development and feedback from colleagues in developing communication skills. Participating in training sessions focused on effective questioning can provide Participants with practical strategies to enhance their communication techniques. Additionally, collaboration with peers allows Participants to gain insights into their questioning styles, helping them refine their approach based on constructive feedback.

Hattie and Timperley (2017) discussed the importance of effective communication in teaching, noting that Participants who are skilled communicators can pose questions that promote deeper thinking and engagement among students. Their work highlighted how clear communication is integral to instructional effectiveness. Fisher and Frey (2018) argue that effective questioning is rooted in strong communication skills. Their research suggests that ongoing professional development in questioning techniques can lead to improved Participant-student interactions and enhanced learning outcomes. These studies underscore the significance of communication skills in effective questioning, which ultimately contributes to a more engaging and productive classroom environment.

Empathy and Relationship Building: Fostering Trust and Connection. Participant F, *"Empathy is important for understanding student perspectives and creating a supportive environment for questioning. Participants can develop this skill by building strong relationships with students and being attentive to their needs and feelings."* It values the importance of empathy in understanding student perspectives. By

showing empathy, Participants create a safe and supportive environment where students feel comfortable expressing their ideas and engaging in meaningful dialogue. Building positive relationships with students is essential for facilitating open communication and fostering a love of learning.

Participant F's response highlighted the significance of empathy in fostering a supportive environment for questioning within the classroom. It emphasized that empathy allows Participants to better understand their students' thoughts, feelings, and learning styles. By recognizing the diverse backgrounds and experiences that students bring to the classroom, Participants can tailor their questioning strategies to meet individual needs. This understanding can help Participants ask questions that resonate with students, encouraging them to engage more fully in discussions. Additionally, an empathetic approach contributes to a classroom atmosphere where students feel safe to express their ideas and ask questions. When students perceive that their Participant cares about their well-being and values their contributions, they are more likely to take risks in their learning. This supportive environment fosters open communication and encourages students to explore ideas without fear of judgment. Participant F suggests that developing empathy requires building strong relationships with students. Participants who invest time in getting to know their students and show genuine interest in their lives can create a sense of belonging. This relational foundation is crucial for facilitating meaningful discussions and effective questioning.

Zinsser et al. (2016) highlighted the importance of Participant empathy in promoting student engagement and emotional well-being. Their study indicates that empathetic Participants can create a more inclusive and supportive classroom environment, which enhances students' willingness to participate in discussions. Brackett et al. (2019) discussed the impact of social-emotional learning on student outcomes and emphasize that empathy is a crucial component in fostering positive Participant-student relationships. Their research shows that Participants who practice empathy can significantly enhance student engagement and learning. These studies reinforce the idea that empathy is vital in effective questioning, helping create an environment conducive to learning and engagement.

Creativity and Engagement: Keeping Learning Alive. Participant G mentioned, *"Creativity is important for designing engaging and thought-provoking questions. Participants can develop this skill by exploring different questioning techniques, using multimedia and visual prompts, and being open to new ideas."* It emphasized the power of creativity in designing engaging and thought-provoking questions. Innovative questions spark curiosity, challenge preconceived notions, and make learning enjoyable. Through creative questioning, Participants can ignite students' imaginations and inspire a passion for exploration and discovery.

Participant G's response highlighted the importance of creativity in formulating engaging and thought-provoking questions within the classroom. It underscored that creativity enables Participants to craft questions that capture students' attention and stimulate their curiosity. Engaging questions can motivate students to think critically and explore concepts more deeply. By incorporating creative elements into questioning, Participants can enhance student participation and interest in the lesson. The response suggests that creativity involves experimenting with various questioning strategies. Participants who are open to trying new techniques, such as project-based questions or interactive formats, can discover approaches that resonate with their students. This exploration can lead to more dynamic classroom discussions and a richer learning experience.

Additionally, Participant G points out that integrating multimedia resources and visual aids into questioning can help cater to diverse learning styles. Creative questioning that incorporates videos, images, or interactive tools can facilitate deeper engagement and understanding, especially for visual

learners. This use of varied resources encourages students to connect ideas across different mediums, fostering a holistic learning environment.

