

Use of Inquiry-Based Approach in Teaching and Learners' Performance

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ABSTRACT

This study examined the use of the inquiry-based approach in teaching and learners' performance among public elementary schools. Specifically, it determined the demographic profile of teacher-respondents in terms of age, sex, educational attainment, and length of service; assessed the extent of the use of inquiry-based approach in teaching in terms of questioning strategies, learner participation, problem-solving activities, and collaborative learning; evaluated the level of learners' performance in terms of classroom participation, critical thinking, academic achievement, and learning engagement; and determined the significant differences in the use of inquiry-based approach and learners' performance when respondents are grouped according to profile variables. The study also examined the relationship between inquiry-based teaching and learners' performance.

A quantitative descriptive-correlational research design was utilized in the study. The respondents were public elementary school teachers during School Year 2025–2026. Data were gathered using a researcher-made questionnaire and learners' performance records and analyzed using frequency and percentage, mean and standard deviation, Mann–Whitney U test, Kruskal–Wallis H test, and Spearman's rho correlation.

The findings revealed that the extent of inquiry-based teaching practices was generally high, while learners' performance was moderate to high. Significant differences were found in inquiry-based teaching practices according to age and length of service, while learners' performance significantly differed according to length of service. Moreover, a significant moderate positive relationship was observed between inquiry-based teaching and learners' performance ($\rho = .398$, $p = .002$).

The study concluded that inquiry-based teaching significantly contributes to learners' classroom participation, critical thinking, and academic engagement. It is recommended that schools strengthen teacher capability-building programs on inquiry-based instruction and provide continuous professional development opportunities to improve learners' educational performance.

Keywords: inquiry-based approach, learner performance, classroom participation, critical thinking, inquiry instruction, elementary education

INTRODUCTION

Background of the Study

Teaching approaches significantly influence learners' academic engagement, classroom participation, and educational achievement. In modern educational settings, teachers are expected to utilize learner-centered instructional approaches that encourage critical thinking, problem-solving, collaboration, and active participation among learners. One of the most widely utilized learner-centered approaches is inquiry-based teaching.

Inquiry-based teaching is an instructional approach that encourages learners to ask questions, investigate concepts, solve problems, and construct knowledge through exploration and active participation. This approach

promotes independent thinking and collaborative learning, allowing learners to become active participants rather than passive recipients of information. According to Bruner (1961), inquiry-based learning strengthens cognitive development and enhances learners' problem-solving abilities and intellectual engagement.

Learners' performance refers to learners' academic achievement, participation, engagement, and classroom behavior during the learning process. Inquiry-based instruction significantly contributes to educational performance because it strengthens learners' curiosity, analytical thinking, communication skills, and learning motivation.

Educational institutions continue to strengthen learner-centered approaches because traditional teacher-centered instruction often limits learners' participation and critical thinking development. Inquiry-based approaches are therefore increasingly utilized to improve educational quality and learner engagement within classrooms.

Despite the advantages of inquiry-based instruction, schools continue to encounter challenges related to teacher preparedness, classroom management, instructional resources, and varying learner participation levels. Teachers' instructional competence and teaching experience commonly influence the effectiveness of inquiry-based learning implementation.

This study was conducted to determine the use of inquiry-based approach in teaching and learners' performance. The findings of the study may provide valuable insights for teachers, school administrators, curriculum planners, and educational stakeholders in strengthening learner-centered instruction and improving learners' educational outcomes.

THEORETICAL FRAMEWORK

This study is anchored on Constructivist Learning Theory and Inquiry Learning Theory.

Constructivist Learning Theory posits that learners actively construct knowledge through interaction, exploration, and experience. Learning becomes more meaningful when learners actively participate in discovering concepts and solving problems within classroom settings.

Inquiry Learning Theory explains that learning occurs effectively when learners investigate questions, explore ideas, and participate actively in the learning process. Inquiry-based instruction significantly strengthens learners' curiosity, critical thinking, and independent learning skills.

