ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

Teachers' Research Skills and Learners' Performance Mediated by Instructional Quality

Sarah Jean C. Lush
Bohol Island State University - Clarin Campus
sarahjean.lush@deped.gov.ph

Date Submitted:
September 09, 2026

Date Accepted:
October 07, 2026

Date Published:
November 27, 2026

DOI:
10.5281/zenodo.24597780

ABSTRACT

Strengthening teachers' research skills offers opportunities to improve instruction, yet its connection to learners' achievement requires examination. This study examined teachers' research skills, instructional quality and learners' performance, including the mediating role of instructional quality in public elementary schools during School Year 2026–2027 as basis for an action plan. It involved 135 teachers from 26 schools and utilized questionnaires, classroom observation ratings, and class general averages. Teachers' research skills were Very High across all four dimensions, with research planning and data collection and analysis obtaining the highest ratings. Statistical application and research chapter writing were identified as areas needing support. Instructional quality was rated as Practices are Always Applied across all five dimensions, with classroom management receiving the highest rating. Indicators 7 and 8 obtained relatively lower classroom observation ratings. Learners' performance was predominantly classified as Benchmarking, while the remaining class general averages were classified as Advancing. Teachers' research skills were significantly and positively associated with instructional quality. However, their direct, indirect, and total effects on learners' performance were not statistically significant. Thus, there was insufficient evidence to establish the mediating role of instructional quality, and the null hypothesis was not rejected. The proposed action plan focuses on strengthening statistical application, research writing, research-informed instructional planning, and targeted coaching. It includes responsibilities, timelines, resources, and monitoring mechanisms to support teachers' professional development and improve instructional practice.

Keywords: *Teachers' Research Skills, Learners' Academic Performance, and Instructional Quality*

INTRODUCTION

Education systems in the 21st century continue to emphasize quality teaching, evidence-based practices, and continuous professional development to improve learner outcomes. Teachers are now expected not only to deliver instruction but also to become reflective practitioners who can conduct research and apply findings to improve classroom practices. In public elementary schools, teachers handle learners with diverse academic abilities, socio-emotional needs, and learning gaps, making research skills increasingly important in instructional decision-making. According to the study of Fauth, Decristan, Rieser, Klieme, and Büttner (2020), instructional quality significantly influences learners' engagement, motivation, and academic achievement, highlighting the importance of effective teaching practices in schools.

Despite the growing importance of teachers' research skills, many public elementary school teachers still encounter challenges in conducting and utilizing research effectively. Some teachers experience difficulties in identifying research problems, selecting appropriate methodologies, analyzing data, and applying findings to classroom instruction and decision-making. In many schools, professional development programs focus more on

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

curriculum implementation and classroom management while providing limited sustained support for research capability and instructional enhancement (Ulla, Perales, & Trinidad, 2024). Because of these limitations, weak research skills may affect instructional quality and contribute to unresolved learning problems and low learner performance.

This study seeks to determine the relationship between teachers' research skills and learners' performance in public elementary schools. Specifically, it aims to assess teachers' skills in problem identification, research design, data gathering, analysis, interpretation, and utilization of findings in classroom practice. The study also intends to determine the level of instructional quality demonstrated by teachers in instructional delivery and classroom learning experiences. Furthermore, it examines whether instructional quality significantly mediates the relationship between teachers' research skills and learners' performance.

The findings of this study may provide valuable insights for teachers, school leaders, and education stakeholders regarding the importance of research skills and instructional quality in improving learner performance. The results may serve as a basis for an action plan that focuses on strengthening teachers' research skills and enhancing classroom instruction in public elementary schools. Ultimately, the study may contribute to improved instructional quality and better academic performance among elementary learners.

Statement of the Problem

The primary aim of this study was to determine the mediating role of teachers' instructional quality between the teachers' research skills and performance of learners in Inabanga North District for school year 2026-2027.