Furthermore, the emphasis on being open to new ideas reflects the dynamic nature of teaching. Creativity requires adaptability and a willingness to learn from both successes and failures. Participants who embrace innovation in their questioning techniques are more likely to create a stimulating classroom environment that encourages exploration and discovery.

Mason and Bruning (2018) discussed the impact of creative questioning on student engagement and learning outcomes. Their research shows that when Participants incorporate creativity into their questioning strategies, students demonstrate increased motivation and participation. Harris (2019) emphasized the role of creativity in teaching and learning, particularly in how it affects student engagement. The study reveals that creative approaches to questioning help develop critical thinking skills and enhance students' overall learning experiences. These studies reinforce the notion that creativity is essential in formulating effective questioning strategies that engage students and promote deeper understanding.

Reflective Thinking: Continuously Improving Practice. Participant H, *"Reflective thinking is essential for assessing the effectiveness of questioning strategies. Participants can develop this skill by regularly reflecting on their questioning practices, seeking feedback from students and colleagues, and being open to continuous improvement."* It advocates for reflective thinking to assess the effectiveness of questioning strategies. By analyzing the impact of questions on student learning, Participants can identify areas for improvement and refine their approach, ensuring that questioning remains an effective tool for promoting deeper understanding.

Participant H's response emphasized the critical role of reflective thinking in evaluating and enhancing questioning strategies within the classroom. It highlighted that reflective thinking allows educators to critically assess their questioning strategies and understand their impact on student learning. By evaluating how questions are received and whether they foster engagement and understanding, Participants can determine which strategies are effective and which need adjustment. The suggestion that Participants should regularly reflect on their questioning practices indicates that this should be an ongoing process. Continuous reflection helps educators identify patterns in student responses and engagement levels, providing insights into how well their questioning techniques are working. This proactive approach enables Participants to make timely adjustments and improvements to their methods.

Moreover, Participant H points out the importance of feedback from both students and colleagues. Student feedback can offer valuable perspectives on what types of questions resonate with them and which might be confusing or ineffective. Additionally, collaboration with colleagues can provide new ideas and insights, as Participants share their experiences and strategies. This collaborative reflection fosters a culture of learning and growth within the educational environment. Furthermore, the emphasis on being open to continuous improvement signifies that reflective thinking is not a one-time task but rather a commitment to ongoing professional development. Participants who adopt a mindset of lifelong learning are more likely to adapt to changing classroom dynamics and student needs, ensuring that their questioning strategies remain relevant and effective.

Levine (2016) discussed the importance of reflective practices in teaching and how they influence the effectiveness of instructional strategies, including questioning. The study emphasized that reflective thinking leads to enhanced teaching practices and improved student outcomes. Tennant and Pogson (2019) explored how reflective thinking contributes to Participants' professional development and the refinement

of their teaching strategies. The findings suggest that reflection is key to identifying effective questioning techniques that facilitate student learning. These studies reinforce the importance of reflective thinking in evaluating and improving questioning strategies, ultimately leading to enhanced student learning experiences.

Problem-Solving Skills: Navigating the Challenges of Questioning. Participant I, *"Problem-solving skills are important for addressing challenges that arise during questioning. Participants can develop this skill by staying adaptable, seeking solutions, and learning from their experiences."* acknowledges the importance of problem-solving skills when addressing challenges that arise during questioning. By thinking critically and creatively, participants can find solutions to unexpected situations and ensure that the learning process remains focused and productive.

Participant I's response emphasized the significance of problem-solving skills in effectively addressing challenges that may arise during questioning in the classroom. It acknowledges that questioning can sometimes lead to unexpected difficulties, such as student disengagement, misunderstanding of questions, or varying levels of preparedness. Problem-solving skills enable Participants to navigate these challenges by quickly identifying the issues and implementing appropriate strategies to re-engage students or clarify concepts. The emphasis on adaptability highlighted the need for Participants to be flexible in their approach. When questions do not yield the desired responses or when students struggle to engage, Participants must be prepared to modify their questioning techniques or shift their instructional strategies. This adaptability allows for a more responsive and student-centered learning environment.

Moreover, Participant I's point about seeking solutions underscored the proactive mindset necessary for effective teaching. Instead of viewing challenges as setbacks, Participants can approach them as opportunities for growth and learning. By actively seeking solutions, educators can develop a repertoire of strategies that can be employed in future situations, enhancing their effectiveness as instructors.