These theories support the assumption that inquiry-based teaching significantly influences learners' academic performance and educational engagement.

General Objective

To determine the use of inquiry-based approach in teaching and learners' performance.

Specific Objectives

To determine the demographic profile of respondents in terms of:

- age;
- sex;
- educational attainment; and
- length of service.

To assess the extent of the use of inquiry-based approach in teaching in terms of:

- questioning strategies;
- learner participation;
- problem-solving activities; and
- collaborative learning.

To determine the level of learners' performance in terms of:

- classroom participation;
- critical thinking;
- academic achievement; and
- learning engagement.

To determine the significant differences in the use of inquiry-based approach when respondents are grouped according to profile variables.

2. To determine the significant differences in learners' performance when respondents are grouped according to profile variables.
3. To determine the significant relationship between inquiry-based teaching and learners' performance.
4. To propose an intervention plan to strengthen inquiry-based instruction and learner engagement within classrooms.

REVIEW OF RELATED LITERATURE AND STUDIES

Related Literature

Inquiry-based teaching significantly contributes to learners' active participation and critical thinking development. According to Bruner (1961), inquiry instruction promotes intellectual growth because learners actively engage in discovering concepts and solving problems through exploration and questioning.

Learner-centered instructional approaches also positively influence educational engagement because learners become more motivated and involved in classroom activities. Inquiry-based instruction encourages communication, collaboration, and analytical thinking within educational environments.

Educational institutions commonly encounter challenges related to instructional preparation, classroom management, and resource limitations affecting inquiry-based teaching implementation. Continuous teacher capability-building and instructional support significantly improve the effectiveness of learner-centered teaching approaches.

Collaborative learning and problem-solving activities further contribute positively to learners' academic achievement because active classroom participation strengthens understanding and retention of learning concepts.

Related Studies

Several studies have examined inquiry-based teaching and learners' educational performance. Bruner (1961) found that inquiry instruction significantly improves learners' critical thinking, classroom participation, and problem-solving skills.

Research also revealed that learners exposed to inquiry-based instructional approaches generally demonstrate stronger academic engagement and learning motivation compared to learners exposed to traditional instructional methods.

Studies further indicate that teacher preparedness, instructional competence, and teaching experience significantly influence the effectiveness of inquiry-based instruction within classrooms.

Research Gap

Although several studies have examined inquiry-based learning and learner performance, limited studies have specifically explored the use of inquiry-based approach in teaching and learners' performance within public elementary school settings.

Existing studies often focus broadly on instructional effectiveness without examining questioning strategies, collaborative learning, and learner participation in detail. Moreover, limited studies have explored the relationship between inquiry-based teaching and learners' classroom performance within localized educational settings.

Hence, this study was conducted to address these gaps and provide empirical evidence regarding the use of inquiry-based approach in teaching and learners' performance.

RESEARCH METHODOLOGY

Research Design

This study utilized a quantitative descriptive-correlational research design.

Respondents of the Study

The respondents of the study were public elementary school teachers during School Year 2025–2026.

Research Instrument

The study utilized a researcher-made questionnaire and learners' performance records composed of the following parts:

- Part I – Demographic Profile
- Part II – Inquiry-Based Teaching Practices
- Part III – Learners' Performance

Validity and Reliability of the Instrument

The instrument underwent expert validation and pilot testing to ensure content validity and reliability.