Specifically, it sought to answer the following questions:

1. What is the teachers' level of research skills in terms of research knowledge, research planning skills, data collection and analysis skills, and research writing and dissemination skills?
2. What is the teachers' level of instructional quality in terms of instructional planning, instructional delivery, assessment and feedback, classroom management and professional reflection as indicated in classroom observation?
3. What is the learners' level of performance?
4. Does instructional quality significantly mediate the relationship between the teachers' research skills and learners' performance?
5. What action plan may be proposed based on the findings?

METHODS

Research Design

This study employed a quantitative non-experimental mediation design employing mediation analysis determine the teachers' level of research skills in terms of research knowledge, research planning skills, data collection and analysis skills, and research writing and dissemination skills. Additionally, it assessed the teachers' level of instructional quality in terms of instructional planning, instructional delivery, assessment and feedback, classroom management and professional reflection as indicated in classroom observation. It evaluated the learners' level of performance. Further, it examined whether there is significant relationship between the teachers' research skills and learners' performance mediated by instructional quality.

Respondents

This study involved one hundred thirty-five (135) public elementary school teachers in Inabanga North District, Inabanga, Bohol. The researcher employed purposive sampling**,** a non-probability sampling technique in which participants are deliberately selected based on specific characteristics, experiences, or qualifications that are relevant to the objectives of the study. This sampling approach enabled the researcher to identify and include

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

respondents who possessed the necessary knowledge, experiences, and characteristics pertinent to the research variables, thereby ensuring that the data gathered were relevant to the purpose and scope of the study.

Instrument

The study primarily used a modified questionnaire, classroom observation ratings, and learners' academic records to measure the three variables and items were adapted from Matjašič and Vogrinc's (2025). Necessary modifications would be made to ensure that the questionnaire corresponds with the objectives of the present investigation and appropriately reflects the context of teachers' research skill and instructional quality. Data were collected through self-administered questionnaires and analyzed using descriptive, inferential, and content analysis to generate comprehensive findings.

Data Gathering Procedure

After obtaining permission from the Schools Division Office and the principals of the sampled schools, the researcher finalized the validated and reliability-tested questionnaire. A formal request to conduct the study was approved, after which the purpose of the study, the contents of the questionnaire, and the respondents' roles were explained to the School Head. The questionnaire was administered face-to-face, allowing the researcher to clarify items and ensure complete and accurate responses. Completed questionnaires were collected, organized, and prepared for analysis, while ethical considerations such as informed consent, confidentiality and anonymity, voluntary participation, and the right to withdraw were strictly observed throughout the process.

Statistical Treatment

The data gathered in this study were analyzed using appropriate statistical tools. Mean and standard deviation were also used to determine the level of teachers' research skills, instructional quality, and learners' performance. To determine the significance degree of relationship among teachers' research skills, instructional quality, and learners' academic performance, the Pearson Product-Moment Correlation Coefficient (Pearson *r*) was used. Path analysis was used to determine whether instructional quality significantly mediates the relationship between teachers' research skills and learners' performance, considering that the data were not normally distributed.

RESULTS AND DISCUSSIONS

Level of Teachers' Research Skills

Table 1 presents the self-assessed research skills of 135 teachers across four dimensions: research planning, data collection and analysis, research knowledge, and research writing and dissemination. Composite means, standard deviations, and interpretations summarize their ratings and response variability, while the overall composite mean provides a general assessment of their perceived research skills.

Table 1. *Teachers' Level of Research Skills n = 135*

Dimension	Composite Mean	SD	Interpretation
A. Data Collection and Analysis Skills	3.45	0.62	Very High Research Skills
B. Research Planning Skills	3.45	0.59	Very High Research Skills
C. Research Knowledge	3.39	0.57	Very High Research Skills
D. Research Writing and Dissemination Skills	3.39	0.56	Very High Research Skills
Overall Composite Mean	3.42	0.59	Very High Research Skills

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

The table shows that all four dimensions of teachers' research skills were interpreted as Very High, with an overall composite mean of 3.42, indicating that the teachers perceived themselves as having a very high level of research skills.