Furthermore, the importance of learning from experiences indicates that each teaching interaction provides valuable insights. Reflecting on past questioning scenarios, whether successful or challenging, allows Participants to refine their skills and develop more effective strategies over time. This ongoing learning process contributes to professional growth and better student outcomes.

Yin et al. (2019) explored the relationship between problem-solving skills and effective teaching practices. The study highlighted how Participants' ability to adapt and find solutions during classroom interactions enhances student engagement and learning outcomes. Miller and Duffy (2017) investigate how Participants' adaptability and problem-solving skills impact their instructional strategies, particularly in the context of questioning. The findings suggest that Participants who demonstrate strong problem-solving abilities are more effective in fostering student engagement and understanding. These studies support Participant I's emphasis on the importance of problem-solving skills in addressing challenges that arise during questioning, highlighting how adaptability and a proactive approach can significantly enhance teaching effectiveness.

Collaboration and Professional Development: Sharing Expertise and Growing Together. Participant J stated, *"Collaboration is key for sharing and developing effective questioning strategies. Participants can develop this skill by working with colleagues, participating in professional learning communities, and attending workshops and training sessions."* emphasized the benefits of collaboration with colleagues and participation in professional development opportunities. Sharing insights, learning from each other, and engaging in ongoing professional growth strengthens teaching practices and ensures that questioning strategies remain aligned with current best practices.

Participant J's response underscored the essential role of collaboration in enhancing questioning strategies within the classroom. It emphasized that collaboration allows Participants to share their experiences, successes, and challenges regarding questioning strategies. This sharing of best practices can lead to the discovery of new techniques and ideas that individual Participants may not have considered on their own. Participation in PLCs provides a structured environment for Participants to engage in continuous learning. In these communities, educators can collaboratively reflect on their questioning techniques, receive feedback, and explore innovative approaches to enhance student engagement and understanding.

Additionally, attending workshops and training sessions focused on questioning strategies allows Participants to learn from experts in the field and gain insights into effective questioning practices. These professional development opportunities not only enrich Participants' skill sets but also foster a culture of collaboration and support among colleagues. Moreover, collaboration fosters a sense of community among Participants, creating a supportive network where they can seek advice, share resources, and discuss challenges. This collective approach to professional growth can lead to improved teaching practices and, ultimately, better student outcomes.

Johnson et al. (2017) explored the impact of collaborative professional development on Participants' questioning strategies. The study finds that Participants who engage in collaborative practices demonstrate improved questioning techniques and enhanced student engagement in learning. Kraft and Papay (2016) discussed the role of collaboration in Participant development, emphasizing that Participants who collaborate with their peers are more likely to adopt effective instructional practices, including questioning strategies. The findings highlight the importance of collaborative environments in promoting professional growth. These studies support Participant J's assertion that collaboration is crucial for sharing and developing effective questioning strategies, reinforcing the idea that working together fosters professional growth and enhances teaching practices.

The narratives of these Participants highlight the multifaceted nature of effective questioning. It is a skill that requires constant cultivation, encompassing a wide range of essential skills. By focusing on these key themes and embracing a growth mindset, Participants can empower students to think critically, engage deeply, and achieve their full learning potential.

Project Proposal:

Improvement of the Art of Questioning for Teachers Using Blue Ocean Strategy

Project Title:

Innovative Questioning: A Blue Ocean Strategy for Enhancing Teaching Techniques

Project Overview:

This initiative aims to transform teachers' questioning techniques by harnessing the principles of the Blue Ocean Strategy. By creating an uncontested market space within the educational landscape, this project will cultivate an environment where innovative questioning not only enhances critical thinking but also elevates student engagement and deepens understanding across various subjects and grade levels. This forward-thinking approach will empower educators to inspire their students and foster a vibrant learning community.

Objectives:

- **Innovate Questioning Techniques:** Develop and implement unique and effective questioning strategies that diverge from traditional pedagogical methods, thereby enriching the learning experience.