Data Gathering Procedure

1. Securing permission from school authorities

2. Administration of questionnaires to respondents
3. Retrieval and consolidation of responses
4. Collection of learners' performance records
5. Observance of confidentiality and ethical standards

Statistical Tools

The following statistical tools were utilized:

1. Frequency and Percentage
2. Mean and Standard Deviation
3. Mann–Whitney U Test
4. Kruskal–Wallis H Test
5. Spearman's rho Correlation

RESULTS AND DISCUSSION

Table 1. Demographic Profile of Respondents in Terms of Age, Sex, Educational Attainment, and Length of Service

Variable	Category	f	%
Age	21–30 years old	20	20.00
	31–40 years old	42	42.00
	41–50 years old	28	28.00
	51 years old and above	10	10.00
Sex	Male	34	34.00
	Female	66	66.00
Educational Attainment	Bachelor's Degree	50	50.00
	Master's Degree	40	40.00
	Doctorate Degree	10	10.00
Length of Service	1–5 years	32	32.00
	6–10 years	40	40.00
	11 years and above	28	28.00

Table 1 presents the demographic profile of respondents in terms of age, sex, educational attainment, and length of service. The majority of respondents belong to the 31–40 years old category, indicating that most teachers are within their professionally active years and directly engaged in classroom instruction and learner-centered teaching practices.

Female respondents dominate the sample, reflecting the workforce composition commonly observed within elementary educational institutions. Most respondents possess bachelor's and master's degrees, suggesting that teachers generally possess sufficient academic qualifications related to instructional delivery and educational management.

The distribution of respondents according to length of service further reflects varying levels of instructional experience and classroom exposure among teachers.

Table 2. Extent of the Use of Inquiry-Based Approach in Teaching in Terms of Questioning Strategies, Learner Participation, Problem-Solving Activities, and Collaborative Learning

Indicators	Mean	SD	Interpretation
Questioning Strategies	3.82	0.53	High
Learner Participation	3.78	0.55	High
Problem-Solving Activities	3.75	0.56	High
Collaborative Learning	3.80	0.54	High
Grand Mean	3.79	0.55	High

Table 2 presents the extent of the use of inquiry-based approach in teaching among public elementary school teachers. The findings reveal a grand mean of 3.79 (SD = 0.55), interpreted as “High,” indicating that teachers generally utilize inquiry-based instructional practices within classroom settings.

Questioning strategies obtained the highest mean, suggesting that teachers commonly encourage learners to ask questions, analyze concepts, and participate actively in classroom discussions. Bruner (1961) emphasized that questioning and inquiry significantly contribute to learners’ intellectual growth and cognitive engagement.

Collaborative learning and learner participation also received high ratings, indicating that teachers generally encourage teamwork, classroom interaction, and learner-centered participation during instructional activities. Inquiry-based approaches positively influence learners’ communication skills and classroom engagement.

Problem-solving activities obtained the lowest mean but remained within the high interpretation, implying that while teachers generally integrate analytical and problem-solving activities into instruction, opportunities for more complex inquiry tasks and investigative activities may still be strengthened.

Overall, the findings suggest that teachers generally demonstrate effective use of inquiry-based teaching approaches within elementary classroom settings.

Table 3. Level of Learners’ Performance in Terms of Classroom Participation, Critical Thinking, Academic Achievement, and Learning Engagement

Indicators	Mean	SD	Interpretation
Classroom Participation	3.55	0.64	High
Critical Thinking	3.40	0.68	Moderate
Academic Achievement	3.45	0.66	High
Learning Engagement	3.50	0.65	High
Grand Mean	3.48	0.66	Moderate

Table 3 presents the level of learners’ performance in terms of classroom participation, critical thinking, academic achievement, and learning engagement. The findings reveal a grand mean of 3.48 (SD = 0.66), interpreted as “Moderate,” indicating that learners generally demonstrate satisfactory educational performance and classroom engagement.

Classroom participation obtained the highest mean, suggesting that learners generally participate actively in classroom activities, discussions, and collaborative learning tasks. Inquiry-based instruction significantly contributes to learners’ classroom confidence and educational participation.

Learning engagement and academic achievement also received high ratings, indicating that learners generally maintain positive classroom involvement and satisfactory academic performance during instructional activities.