To begin with, data collection and analysis skills received the joint highest composite mean of 3.45 (SD = 0.62), interpreted as Very High Research Skills. Teachers reported favorable perceptions of their data-handling skills, although responses showed the greatest variability among the dimensions. Mandinach and Gummer (2016) emphasized collecting, analyzing, interpreting, and using data responsibly. Accordingly, practical training using classroom research data could strengthen these skills.

Similarly, research planning skills obtained the joint highest composite mean of 3.45 (SD = 0.59), interpreted as Very High. Teachers perceived themselves as capable of planning research investigations. Turner-Adams et al. (2020) identified sufficient time, collaboration, external expertise, and leadership support as characteristics of effective teacher inquiry, supporting continued guidance in preparing feasible research plans.

In comparison, research knowledge obtained the joint lowest composite mean of 3.39 (SD = 0.57) but retained a Very High Research Skills interpretation. Teachers perceived themselves as knowledgeable about research, with opportunities to strengthen practical application. Böttcher-Oschmann et al. (2021) distinguished using research evidence from conducting research independently. Thus, practical investigations could help teachers connect foundational knowledge with research tasks.

Turning to research writing and dissemination skills, this dimension also received the joint lowest composite mean of 3.39 (SD = 0.56), interpreted as Very High. Teachers reported favorable perceptions of their research communication skills, with the most closely grouped responses. Castillo-Martínez and Ramírez-Montoya (2021) highlighted the relationship between research competencies and academic reading and writing. In this regard, guided writing and peer review could improve research reports and dissemination.

Taken together, the findings indicate favorable self-assessments across all four research dimensions. Research planning and data collection and analysis ranked highest, while research knowledge and research writing and dissemination ranked lowest. The closely grouped means reflect only slight descriptive differences. These results support strengthening research knowledge and communication while sustaining planning and data analysis skills.

Teachers' Level of Instructional Quality

Table 2 presents teachers' instructional quality in terms of classroom management, assessment and feedback, professional reflection, instructional delivery, and instructional planning. These dimensions were considered to identify instructional strengths and areas needing support and to examine whether instructional quality mediates the relationship between teachers' research skills and learners' performance.

Table 2. Teachers' Level of Instructional Quality n = 135

Dimension	Composite Mean	SD	Interpretation
A. Classroom Management	3.76	0.44	Practices are always applied
B. Assessment and Feedback	3.75	0.46	Practices are always applied
C. Professional Reflection	3.65	0.49	Practices are always applied
D. Instructional Delivery	3.64	0.50	Practices are always applied
E. Instructional Planning	3.58	0.52	Practices are always applied
Overall Composite Mean	3.68	0.48	Practices are always applied

Among the five dimensions, classroom management obtained the highest composite mean of 3.76 (SD = 0.44), interpreted as Practices are always applied. This identifies classroom management as the strongest dimension, with the most closely grouped ratings. Supporting the importance of this finding, Korpershoek et al.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

(2016) found that classroom management interventions produced small but significant improvements in learners' academic, behavioral, and social-emotional outcomes. Their findings reinforce the value of sustaining effective classroom management practices.

At the lower end of the ranking, instructional planning received the lowest composite mean of 3.58 (SD = 0.52) but remained Practices are always applied. Its comparatively lower mean and greatest response variability suggest a relative priority for support. Offering a relevant approach to this need, Schipper et al. (2018) found significant differences in instructional behavior and aspects of teacher self-efficacy between lesson-study and comparison groups. Their findings provide a basis for using collaborative lesson study to strengthen planning around learners' needs.

Collectively, all five dimensions where Practices are always applied, indicating favorable instructional quality across the assessed areas as shown in the overall composite mean of 3.68. Classroom management ranked highest, while instructional planning ranked lowest. The related studies support sustaining effective practices and using reflection, coaching, and collaborative lesson study for further development. These descriptive rankings do not establish statistically significant differences.