- **Increase Student Engagement:** Utilize creative and thought-provoking questioning to captivate students' interest, encouraging active participation and enthusiasm for learning.
- **Foster Critical Thinking:** Promote critical thinking skills by encouraging students to explored diverse perspectives and engage in meaningful dialogues through innovative questioning approaches.
- **Create Inclusive Learning Environments:** Establish a classroom atmosphere where every student feels valued and included, fostering respect and collaboration during discussions.

Methodology:

1. **Professional Development Workshops:**

Conduct a series of workshops focused on innovative questioning techniques, including open-ended, probing, and higher-order thinking questions. Introducing interactive technology tools (e.g., Kahoot!) to engage students actively in the questioning process. The workshops will emphasize the development of various dimensions or levels of questions, such as:

a. **Literal or first-level questions (e.g., "right there" questions)** designed to assess students' basic understanding of the material.

Examples:

1. What color was the cat in the story?
2. Where did the children go after school?

a. **Interpretative or second-level questions (e.g., "think and search" questions)** that encourage students to analyze and infer meaning beyond the literal text.

- Examples:

1. Why do you think the cat was hiding under the bed?
3. How do you think the girl felt when she lost her toy?

a. **Critical (evaluative) or third-level questions** that prompt students to form opinions or judgments about the material and assess the effectiveness of certain elements.

- Examples:

1. Do you think the cat made a good choice by staying inside? Why or why not?
2. Was it a good idea for the boy to share his snack with his friend? Explain your answer.

b. **Integrative or fourth-level questions (e.g., "tying-up" questions)** that help students connect new ideas with prior knowledge and experiences, fostering deeper insights.

- Examples:

1. Can you think of a time when you were scared like the cat in the story? What happened?
2. How would the story have changed if the children hadn't shared their toys?

By systematically integrating these four levels of questioning into daily classroom practice, teachers can foster critical thinking, student engagement, and deeper understanding.

3. Blue Ocean Strategy Framework:

Apply the principles of the Blue Ocean Strategy to reimagine traditional questioning boundaries, enabling the creation of new, effective questioning techniques. Emphasize differentiation and cost-effective strategies to facilitate the adoption of innovative questioning methods.

4. Collaborative Practices:

Establish Professional Learning Communities (PLCs) where teachers can share best practices and collaborate on developing innovative questioning strategies. Facilitate regular meetings for teachers to discussed, refine, and enhance their questioning techniques collaboratively.

5. Classroom Observations and Feedback:

Conduct systematic classroom observations to assess the implementation and effectiveness of innovative questioning strategies. Provide constructive and actionable feedback to teachers based on these observations, fostering a culture of continuous improvement.

6. Student Feedback and Assessment:

Gather feedback from students regarding the effectiveness of the newly implemented questioning strategies. Utilize both formal and informal assessments to measure the impact of questioning on student learning outcomes and engagement levels.

7. Reflective Practices:

Encourage teachers to engage in reflective practices regarding their questioning techniques through self-assessment and peer feedback. Promote a culture of continuous improvement via ongoing professional development and collaboration.

Expected Outcomes:

1. **Innovative Questioning Techniques:** Teachers will successfully develop and implement diverse and effective questioning strategies tailored to various subjects and grade levels, enhancing overall instructional quality.
2. **Enhanced Student Engagement:** Increased levels of student participation and engagement in classroom discussions will lead to improved motivation and investment in their learning processes.
3. **Development of Critical Thinking Skills:** Students will demonstrate enhanced critical thinking and problem-solving abilities, enabling them to connect classroom learning to real-world contexts effectively.
4. **Inclusive Learning Environments:** The initiative will foster a classroom culture where all students feel valued and included, enhancing relationships between teachers and students.
5. **Strengthened Teacher-Student Relationships:** An atmosphere of mutual respect and understanding will develop, contributing to a positive educational environment.

Timeline:

- Months 1-2: Planning and preparation, including identifying trainers and scheduling workshops.
- Months 3-4: Conducting professional development workshops and establishing PLCs.
- Months 5-6: Implementing classroom observations and collecting student feedback.
- Months 7-8: Engaging in reflective practices and facilitating continuous improvement through ongoing collaboration and professional development.