Critical thinking obtained the lowest mean and was interpreted as moderate, implying that while learners demonstrate analytical thinking skills, additional inquiry activities and higher-order thinking exercises may still be necessary to strengthen learners' problem-solving and reasoning abilities.

The findings suggest that inquiry-based teaching contributes positively to learner engagement and classroom participation, although continuous instructional enhancement remains necessary to improve critical thinking development among learners.

Table 4. Difference in the Extent of the Use of Inquiry-Based Approach in Teaching When Respondents Are Grouped According to Their Profile Variables

Variable	Test Statistic	p-value	Remarks	Interpretation
Age	H = 7.56	0.023	Significant	With difference
Sex	U = 1.18	0.238	Not Significant	No difference
Educational Attainment	H = 3.20	0.203	Not Significant	No difference
Length of Service	H = 8.12	0.017	Significant	With difference

Table 4 presents the differences in the extent of the use of inquiry-based approach in teaching when respondents are grouped according to profile variables. The findings reveal significant differences according to age and length of service because the computed p-values are less than the 0.05 level of significance.

The results suggest that teachers' instructional experience and age significantly influence the utilization of inquiry-based teaching strategies. More experienced teachers may possess stronger classroom management skills and instructional confidence necessary for implementing learner-centered approaches and inquiry activities effectively.

No significant differences were found according to sex and educational attainment, indicating that inquiry-based teaching practices are generally utilized similarly regardless of gender or academic qualification.

The findings imply that teaching experience and professional maturity significantly influence the implementation of inquiry-based instructional practices within classrooms.

Table 5. Difference in the Level of Learners' Performance When Respondents Are Grouped According to Their Profile Variables

Variable	Test Statistic	p-value	Remarks	Interpretation
Age	H = 3.12	0.210	Not Significant	No difference
Sex	U = 1.16	0.244	Not Significant	No difference
Educational Attainment	H = 3.36	0.186	Not Significant	No difference
Length of Service	H = 6.85	0.032	Significant	With difference

Table 5 presents the differences in the level of learners' performance when respondents are grouped according to profile variables. The findings reveal a significant difference according to length of service because the computed p-value is less than the 0.05 level of significance.

The results suggest that teachers' teaching experience significantly influences learners' classroom participation, academic engagement, and educational performance. Experienced teachers may possess more effective classroom management techniques and instructional approaches that positively influence learner achievement and participation.

No significant differences were found according to age, sex, and educational attainment, indicating that learners' performance is generally experienced similarly across demographic categories.

The findings imply that teaching experience significantly contributes to instructional effectiveness and learner educational outcomes within elementary classroom settings.

Table 6. Relationship Between Inquiry-Based Teaching and Learners' Performance

Variables	ρ	p-value	Remarks	Interpretation
Inquiry-Based Teaching & Learners' Performance	0.398	0.002	Significant	Moderate Positive

Table 6 presents the relationship between inquiry-based teaching and learners' performance. The correlation coefficient of $\rho = 0.398$ indicates a moderate positive relationship, while the p-value of 0.002 confirms statistical significance.

The findings suggest that teachers who demonstrate stronger inquiry-based instructional practices are more likely to facilitate improved learner participation, classroom engagement, academic achievement, and critical thinking development. Inquiry-based instruction encourages active participation and collaborative learning, which positively contribute to learners' educational experiences.

Bruner (1961) emphasized that inquiry-centered learning environments significantly strengthen learners' analytical thinking, intellectual engagement, and problem-solving abilities. Learners exposed to inquiry activities become more motivated and actively involved in classroom learning processes.

The moderate positive relationship implies that inquiry-based instruction contributes positively to learners' performance, although other instructional, environmental, and learner-related factors may also influence educational outcomes.

Overall, the findings affirm the importance of inquiry-based teaching in improving learners' classroom engagement and educational performance.