Learners' Academic Performance

Table 3 presents learners' academic performance based on 135 class averages, representing 100.00% of the records analyzed and corresponding to the participating teachers. These averages were considered to describe class-level achievement and examine its relationship with teachers' research skills and instructional quality.

Table 3. *Learners' Academic Performance n = 135*

Grade range	Category	Frequency	Percent
90-100	Advancing	19	14.07
80-89	Benchmarking	116	85.93
Total		135	100.00
Performance Summary		Mean: 87.44	
		SD: 2.13	
		Interpretation: Benchmarking	

Ranked by frequency, Benchmarking (80–89) accounted for the largest proportion, with 116 class averages (85.93%), followed by Advancing (90–100), with 19 (14.07%). Connecting, Developing, and Emerging each recorded zero frequency. The overall mean of 87.44 (SD = 2.13) likewise placed performance within Benchmarking, with relatively closely grouped class averages.

A comparable pattern was reported by Mampao and Arazo (2023), who found that 53.3% of Grade VI pupils obtained grades of 80–84 and 20% obtained grades of 85–89. Their study is relevant because it similarly identified a concentration of elementary learners' grades within the 80–89 range. However, their study examined individual grades, whereas the present study used class averages. Thus, the comparison supports similarity in the predominant grade range rather than equivalent individual achievement.

Overall, class-level performance was predominantly Benchmarking. However, favorable class averages do not establish that every learner performed within the same category. Individual assessment results should therefore be examined to identify learners needing targeted support or enrichment.

Mediation Analysis of Instructional Quality in the Relationship between Teachers' Research Skills and Learners' Performance

Table 4 presents the mediation analysis of instructional quality in the relationship between teachers' research skills and learners' performance. The table presents both the regression and the mediation analyses.

The table shows that teachers' research skills were significantly and positively associated with instructional quality (B = 0.711, p < .001). Teachers with higher research skills tended to have higher instructional

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

quality. This finding establishes an association, but it does not demonstrate that research skills caused better instruction.

Table 4. *Mediation Analysis of Instructional Quality in the Relationship Between Teachers' Research Skills and Learners' Performance n = 135*

Regression Analysis	Estimate (B)	SE	z-value	*p*-value	*Interpretation*
Learners' Performance ~ Teachers' Research Skills	-0.070	0.732	-0.096	.923	Not Significant
Instructional Quality ~ Teachers' Research Skills	0.711	0.080	8.837	<.001	Significant
Learners' Performance ~ Instructional Quality	0.962	0.754	1.276	.202	Not Significant
Mediation Analysis	Estimate (B)	SE	z-value	*p*-value	
Direct Effect (Teachers' Research Skills → Learners' Performance)	-0.070	0.732	-0.096	.923	Not significant
Indirect Effect (Teachers' Research Skills → Instructional Quality → Learners' Performance	0.684	0.555	1.233	.218	Not Significant
Total Effect	0.613	0.445	1.379	.168	Not Significant

However, instructional quality was not significantly associated with learners' performance after accounting for teachers' research skills (B = 0.962, p = .202). Although the coefficient was positive, the evidence was insufficient to establish a significant relationship at the .05 level.

Likewise, teachers' research skills had no significant direct effect on learners' performance when instructional quality was included in the model (B = −0.070, p = .923). The small negative coefficient does not establish that stronger research skills reduced performance. The total effect was also non-significant (B = 0.613, p = .168), indicating that the combined direct and indirect effects were not statistically established.

Most importantly, the indirect effect through instructional quality was not significant (B = 0.684, p = .218). Therefore, instructional quality did not significantly mediate the relationship between teachers' research skills and learners' performance. The null hypothesis of no mediation was not rejected, and neither partial nor full mediation was demonstrated.

Overall, stronger research skills were associated with better instructional quality, but their relationship with class general averages was not statistically established. These findings indicate insufficient evidence of the proposed mediation pathway in this study, rather than proof that research skills and instructional quality have no educational value.

