



## Article

# Inquiry-Based Learning and the Learning Process of Pupils at Antipolo Elementary School

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### **Abstract**

*Inquiry-based learning (IBL) has been widely recognized as an effective pedagogical approach that promotes active engagement, critical thinking, and meaningful learning among pupils. This qualitative study examined how inquiry-based learning influences the learning process of pupils at Antipolo Elementary School. Using a qualitative descriptive research design, data were collected through classroom observations, semi-structured interviews with teachers, and focus group discussions with pupils. Thematic analysis revealed three central themes: active engagement through questioning and exploration, development of conceptual understanding through guided inquiry, and increased learner motivation and confidence. Findings indicate that inquiry-based learning shifts pupils from passive reception of information to active knowledge construction, thereby enhancing comprehension and retention. However, challenges such as time constraints and varying pupil readiness were also identified. The study concludes that inquiry-based learning positively influences pupils' learning processes when supported by appropriate scaffolding and instructional planning. Implications for classroom practice and curriculum implementation are discussed.*

**Keywords:** *inquiry-based learning, learning process, elementary pupils, qualitative study, science and general education*



## **1. Introduction**

Inquiry-based learning is grounded in constructivist theory, which views learning as an active process in which learners construct understanding through exploration, questioning, and reflection (Hmelo-Silver et al., 2007). In elementary education, inquiry-based approaches are particularly valuable because they encourage curiosity, develop thinking skills, and promote deeper engagement with content. Rather than relying on rote memorization, inquiry-based learning positions pupils as active participants who investigate problems, generate questions, and build explanations.

Research has shown that inquiry-based instruction supports conceptual understanding and fosters positive attitudes toward learning (Bybee, 2013; National Research Council [NRC], 2012). However, despite its recognized benefits, the implementation of inquiry-based learning in elementary classrooms remains uneven, often constrained by time limitations, curriculum demands, and learners' varying abilities. Understanding how inquiry-based learning shapes pupils' learning processes in real classroom contexts is therefore essential.

This study examined the influence of inquiry-based learning on the learning process of pupils at Antipolo Elementary School, focusing on how inquiry practices affect engagement, understanding, and learner confidence.

## **2. Objectives of the Study**

This study aimed to examine how inquiry-based learning influences the learning process of pupils at Antipolo Elementary School. Specifically, it sought to describe inquiry-based teaching practices used in the classroom, explore pupils' learning experiences during inquiry-based activities, examine the effects of inquiry-based learning on pupils' engagement and understanding, and identify challenges encountered in implementing inquiry-based instruction.

## **3. Methodology**

The study employed a qualitative descriptive research design to capture pupils' and teachers' experiences with inquiry-based learning in an authentic classroom setting (Creswell & Poth, 2018). Participants included elementary teachers who regularly employed inquiry-based strategies and pupils who engaged in inquiry-oriented lessons. Purposive sampling was used to ensure that participants had direct experience with the instructional approach.

Data were gathered through classroom observations, semi-structured interviews with teachers, and focus group discussions with pupils. Observation notes focused on pupil participation, questioning, and interaction during inquiry activities. Interview and discussion data were audio-recorded and transcribed verbatim. Thematic analysis was conducted through systematic coding, categorization, and theme development (Braun & Clarke, 2006). Trustworthiness was ensured through triangulation, member checking, and peer review.

## **4. Results**

Analysis of the qualitative data generated four interrelated themes that explain how inquiry-based learning shapes the learning process of pupils at Antipolo Elementary School.

### **Theme 1: Active Engagement Through Inquiry and Exploration**

Participants consistently described inquiry-based learning as a strategy that actively involves pupils in the learning process through questioning, exploration, and hands-on activities. Teachers explained that lessons designed around inquiry encouraged pupils to observe, ask questions, and test ideas, while pupils expressed enthusiasm for activities that allowed them to discover answers independently rather than receive information passively.

**Participant responses :**  
“Mas ganado kaming makinig kapag kami mismo ang nagtatanong at nagsusubok.” (Pupil 9)  
“Kapag inquiry ang lesson, mas buhay ang klase at mas maraming sumasagot.” (Teacher 15)  
“Mas masaya ang lesson kasi may experiment at hindi lang sulat.” (Pupil 7)

These responses indicate that inquiry-based learning promotes active engagement by shifting pupils' roles from passive recipients of information to active participants in the construction of knowledge (Hmelo-Silver et al., 2007). Opportunities to explore phenomena, ask questions, and manipulate materials increase learners' attentiveness and cognitive involvement, which are essential conditions for meaningful learning (Prince & Felder, 2006). This finding aligns with constructivist learning theory, which posits that learners develop deeper understanding when they actively interact with content rather than simply receive information through direct instruction (Vygotsky, 1978; National Research Council [NRC], 2012).

