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Inquiry-Based Learning as a Pedagogical Approach in Education: A Qualitative Study at Manggitahan National High School

¹ Rhonalyn S. Apales

Northeastern College, Santiago City

Manggitahan, National High School

Abstract

Inquiry-based learning (IBL) has been widely recognized as an effective pedagogical approach that promotes active learning, critical thinking, and deeper conceptual understanding. This qualitative study examined the implementation of inquiry-based learning as a pedagogical approach at Manggitahan National High School and explored its influence on learners' engagement and learning experiences. Using a qualitative descriptive research design, data were collected through semi-structured interviews with teachers and focus group discussions with learners. Thematic analysis revealed four major themes: learner engagement through inquiry and exploration, development of understanding through guided inquiry, positive effects on learner motivation and confidence, and challenges in implementing inquiry-based instruction. Findings indicate that inquiry-based learning supports meaningful learning by actively involving learners in questioning, investigation, and reflection. However, constraints related to time, learner readiness, and instructional resources affect consistent implementation. The study concludes that inquiry-based learning is a valuable pedagogical approach in secondary education when supported by appropriate scaffolding, institutional support, and instructional planning.

Keywords: *inquiry-based learning, pedagogy, learner engagement, qualitative study, secondary education*



1. Introduction

Inquiry-based learning is firmly grounded in constructivist perspectives, which conceptualize learning as an active and meaning-making process wherein learners construct knowledge through exploration, questioning, interaction, and reflection (Vygotsky, 1978; Piaget, 1973). From this viewpoint, knowledge is not transmitted directly from teacher to learner but is actively built as learners engage with problems, materials, and social discourse. Inquiry-based learning operationalizes constructivist principles by encouraging learners to investigate phenomena, pose questions, gather and analyze evidence, and formulate explanations based on reasoning (Hmelo-Silver et al., 2007). Through these processes, learners develop deeper conceptual understanding and the ability to apply knowledge flexibly across contexts.

In contemporary education, inquiry-based learning has gained prominence as an instructional approach that supports the development of higher-order thinking skills, problem-solving abilities, and learner autonomy. Research indicates that inquiry-oriented instruction promotes critical thinking, reasoning, and metacognitive skills by requiring learners to evaluate evidence, justify claims, and reflect on their learning processes (Bybee, 2013; Prince & Felder, 2006). Rather than positioning students as passive recipients of information, inquiry-based instruction empowers learners to take ownership of learning tasks and engage in authentic intellectual work. This learner-centered orientation aligns with educational goals that emphasize lifelong learning, adaptability, and independent thinking in increasingly complex and knowledge-driven societies (National Research Council [NRC], 2012).

In secondary education, inquiry-based learning is particularly relevant as learners are expected to engage more deeply with disciplinary content and gradually assume greater responsibility for their own learning. Studies have shown that inquiry-oriented classrooms foster higher levels of learner engagement, conceptual understanding, and positive attitudes toward learning by making instruction interactive and meaningful (Furtak et al., 2012; OECD, 2016). When learners are given opportunities to explore ideas, collaborate with peers, and articulate explanations, they are more likely to develop sustained interest and confidence in their academic abilities. Inquiry-based learning also supports the development of independent learning skills, which are essential for success in higher levels of education.

Despite its documented benefits, the implementation of inquiry-based learning in public secondary schools remains uneven. Research has identified contextual constraints such as limited instructional time, curriculum coverage pressures, large class sizes, and varying levels of learner readiness as factors that hinder consistent implementation (Banilower et al., 2018; Kirschner et al., 2006). Teachers may struggle to balance inquiry activities with mandated curriculum requirements, while learners with limited prior knowledge may require additional scaffolding to engage effectively in inquiry tasks. These challenges highlight the complexity of translating inquiry-based learning principles into everyday classroom practice.

Understanding how inquiry-based learning is enacted in real classroom contexts is therefore essential for informing instructional improvement and policy decisions. Examining teachers' pedagogical practices alongside learners' experiences provides valuable insights into how inquiry-based learning operates within specific institutional and cultural settings. In this regard, the present study examined inquiry-based learning as a pedagogical approach at Manggitahan National High School, focusing on teachers' practices and learners' experiences to generate empirical evidence on

its educational value, contextual influences, and implementation challenges. Such localized evidence contributes to a more nuanced understanding of inquiry-based learning and supports efforts to strengthen its effective use in secondary education.

2. Objectives of the Study

This study aimed to examine inquiry-based learning as a pedagogical approach in education at Manggitahan National High School. Specifically, it sought to describe how inquiry-based strategies are implemented by teachers, explore learners' experiences during inquiry-based activities, examine the perceived effects of inquiry-based learning on learner engagement and understanding, and identify challenges encountered in the implementation of inquiry-based instruction.