Findings

The findings suggest that teacher-respondents were very high level in research skills and practices are always applied in instructional quality. Learners' performance, represented by class general average, was predominantly benchmarking. It was found out that the instructional quality did not significantly mediate the relationship between teachers' research skills and learners' performance; although research skills were significantly associated with instructional quality, the indirect effect was non-significant, and the null hypothesis was not rejected.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 11 (November 2026)

CONCLUSION AND RECOMMENDATIONS

In conclusion, the research skills and instructional quality are valuable aspects of teachers' professional practice, but their contribution to learners' academic performance cannot be assumed. The major realization is that research knowledge must be translated into purposeful classroom application, with continued support in statistical analysis, research writing, evidence-informed lesson planning, and reflective teaching. The significant association between research skills and instructional quality underscores their professional relevance, while the absence of significant effects on learners' performance leaves a gap in understanding how these competencies connect with measurable learning outcomes. Instructional quality was not established as a mediator, but this does not demonstrate that either variable lack educational value. Rather, the study's reliance on reported practices and class general averages limits conclusions about actual instruction and individual learning progress. These conclusions call for sustained mentoring, classroom-based research application, and monitoring of learning gains, alongside further investigation of classroom and school conditions that may shape learners' performance.

To address these gaps, the Department of Education, school heads, and research coordinators may provide targeted training and mentoring on statistical application and research chapter writing. Guided practice, peer review, and evaluation of classroom research outputs may strengthen these areas while sustaining teachers' existing research skills. Further, school heads and instructional coaches may sustain the instructional practices are always applied and provide targeted coaching on classroom observation Indicators 7 and 8. Standardized classroom observations may guide feedback and monitor improvements in instructional practice. Lastly, teachers should examine individual assessment results within Benchmarking and Advancing classes to identify learning gaps and provide appropriate support and enrichment. A unified, competency-aligned test and classroom observations of demonstrated learning may supplement grades because class averages can conceal individual differences.

References

Admiraal, W., Schenke, W., De Jong, L., Emmelot, Y., & Sligte, H. (2021). Schools as professional learning communities: What can schools do to support professional development of their teachers? Professional Development in Education, 47(4), 684–698.

Alrahlah, A. A. (2016). The impact of motivational factors on research productivity of dental faculty members: A qualitative study. Journal of Taibah University Medical Sciences, 11(5), 448–455.

Anub, C. D. (2020). Senior high school teachers' research competence and satisfaction with facilities and resources. International Journal of English Language Studies, 2(3), 8–24.

Arifin, H. (2015). The influence of competence, motivation, and organizational culture on high school teacher job satisfaction and performance. International Education Studies, 8(1), 38–45.

Caliwan-Fuentes, H. (2017). Research competency of teacher education students in Eastern Samar State University Main Campus. In 2017 CEBU International Conference on Studies in Business, Management, Education and Law (pp. 167–168).

Additional source URL: https://www.uruae.org/siteadmin/upload/DIR0117524.pdf

Coldwell, M. (2017). Exploring the influence of professional development on teacher careers: A path model approach. Teaching and Teacher Education, 61, 189–198.

Collet, V. S. (2015). The gradual increase of responsibility model for coaching teachers: Scaffolds for change. International Journal of Mentoring and Coaching in Education, 4(4), 269–292.

Constitution of the Republic of the Philippines, art. XIV (1987).

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. Education Policy Analysis Archives, 8, Article 1.

Day, C. (1999). Developing teachers: The challenges of lifelong learning. Falmer Press.

Department of Education. (2016, June 10). Adoption of the Basic Education Research Agenda (DepEd Order No. 39, s. 2016).

Ezeudu, S. A., & Ojih, L. U. (2014). Influence of area of specialization and years of teaching experience of geography teachers on their level of competency performance in teaching map work in secondary schools in Kogi State. Research on Humanities and Social Sciences, 4(18), 78–84.