Budget:

- Professional Development Workshops: PhP 5,000.00
- Technology Tools and Resources: PhP 3,000.00
- Classroom Observations and Feedback: PhP 2,000.00
- Student Feedback and Assessment Tools: PHP 1,000.00
- Miscellaneous Expenses: PHP 1,000.00

Evaluation:

1. Pre- and Post-Assessments: Measure the impact of professional development on teachers' questioning skills and effectiveness.
2. Student Surveys: Collect comprehensive feedback regarding student engagement and critical thinking development.

3. Classroom Observations: Evaluate the implementation and overall effectiveness of questioning strategies within the classroom setting.

By leveraging the innovative principles of the Blue Ocean Strategy, this project aspires to create inclusive and dynamic learning environments that cultivate critical thinking and foster unparalleled student engagement, ultimately leading to a more enriched educational experience for all.

Prepared by:

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CHAPTER 5
INTERPRETATION, CONCLUSION, AND RECOMMENDATION

This chapter presents the culmination of the study titled "Unveiling the Lived Experience of Elementary School Teachers in the Art of Questioning Strategies." The investigation explored the insights and experiences of elementary school teachers in the municipality of Irosin, focusing on their use of questioning strategies as a vital component of teaching and learning. Throughout this study, the respondents' lived experiences were carefully analyzed to shed light on how questioning serves as a tool to engage students, foster critical thinking, and enhance classroom dynamics.

The data collected from the respondents were rigorously analyzed and interpreted, providing a deeper understanding of the complexities, challenges, and triumphs associated with the art of questioning. These insights form the foundation of the conclusions drawn in this chapter, as well as the recommendations for future practice, policy, and research.

This chapter aims to synthesize the findings and provide meaningful conclusions based on the participants' experiences. Additionally, it offers practical recommendations for educators, school leaders, and policymakers to improve the implementation of effective questioning strategies in elementary education. The reflections and insights presented herein are intended to serve as a guide for enhancing pedagogical approaches and fostering a more engaging and productive learning environment.

Key Concepts

In this study, the key concepts that emerged from the study are synthesized to provide a comprehensive understanding of the lived experiences of elementary school teachers in employing questioning strategies. These concepts, drawn from the data gathered from teachers in the municipality of Irosin, encapsulate the essential aspects of how questioning is used as a pedagogical tool in the classroom.

Questioning as a Catalyst for Student Engagement

A recurring theme from the respondents' experiences highlighted the role of questioning as a vital tool for promoting student engagement. Teachers shared how their questioning strategies often served as a bridge to connect learners with the subject matter, sparking curiosity and promoting active participation. Whether through simple recall questions or more complex inquiries, the art of questioning allowed students to feel involved in the learning process. The data revealed that teachers viewed questions not merely as assessment tools but to stimulate dialogue and foster a collaborative learning environment.

Fostering Critical Thinking and Deep Learning

Another significant concept that emerged was the power of questioning to cultivate critical thinking among students. The teachers consistently emphasized the importance of crafting questions that challenged students to go beyond rote memorization, encouraging them to analyze, evaluate, and synthesize

information. The data illustrated that well-constructed questions could push students to think more deeply about the material, fostering intellectual growth and preparing them for real-world problem-solving. Teachers expressed that they found joy in seeing students engage in higher-order thinking, which they attributed to their strategic use of questions.

Challenges in the Art of Questioning

Despite its benefits, the respondents also reported several challenges associated with implementing effective questioning strategies. Some teachers expressed difficulties in framing questions that matched the diverse cognitive levels of their students. In addition, time constraints often limited the ability to engage in prolonged questioning sessions, which hindered deeper exploration of topics. The study also revealed that some teachers felt constrained by traditional curricula, which left little room for open-ended or exploratory questioning. These challenges underline the need for further support and professional development in mastering the art of questioning.

Adaptability and Differentiation in Questioning Techniques

A key finding from the research was the adaptability required of teachers when applying questioning strategies. Teachers shared that their questioning techniques often had to be modified depending on the students' backgrounds, learning styles, and abilities. Differentiation became a core element of their questioning approach, ensuring that every student could engage with the material at an appropriate level. Respondents highlighted how they adjusted the complexity and form of their questions to meet the needs of both high-achieving students and those who required additional support. This flexibility in questioning strategies was viewed as essential in promoting inclusivity and equity in the classroom.