3. Methodology

The study employed a qualitative descriptive research design to capture in-depth perspectives on the use of inquiry-based learning in classroom instruction. This design was appropriate for exploring participants' experiences and interpretations within their natural educational setting. Participants included teachers who utilized inquiry-based strategies and learners who were exposed to inquiry-oriented lessons. Purposive sampling was used to ensure that participants had direct experience with the pedagogical approach under investigation.

Data were collected through semi-structured interviews with teachers and focus group discussions with learners. The interview guides focused on instructional strategies, learner participation, and perceived learning outcomes, while the discussion guides explored learners' engagement, understanding and challenges during inquiry-based activities. All sessions were conducted with informed consent, audio-recorded, and transcribed verbatim. Data were analyzed using thematic analysis, involving systematic coding and theme development. Trustworthiness was ensured through triangulation, member checking, and peer debriefing.

4. Results

Analysis of the qualitative data generated four major themes that describe how inquiry-based learning is implemented and experienced as a pedagogical approach at Manggitahan National High School. These themes reflect teachers' instructional practices and learners' experiences during inquiry-oriented lessons.

Theme 1: Learner Engagement Through Inquiry and Exploration

Teachers and learners reported that inquiry-based activities encouraged active participation through questioning, investigation, and collaborative tasks. Lessons that allowed learners to explore concepts independently prompted greater attentiveness and involvement compared to traditional lecture-based instruction. Learners described feeling more interested and alert when they were given opportunities to ask questions, manipulate materials, and work with classmates to solve problems.

Participant responses :

"Mas nagiging active ang mga bata kapag may inquiry activity dahil sila mismo ang naghahanap ng sagot." (Teacher 13)

"Hindi kami inaantok kasi may ginagawa kami, hindi lang nakikinig." (Learner 3)

"Mas masaya ang lesson kapag kami ang nag-e-explore at nagtatanong." (Learner 17)

These responses indicate that inquiry-based learning enhances learner engagement by positioning students as active participants in the learning process. By encouraging questioning and exploration, inquiry-based activities stimulate curiosity and sustain attention, leading to higher levels of classroom involvement. Engagement is strengthened when learners are given ownership of learning tasks, which increases interest and reduces passivity during lessons.

Theme 2: Development of Understanding Through Guided Inquiry

Participants emphasized that inquiry-based learning was most effective when teachers provided guidance through structured questions, prompts, and follow-up discussions. Teachers noted that guidance helped learners interpret their observations correctly, while learners reported that teacher support clarified difficult concepts encountered during inquiry tasks.

Responses:

"Mas naiintindihan nila ang lesson kapag may guide questions." (Teacher 6)

"Nalilito kami minsan, pero tinutulungan kami ng teacher sa tanong." (Learner 12)

"Mas malinaw ang concept kapag may discussion pagkatapos ng activity." (Learner 14)

These responses suggest that guided inquiry supports conceptual understanding by balancing learner exploration with instructional scaffolding. Teacher guidance helps learners organize ideas, address misconceptions, and connect observations to underlying concepts. This structured support ensures that inquiry activities lead to accurate and meaningful knowledge construction rather than confusion or superficial understanding.

Theme 3: Positive Effects on Learner Motivation and Confidence

Learners expressed increased motivation and confidence when they were encouraged to discover answers independently and share ideas without fear of immediate evaluation. Teachers observed that inquiry-based lessons empowered learners to participate more freely, particularly those who were usually hesitant to speak during traditional lessons.

Participant	responses	included:
	<i>"Hindi ako nahihya magsagot kasi pwede magkamali."</i>	(Learner 5)
	<i>"Mas confident na silang magpahayag ng opinion."</i>	(Teacher 3)
	<i>"Mas gusto kong pumasok kapag inquiry ang lesson."</i>	(Learner 7)

These responses indicate that inquiry-based learning fosters positive learning attitudes by creating a supportive classroom environment that values learners' ideas. When mistakes are treated as part of the learning process, learners develop confidence and intrinsic motivation. This supportive atmosphere encourages risk-taking and active participation, which are essential for sustained engagement and deeper learning.

Theme 4: Challenges in Implementing Inquiry-Based Instruction

Despite its benefits, participants identified challenges that affected the consistent implementation of inquiry-based learning. Teachers cited limited instructional time, differences in learners' readiness levels, and insufficient instructional resources as major constraints. Learners also noted that inquiry activities were sometimes rushed or limited due to time and material shortages.

