ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 6 (June 2026)

Research Competence, Attitudes, and Challenges of Master Teachers and School Heads in the DepEd Aliaga District: Basis for a Capacity-Building Program

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Date Submitted:
April 07, 2026

Date Accepted:
May 25, 2026

Date Published:
June 09, 2026

DOI:
10.5281/zenodo.20631619

ABSTRACT

This study investigated the research competence, attitudes, and challenges of Master Teachers and school heads in the Department of Education (DepEd) Aliaga District as the basis for a capacity-building program. Using a descriptive-comparative design, the study involved 70 purposively selected respondents composed of 41 Master Teachers and 29 school heads from elementary and secondary schools. A validated questionnaire measured research knowledge, attitudes toward research, and challenges in conducting research. Descriptive statistics and an independent-samples t-test were used to analyze the data at the .05 level of significance. Results showed evident competence in conceptual understanding (M = 3.60), methodological skills (M = 3.55), and research writing (M = 3.57), but data analysis competence was only somewhat evident (M = 3.40). Attitudes toward research were consistently evident in perceived value (M = 3.78), motivation (M = 3.70), confidence (M = 3.55), and commitment (M = 3.65). Challenges were somewhat evident, particularly time constraints (M = 3.20), resource limitations (M = 3.15), technical skills gaps (M = 3.07), and institutional support concerns (M = 2.90). No significant differences were found between Master Teachers and school heads in research knowledge (p = .23) and attitudes (p = .38); however, school heads reported significantly greater challenges (p = .02). The study concludes that the respondents possess a strong foundation for research engagement, but targeted support is needed in data analysis, publication, mentoring, and institutional mechanisms. A role-responsive capacity-building program is proposed to strengthen the district's research culture.

Keywords: *capacity-building program, DepEd Aliaga District, research attitudes, research challenges, research competence, school leadership*

INTRODUCTION

Research is an essential mechanism for improving instructional practices, school leadership, and educational policy. In the Philippine basic education system, research has been institutionalized through the Basic Education Research Agenda, Research Management Guidelines, and the E-Saliksik Research Portal. These mechanisms encourage evidence-based decisions and the use of completed studies to address school-level and district-level concerns.

Despite these policy foundations, research productivity among educators remains uneven. Studies have shown that teachers may value research and possess foundational knowledge, yet encounter difficulties in translating competence into completed and disseminated outputs because of heavy workloads, limited resources, weak mentoring, and technical challenges (Abella et al., 2024; Ulla, 2018). These barriers are especially important

ISSN: 3116-3475
International Journal
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for Master Teachers and school heads because they are expected to guide instructional improvement, mentor teachers, and lead school-based initiatives.

In the Aliaga District, only a limited number of Master Teachers and school heads have actively undertaken research projects. This creates a gap between policy expectations and actual engagement. Assessing the respondents' research competence, attitudes, and challenges is therefore necessary to identify practical support mechanisms. This study examined these dimensions and compared the experiences of Master Teachers and school heads as the basis for a tailored capacity-building program.

Literature review

Research Competence and Productivity

Research competence is multidimensional. It involves conceptual understanding, methodological decision-making, data analysis, and the ability to communicate findings. Abella et al. (2024) reported that public school teachers may demonstrate research competence but still have low productivity when workloads and resource limitations prevent sustained engagement. Cadorna et al. (2022) similarly emphasized the need for capability-building programs to bridge gaps between readiness and actual practice.

Data analysis remains a recurring weakness among teacher-researchers. Difficulties in applying statistical procedures, coding qualitative data, and interpreting results can limit the rigor of completed studies. Borreo (2023) identified methodological and technical assistance as important needs among teacher-researchers, reinforcing the value of hands-on analytical training and mentoring.

Attitudes Toward Research

Positive attitudes are important because competence alone does not guarantee sustained research engagement. Educators are more likely to conduct research when they recognize its value for improving classroom practice, professional growth, and school decision-making. Insorio (2024) noted that motivation and commitment may be influenced by both intrinsic factors, such as improving student outcomes, and extrinsic factors, such as recognition and promotion.

However, willingness to publish may remain lower than willingness to attend training or collaborate with peers. This suggests that capacity-building programs should not end with proposal development or data gathering; they should include academic writing, publication preparation, and dissemination support.

Challenges in Conducting Research

Teacher-led research is commonly constrained by time, resources, technical skills, and institutional conditions. Ulla (2018) documented the experiences of Philippine public-school teachers and identified workload and lack of resources as significant barriers. Toquero (2021) likewise emphasized that teacher research in developing contexts requires stronger institutional mechanisms and practical support.