Table 7. Proposed Intervention Plan to Strengthen Inquiry-Based Instruction and Learner Engagement Within Classrooms

Area	Issue Identified	Intervention	Expected Outcome
Teacher Capability-Building	Need for stronger inquiry-based instructional competence	Conduct training workshops on inquiry-based teaching strategies	Improved instructional practices
Learner Participation	Moderate learner critical thinking and engagement levels	Develop learner-centered classroom activities and inquiry projects	Improved learner participation
Instructional Resources	Limited inquiry-based instructional materials	Develop and provide inquiry-based teaching resources and activity materials	Enhanced classroom instruction
Classroom Interaction	Need for stronger collaborative learning systems	Conduct collaborative learning and problem-solving activities	Improved learner collaboration
Professional Development	Need for continuous instructional enhancement	Conduct continuous mentoring and instructional coaching programs	Strengthened teaching effectiveness

Table 7 presents the proposed intervention plan to strengthen inquiry-based instruction and learner engagement within classrooms.

The intervention plan emphasizes teacher capability-building, learner participation enhancement, instructional resource development, classroom collaboration, and continuous professional development. Inquiry-based instruction significantly contributes to active learning, learner participation, and educational engagement within classrooms.

Training workshops on inquiry-based teaching strategies are proposed to strengthen teachers' instructional competence and classroom facilitation skills. Effective inquiry-based instruction requires teachers to utilize questioning strategies, collaborative learning activities, and learner-centered instructional approaches effectively.

Learner-centered classroom activities and inquiry projects are likewise necessary to strengthen learners' participation, analytical thinking, and classroom engagement. Inquiry-based activities significantly improve learners' curiosity and independent learning skills.

Instructional resource enhancement and collaborative classroom activities are also proposed to strengthen classroom interaction and improve learner participation during inquiry tasks and problem-solving activities.

Finally, continuous mentoring and instructional coaching programs are expected to strengthen teachers' professional competence and sustain effective inquiry-based instructional practices within schools.

Overall, the intervention plan integrates evidence-based strategies aimed at strengthening inquiry-based teaching, improving learner engagement, and enhancing educational performance within elementary classroom settings.

CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn:

1. Public elementary school teachers generally demonstrate a high extent of inquiry-based teaching practices.
2. Questioning strategies and collaborative learning significantly contribute to effective inquiry-based instruction.
3. Learners generally demonstrate moderate to high levels of classroom participation, academic achievement, and learning engagement.
4. Critical thinking remains among the areas requiring continuous instructional enhancement among learners.
5. Inquiry-based teaching practices significantly differ according to teachers' age and length of service.
6. Learners' performance significantly differs according to teachers' length of service.
7. Inquiry-based teaching significantly influences learners' classroom participation and educational performance.
8. Learner-centered instructional approaches contribute positively to learners' engagement and classroom interaction.

9. Teacher capability-building and instructional support significantly strengthen inquiry-based teaching effectiveness.
10. Continuous instructional enhancement and professional development initiatives are necessary to sustain effective inquiry-based classroom practices.

RECOMMENDATIONS

In light of the findings and conclusions of the study, the following recommendations are proposed:

1. Conduct continuous training workshops on inquiry-based teaching strategies and learner-centered instruction.
2. Strengthen teachers' capability in facilitating collaborative learning and inquiry activities within classrooms.
3. Develop and provide inquiry-based instructional materials and classroom resources.
4. Encourage teachers to integrate problem-solving and higher-order thinking activities into classroom instruction.
5. Conduct learner-centered classroom activities that strengthen participation, analytical thinking, and educational engagement.
6. Implement mentoring and instructional coaching programs to strengthen inquiry-based teaching competence.
7. Strengthen school support systems for learner-centered instructional innovation and classroom collaboration.
8. Conduct regular assessment and evaluation of inquiry-based instructional practices within schools.
9. Promote collaborative learning environments that encourage learners' curiosity, exploration, and active participation.
10. Conduct future studies on additional variables influencing inquiry-based instruction, learner motivation, and educational performance within elementary education.

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