Participant	responses	:
	<i>"Minsan kulang ang oras para matapos ang inquiry activity."</i>	(Teacher 8)

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"Hindi lahat ng estudyante ay pare-pareho ang bilis sa inquiry." (Teacher 6)
"Gusto pa sana naming mag-explore pero tapos na ang klase." (Learner 1)

These responses highlight the influence of contextual and institutional factors on the effective implementation of inquiry-based pedagogy. Limited time, diverse learner readiness, and resource constraints can restrict opportunities for deep exploration and reflection. Although teachers recognize the value of inquiry-based learning, these challenges suggest the need for institutional support, careful instructional planning, and adequate resources to sustain inquiry-oriented practices and maximize their educational impact.

5. Discussion

The findings demonstrate that inquiry-based learning positively influences teaching and learning by promoting learner engagement, deeper conceptual understanding, and increased motivation. When learners are actively involved in questioning, investigating, and constructing explanations, they are more likely to engage cognitively and emotionally with lesson content, leading to more meaningful learning experiences (Hmelo-Silver et al., 2007; Prince & Felder, 2006). Inquiry-based approaches shift instruction from teacher-centered transmission to learner-centered exploration, allowing students to connect prior knowledge with new concepts and develop higher-order thinking skills. Studies have consistently shown that such active participation enhances comprehension and retention, particularly when learners are encouraged to reflect on evidence and articulate their reasoning (Bybee, 2013; National Research Council [NRC], 2012).

These outcomes align with established inquiry-based learning frameworks that emphasize guided exploration, scaffolding, and learner autonomy as key conditions for effective instruction (Furtak et al., 2012). Guided inquiry, in particular, has been found to balance exploration with instructional support, reducing cognitive overload while maintaining learner engagement (Kirschner et al., 2006). However, the challenges identified in this study such as limited instructional time, varying learner readiness, and insufficient instructional resources highlight that the success of inquiry-based learning is strongly influenced by contextual and institutional factors. Research suggests that without adequate teacher preparation, sufficient time for inquiry activities, and access to appropriate learning materials, the effectiveness of inquiry-based pedagogy may be constrained (Banilower et al., 2018; OECD, 2016). Thus, inquiry-based learning is most effective when integrated within a supportive institutional context that provides professional development, instructional resources, and policies aligned with inquiry-oriented teaching. Such systemic support enables teachers to sustain innovative practices and maximize the pedagogical benefits of inquiry-based learning.

6. Conclusions

This study concludes that inquiry-based learning is a valuable pedagogical approach at Manggitahan National High School. By fostering active engagement, deeper understanding, and learner confidence, inquiry-based instruction supports meaningful learning experiences. Addressing challenges related to time, learner readiness, and resources is essential to sustaining its effectiveness in secondary education.

7. Implications

Teachers are encouraged to integrate structured inquiry strategies and scaffolding techniques to maximize learning outcomes. School leaders may support inquiry-based learning through professional development and collaborative instructional planning. Curriculum planners are

encouraged to align learning competencies and assessment practices with inquiry-oriented pedagogy to promote meaningful and student-centered learning experiences.

References

- Banilower, E. R., Smith, P. S., Weiss, I. R., Malzahn, K. A., Campbell, K. M., & Weis, A. M. (2018). *Report of the 2018 NSSME+*. Horizon Research, Inc.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bybee, R. W. (2013). *The BSCS 5E instructional model: Creating teachable moments*. NSTA Press.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Furtak, E. M., Seidel, T., Iverson, H., & Briggs, D. C. (2012). Experimental and quasi-experimental studies of inquiry-based science teaching: A meta-analysis. *Review of Educational Research, 82*(3), 300–329. <https://doi.org/10.3102/0034654312457206>
- Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark. *Educational Psychologist, 42*(2), 99–107. <https://doi.org/10.1080/00461520701263368>
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist, 41*(2), 75–86. https://doi.org/10.1207/s15326985ep4102_1
- National Research Council. (2012). *A framework for K–12 science education: Practices, crosscutting concepts, and core ideas*. National Academies Press. <https://doi.org/10.17226/13165>
- OECD. (2016). *Innovating education and educating for innovation: The power of digital technologies and skills*. OECD Publishing. <https://doi.org/10.1787/9789264265097-en>
- Prince, M., & Felder, R. (2006). Inductive teaching and learning methods: Definitions, comparisons, and research bases. *Journal of Engineering Education, 95*(2), 123–138. <https://doi.org/10.1002/j.2168-9830.2006.tb00884.x>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wentzel, K. R. (2010). Students' relationships with teachers as motivational contexts. *Handbook of Motivation at School, 301–322*.