Questioning as a Reflection of Pedagogical Expertise

Finally, the study underscored that the art of questioning that reflects a teacher's pedagogical expertise. The respondents emphasized that effective questioning required not only an understanding of content but also the ability to anticipate students' responses and guide discussions accordingly. Teachers noted that over time, their questioning strategies became more refined as they gained experience, allowing them to seamlessly integrate questioning into their instructional practices. This finding suggested that questioning is not a static skill but one that evolves through continued practice, reflection, and professional growth.

The key concepts presented in this chapter illuminate the intricate and multifaceted nature of questioning strategies in elementary education. Through the lived experiences of teachers in Irosin, this study has highlighted the profound impact of questioning on student engagement, critical thinking, and classroom dynamics, while also acknowledging the challenges that educators face in implementing these strategies. The insights gleaned from this research point to the need for ongoing support and development in the art of questioning to enhance its effectiveness as a pedagogical tool.

Research Questions

This study on unveiling the lived experiences of elementary school teachers in the art of questioning strategies aimed to answer the following questions:

1. What are the common questioning strategies used by elementary school teachers in classroom instruction?
2. How do elementary school teachers adapt their questioning strategies to different subjects and grade levels?
3. What challenges do elementary school teachers face in using questioning strategies?
4. How do elementary school teachers reflect on their questioning strategies and make improvements?
5. What impact do questioning strategies have on learners' learning and engagement?

6. What project proposal on emerging questioning strategies as a primary skill could be designed to enhance the art of questioning?

Research Process

The completion of this qualitative study, titled "Unveiling the Lived Experiences of Elementary School Teachers in the Art of Questioning Strategies," began with the researcher's initiative to seek approval for the research title. During the title defense, the panel members recognized the significance of this study, emphasizing its relevance not only to the participants but also to the broader educational community. Under the constant guidance and supervision of the research adviser, the researcher effectively conceptualized the key variables that would drive the study.

To ground the research in existing knowledge, the researcher engaged in an extensive review of related literature and studies. This involved browsing through books and online resources to establish a clear focus for the qualitative investigation. The researcher found that while there were numerous studies on questioning strategies, few specifically explored the lived experiences of elementary school teachers in this context. This realization helped narrow the scope of the research and illuminated the path forward.

To gather pertinent data, the researcher crafted a set of interview questions that would facilitate meaningful discussions with the participants. With the support of his research adviser, he developed a well-structured tool designed to elicit rich insights. Following ethical research practices, he also submitted a letter of permission to the Dean of Graduate Studies, ensuring that the study adhered to institutional guidelines.

Identifying suitable participants was a critical step in this qualitative study. The researcher utilized purposive sampling to select a diverse group of elementary school teachers, ensuring representation across various grade levels and teaching contexts. This selection process was essential for capturing a broad spectrum of experiences related to questioning strategies in the classroom.

During the data-gathering phase, the researcher encountered a challenge: some participants expressed discomfort with face-to-face interviews. In response, the researcher allowed participants to provide written responses to the interview questions. This approach not only respected the participants' comfort levels but also aligned with ethical considerations, as the sensitive nature of the topic required careful handling and confidentiality. Over four months, the researcher diligently collected and meticulously analyzed the responses, identifying emerging themes that would form the basis of the study's findings.

Ultimately, this qualitative study followed a systematic and comprehensive process to explore the lived experiences of elementary school teachers. Through dedicated efforts and collaborative engagement with participants and advisers, the researcher successfully illuminated the nuanced dynamics of questioning strategies in educational practice.

Findings:

1. Teachers use open-ended, probing, and higher-order questions to foster deeper thinking and understanding. Techniques like Socratic questioning, group discussions, and tech tools (e.g., Kahoot!) engage students and encourage participation. Reflection and real-world problem-solving questions reinforce learning and critical thinking.
2. Questions are customized by subject and grade level, balancing structured vs. open-ended questions. For example, math emphasized procedural and conceptual questions, while language arts focus on inferential and analytical questions. These tailored approaches ensure that all subjects and age groups are engaged in meaningful learning.