### **Theme 2: Development of Conceptual Understanding Through Guided Inquiry**

Participants emphasized that inquiry-based learning supported deeper understanding when teachers provided appropriate guidance and scaffolding. Rather than allowing unstructured exploration, teachers facilitated learning through guiding questions, prompts, and follow-up discussions to help pupils make sense of their observations.

**Participant responses :**  
“Mas naiintindihan ko ang lesson kapag may tanong ang teacher na gumagabay sa amin.” (Pupil 4)  
“Hindi ko agad nakukuha, pero kapag may guide questions, nagiging malinaw.” (Pupil 7)  
“Mas nakikita ko kung paano nila naiintindihan ang concept kapag inquiry.” (Teacher 3)

These responses suggest that guided inquiry enhances conceptual understanding by balancing learner exploration with instructional support (Hmelo-Silver et al., 2007). Scaffolding through teacher questioning and discussion helps pupils connect observations to underlying concepts, reducing misconceptions and cognitive overload (Kirschner et al., 2006). This approach is consistent with research indicating that structured or guided inquiry is particularly effective for elementary learners, as it supports conceptual development while maintaining learner autonomy (NRC, 2012).

### **Theme 3: Increased Motivation and Confidence in Learning**

Pupils reported feeling more motivated and confident when inquiry-based strategies were used. Teachers observed that pupils who were previously hesitant to participate became more willing to express ideas, especially in activities where multiple answers were explored.

**Participant responses included:**  
“Hindi ako nahihya sumagot kasi pwede magkamali.” (Pupil 12)  
“Mas confident sila magsalita kapag inquiry ang approach.” (Teacher 3)  
“Mas gusto kong pumasok kapag ganito ang lesson.” (Pupil 11)

These responses indicate that inquiry-based learning fosters a supportive learning environment that enhances pupils' motivation and self-confidence (Bybee, 2013). Allowing learners to explore ideas without fear of immediate evaluation promotes psychological safety, which encourages participation and risk-taking in learning (Wentzel, 2010). Research has shown that inquiry-oriented classrooms strengthen intrinsic motivation by valuing learners' ideas and promoting autonomy, competence, and relatedness key components of sustained engagement (Ryan & Deci, 2000).

#### **Theme 4: Challenges in Implementing Inquiry-Based Learning**

Despite the benefits of inquiry-based learning, participants identified challenges that affect its consistent implementation. Teachers cited limited instructional time and differences in pupils' readiness, while pupils noted that inquiry activities were sometimes rushed.

<b>Participant</b>	<b>responses</b>	<b>included:</b>
	<i>"Minsan kulang ang oras para matapos ang activity."</i>	(Teacher 6)
	<i>"Hindi lahat ng bata ay mabilis maka-adjust sa inquiry."</i>	(Teacher 10)
	<i>"Gusto sana naming mas mahaba ang activity."</i>	(Pupil 12)

These responses highlight contextual and institutional constraints that influence the effectiveness of inquiry-based instruction. Limited time and varying learner readiness may restrict opportunities for in-depth exploration and reflection, which are essential components of inquiry learning (OECD, 2016). Such challenges underscore the need for adequate instructional time, differentiated scaffolding, and institutional support to sustain inquiry-based practices in elementary classrooms (Banilower et al., 2018). Without these supports, even well-designed inquiry activities may fail to reach their full pedagogical potential.

### **5. Discussion**

The findings demonstrate that inquiry-based learning positively influences pupils' learning processes by fostering active engagement, deeper conceptual understanding, and increased motivation. When pupils are encouraged to ask questions, explore materials, and construct explanations through inquiry activities, they become more involved in the learning process and develop a stronger sense of ownership over their learning. Active participation enables pupils to connect new ideas with prior knowledge, clarify misconceptions, and develop critical thinking skills, thereby supporting meaningful and lasting learning experiences. These results are consistent with research showing that inquiry-based learning enhances learners' cognitive engagement and promotes higher-order thinking through exploration and sense-making.