Forbes, D. (2015). C. Mutch: Doing educational research: A practitioner's guide to getting started, 2nd edition [Book review]. New Zealand Journal of Educational Studies, 50, 307–309.

Gomez, M. J. S., & Panaligan, C. (2013). Level of research competencies and satisfaction of the faculty members from the College of Criminology. Asian Academic Research Journal of Social Sciences & Humanities, 1(14), 269–280.

Graduate students to discuss challenges of conducting research during pandemic. (2020, July 7). University of Arkansas.

Hadjinicola, G. C., & Soteriou, A. C. (2006). Factors affecting research productivity of production and operations management groups: An empirical study. Journal of Applied Mathematics and Decision Sciences, 2006, Article 96542.

Ismail, R., & Meerah, T. S. M. (2012). Evaluating the research competencies of doctoral students. Procedia—Social and Behavioral Sciences, 59, 244–247.

Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. Journal of Educational Psychology, 105(3), 805–820.

MacLellan, P. (2016). Why don't teachers use education research in teaching? Education in Chemistry. Royal Society of Chemistry.

Marsh, H. W., & Hattie, J. (2002). The relation between research productivity and teaching effectiveness: Complementary, antagonistic, or independent constructs? The Journal of Higher Education, 73(5), 603–641.

Matjašič, M., & Vogrinc, J. (2025). Supporting the development of the perceived and actual research competence of pre-service teachers. Education Sciences, 15(6), Article 652.

Meek, V. L., Teichler, U., & Kearney, M.-L. (Eds.). (2009). Higher education, research and innovation: Changing dynamics: Report on the UNESCO Forum on Higher Education, Research and Knowledge, 2001–2009. International Centre for Higher Education Research Kassel.

Mizell, H. (2010). Why professional development matters. Learning Forward.

Muñoz Carril, P. C., González Sanmamed, M., & Hernández Sellés, N. (2013). Pedagogical roles and competencies of university teachers practicing in the e-learning environment. The International Review of Research in Open and Distance Learning, 14(3), 462–487.

Omotere, T., & Omotere, A. (2012). Effects of teachers' competence on students' academic performance: A case study of Ikeja Local Government Area of Lagos State. 4MyResearch Digital Publishers.

Onuoha, U. D., Ikonne, C. N., & Madukoma, E. (2013). Perceived impact of library use on the research productivity of postgraduate students at Babcock University, Nigeria. IOSR Journal of Research & Method in Education, 1(1), 11–16.

Quimbo, M. A. T., & Sulabo, E. C. (2014). Research productivity and its policy implications in higher education institutions. Studies in Higher Education, 39(10), 1955–1971.

Salmingo, R. B. (2011). Research capability of state educational institutions: Its relationship to the faculty's attitude & involvement in research. IAMURE International Journal of Multidisciplinary Research, 2(1).

Sulo, T., Kendagor, R., Kosgei, D., Tuitoek, D., & Chelangat, S. (2012). Factors affecting research productivity in public universities of Kenya: The case of Moi University, Eldoret. Journal of Emerging Trends in Economics and Management Sciences, 3(5), 475–484.

Toquero, C. M. D. (2021). "Real-world:" preservice teachers' research competence and research difficulties in action research. Journal of Applied Research in Higher Education, 13(1), 126–148.

Ulla, M. B. (2018). Benefits and challenges of doing research: Experiences from Philippine public school teachers. Issues in Educational Research, 28(3), 797–810.

Whitman, G., & Kelleher, I. (2017, Spring). Teachers are researchers. Independent School.

Willison, J., & O'Regan, K. (2007). Commonly known, commonly not known, totally unknown: A framework for students becoming researchers. Higher Education Research & Development, 26(4), 393–409.

Zubrick, A., Reid, I., & Rossiter, P. (2001). Strengthening the nexus between teaching and research (Evaluations and Investigations Programme Report No. 01/2). Department of Education, Training and Youth Affairs.