3. Ensuring equal participation, balancing complex questions, managing time, and addressing diverse learning levels are common challenges. Teachers also focus on encouraging deep thought, handling incorrect answers constructively, and fostering critical thinking over time.
4. Teachers enhance their questioning strategies through observation, feedback, assessments, and collaboration with colleagues. Professional development and self-assessment further improve their effectiveness.
5. Effective questioning promotes critical thinking, problem-solving, and student engagement. It fosters ownership of learning, community, and real-time assessment, creating an intellectually stimulating environment.
6. Skillful use of questions connects theory with real-world application, motivates students, and nurtures reflective and collaborative learning. It transforms classrooms into spaces where students thrive as active, confident learners.

Conclusions:

1. Skillful questioning strategies not only empower students to think critically but also deepen their engagement with the subject matter, preparing them for an ever-changing world by bridging classroom learning with real-world contexts. Consequently, these strategies transform the classroom into a dynamic, inclusive space where students acquire essential life skills such as problem-solving, adaptability, and collaboration.
2. Teachers, by carefully tailoring their questioning techniques to suit the distinct demands of each subject and grade level, foster critical thinking and student engagement while ensuring meaningful learning experiences. This adaptability guarantees that all students, irrespective of their abilities or learning preferences, are given the opportunity to excel, creating a learning environment that is both equitable and rigorous.
3. Effective questioning in the classroom extends beyond merely posing questions; it involves cultivating an inclusive environment, skillfully balancing student participation, and tailoring questions to diverse learning levels. Through thoughtful questioning, educators encourage reflection and engage students in higher-order thinking. To overcome challenges such as student reluctance or uneven participation, teachers must establish a supportive atmosphere where learners feel both encouraged and empowered to explored and express their ideas.
4. Teachers refine their questioning strategies by drawing from a blend of direct classroom observations, peer feedback, student assessments, collaboration with colleagues, self-reflection, and ongoing professional development. By intertwining these methods, educators evolve their questioning techniques into dynamic tools that engage students, creating enriched learning environments where critical thinking, active participation, and independent learning are continually fostered.
5. Questioning serves as a powerful instrument that not only empowers students but also deepens their capacity for critical thinking. In this way, it transforms classrooms into vibrant spaces where students actively engage with content, challenge preconceived ideas, and nurture a lasting sense of curiosity. This transformative power of questioning is pivotal in shaping students into lifelong learners, equipped with the intellectual tools necessary for success in both academic and real-world contexts.
6. The consistent application of effective questioning strategies leaves a profound and lasting impact on student learning and development. By encouraging active participation and nurturing critical thinking, these strategies cultivate interactive and engaging learning environments. As a result, students are

inspired to take ownership of their learning and apply their knowledge across various contexts, both within and beyond the classroom.

Recommendations:

1. A workshop for teachers be organized through a project proposal to explored and practice various questioning techniques. This program can cover active listening, open-ended questions, Socratic questioning, and integrating technology for effective classroom discussions. Encourage teachers to adapt these strategies to their specific subjects and student needs.
2. A comprehensive professional development program be designed that focuses on personalized strategies for questioning across various subjects and grade levels. Include workshops, peer collaboration, and ongoing support to enhance critical thinking, student engagement, and meaningful learning experiences.
3. A comprehensive professional development program be conceptualized that equips educators with a toolkit of effective questioning techniques. This program should emphasize designing questions for different stages of a lesson (beginning, middle, and end), promoting student engagement, and fostering critical thinking.
4. A program that focuses on student-centered questioning techniques be developed. Encourage teachers to observe students closely, provide timely feedback, and assess their understanding. Collaborative discussions among educators can also foster innovative approaches. Additionally, emphasized self-reflection and continuous professional development to refine questioning skills. By integrating these practices, teachers can create vibrant classrooms where students actively participate and learn.
5. Teaching Students to Ask Their Questions: Best Practices in the Question Formulation Technique be applied at the classroom level.: This program focuses on teaching students how to formulate effective questions and use them to pursue their interests, navigate complex situations, and solve problems.
6. Various questioning strategies be integrated and incorporated during computer application instruction:

- Think-Pair-Share: Students think individually, discussed in pairs, and then share their insights with the class.
- Small Group Discussions: Encourage collaborative problem-solving and exploration of application features.
- Online Synchronous Discussions: Use virtual platforms for interactive Q&A sessions.
- Minute Papers: Quick writing activities where students summarize key points or ask questions.
- Classroom Polling Systems: Engage students using clickers or mobile devices to answer questions

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