These outcomes align with established inquiry-based learning frameworks that emphasize active participation, guided exploration, and learner-centered instruction as core principles of effective pedagogy. However, the findings also indicate that the successful implementation of inquiry-based learning depends on several enabling conditions. Teacher support in the form of clear guidance, questioning strategies, and timely feedback is essential to help pupils navigate inquiry tasks and construct accurate understanding. In addition, adequate time allocation is necessary to allow pupils to engage in exploration, reflection, and discussion without rushing the learning process. Instructional scaffolding must also be carefully planned to address differences in pupils' readiness and learning needs. Without these supports, the potential benefits of inquiry-based learning may be diminished, underscoring the importance of sustained institutional and instructional support to maximize its impact on pupils' learning processes.

## **6. Conclusions**

This study concludes that inquiry-based learning enhances the learning process of pupils at Antipolo Elementary School by fostering active engagement, deeper conceptual understanding, and increased learner confidence. By actively involving pupils in questioning, exploration, and guided discovery, inquiry-based instruction enables learners to construct knowledge meaningfully and develop positive attitudes toward learning. The approach encourages pupils to take an active role in their own learning, which contributes to sustained interest, improved comprehension, and greater willingness to participate in classroom activities.

Although challenges such as limited instructional time, varying learner readiness, and resource constraints were identified, these do not diminish the overall value of inquiry-based learning in elementary education. When appropriately supported through effective teacher guidance, sufficient time allocation, and instructional scaffolding, inquiry-based instruction remains a powerful pedagogical approach. Its continued implementation holds strong potential for improving the quality of teaching and learning by promoting curiosity, confidence, and deeper understanding among elementary pupils.

## **7. Implications**

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## **References**

- Abana, A (2021). A Scrutiny of K-12 Strands and the Learning Program Vis-à-vis its Academic Performance. *Psychology and Education Journal*. 58 (2): 7977-7984
- Andres, A. (2019). Achievement Goals and Mathematics Achievement of the Senior High School Students. *International Journal of English and Education*, 8 (2).
- Andres, A. (2023). Establishing Quality Instrument for the Summative Assessment of Pre-Service Elementary Teachers. *JETT*. 14 (3), 9-16).
- Andres, A.D. (2022). Metacognition and Performance in Mathematical Problem-Solving Among Bachelor of Elementary (BEED) Pre-service Teachers. *Central European Management Journal*, 30 (4). 86-95.

Antonio, A. (2021). Syntactical Scrutiny: Inaccuracies in the Lesson Planning of Non- Language Pre Service Teachers. *International Journal of Arts, Sciences and Education*,

Balog, P., & Gonzales, E. (2021). From Linguistic Landscapes to Teaching Resources: A Case of Some Rural Areas in the Province of Quezon. *International Journal of Arts, Sciences and Education*, 1(2), 23–44.

Banares, A. J. (2022). Reinterpreting Sonnet 18 by William Shakespeare through Stylistic Analysis. *International Journal of Arts, Sciences and Education*, 3(July Special Issue), 189–204. <https://ijase.org/index.php/ijase/article/view/163>

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.

Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning. *Educational Psychologist*, 42(2), 99–107. <https://doi.org/10.1080/00461520701263368>

National Research Council. (2012). *A framework for K–12 science education*. National Academies Press. <https://doi.org/10.17226/13165>

OECD. (2016). *Innovating education and educating for innovation*. OECD Publishing.

Mangindra, A., & Sandoval, M. A. (2021). Maguindanaon-Taw sa Laya epics Balatamay Lumëna, Diwata Kasaripan and Raha Samadaya: A reflection of their addat. *International Journal of Research Studies in Education*, 10(4), 101-110.

Mangindra, A. P. (2025). Preserving the legacy: A thematic analysis of heirloom narratives from the Bangsamoro-Maguindanaon. *International Journal of Research Studies in Education*, 14(2), 17-26.

Narag-Banguibang, V. (2023). Traversing The Struggles and Coping Strategies of Students in the New Normal: The Case of Cagayan State University. *Journal for Educators, Teachers and Trainers*, Vol. 14(2). 615-623.

Nieva, A. (2022). The Relationship between Career Interests and Academic Achievements in English, Mathematics, and Science of Grade 10 Students. *International Journal of Arts, Sciences and Education*, 3(2 June Issue). Retrieved from <https://ijase.org/index.php/ijase/article/view/122>

Olivera, L. C. (2021). Code-Switching in English Class: A Strategy in Boosting Learners' Confidence and Engagement. *International Journal of Arts, Sciences and Education*, 1(1), 15–28. Retrieved from <https://ijase.org/index.php/ijase/article/view/10>