These findings indicate that an effective research-development program should respond simultaneously to competence gaps and organizational barriers. Training in data analysis and academic writing must be complemented by protected research time, mentoring networks, access to resources, recognition systems, and opportunities for dissemination.

METHODS

Research Design

The study employed a descriptive-comparative research design. The descriptive component assessed the respondents' research knowledge, attitudes toward research, and challenges in conducting research. The comparative component examined whether Master Teachers and school heads differed significantly across these dimensions.

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International Journal
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Research Locale

The study was conducted in the DepEd Aliaga District, Nueva Ecija, which includes elementary and secondary schools. The district was selected because Master Teachers and school heads are expected to lead and mentor school-based research initiatives, yet research engagement remained limited.

Participants and Sampling Technique

The respondents were 70 purposively selected educators: 41 Master Teachers and 29 school heads. Purposive sampling was appropriate because the selected respondents hold instructional and managerial responsibilities relevant to strengthening research culture in schools.

Table 1. *Distribution of Respondents*

Respondent Group	Elementary	Secondary	Total
Master Teachers	25	16	41
School Heads	23	6	29
Total	48	22	70

Research Instrument

A structured questionnaire anchored on the study objectives measured three constructs: research knowledge, attitudes toward research, and challenges in conducting research. Each construct contained 20 item-statements rated on a five-point Likert scale. The instrument was reviewed by three specialists in educational research and pilot-tested among 20 teachers outside the district. Cronbach's alpha coefficients were .87 for research knowledge, .85 for attitudes, .83 for challenges, and .85 for the overall instrument, indicating high internal consistency.

Data Gathering Procedure

Permission was secured from the appropriate DepEd officials before data collection. Respondents received an explanation of the purpose of the study and completed the questionnaire voluntarily. The accomplished instruments were checked, encoded, and prepared for analysis.

Data Analysis

Frequency and percentage were used to summarize the respondent distribution. Weighted means were computed to determine the levels of research knowledge, attitudes, and challenges. An independent-samples t-test compared Master Teachers and school heads. Statistical significance was evaluated at the .05 level.

Ethical Consideration

The study observed voluntary participation, informed consent, confidentiality, anonymity, and secure data handling. No identifying information was included in the analysis or reporting, and respondents could withdraw without penalty.

RESULTS AND DISCUSSION

Research Knowledge

The respondents demonstrated evident research knowledge in conceptual understanding, methodological skills, and research writing. Data analysis was the only domain rated as somewhat evident, identifying the most important technical gap for capacity-building

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International Journal
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Table 2. *Summary of Research Knowledge*

Research Knowledge Domain	Mean	Interpretation	Key Priority
Conceptual understanding	3.60	Evident	Improve variable definition and theoretical framing
Methodological skills	3.55	Evident	Strengthen instrument validation
Data analysis competence	3.40	Somewhat Evident	Prioritize statistics, qualitative coding, and interpretation
Research writing skills	3.57	Evident	Improve citation, referencing, and APA application

The strongest conceptual indicator was identifying relevant research problems (M = 3.70), while defining variables accurately received the lowest score (M = 3.50). In methodology, applying ethical standards was strongest (M = 3.65), but ensuring instrument validity was only somewhat evident (M = 3.45). Within data analysis, respondents were relatively comfortable presenting tables and figures (M = 3.50), yet reported weaker competence in qualitative coding (M = 3.30), statistical application (M = 3.35), and quantitative interpretation (M = 3.40). These results align with studies identifying technical and methodological assistance as continuing needs among teacher-researchers (Abella et al., 2024; Borreo, 2023).

Attitudes Toward Research

Attitudes toward research were evident across all domains. The results indicate a strong foundation for building a research culture because respondents recognized the instructional value of research, expressed motivation, and showed willingness to attend training and collaborate.

Table 3. *Summary of Attitudes Toward Research*

Attitude Domain	Mean	Interpretation	Highest Indicator
Perceived value	3.78	Evident	Research improves teaching practices (3.85)
Motivation	3.70	Evident	Motivated by student success (3.80)
Confidence	3.55	Evident	Confident in identifying problems (3.65)
Commitment	3.65	Evident	Willing to attend training (3.75)

The lowest confidence indicator involved data analysis (M = 3.40), reinforcing the technical weakness identified in Table 2. The lowest commitment indicator was willingness to publish research (M = 3.55). Although this rating remained evident, it points to the need for publication mentoring, manuscript-development workshops, and dissemination platforms. The pattern supports prior findings that motivation must be reinforced by training and institutional opportunities to generate completed outputs (Insorio, 2024).

Challenges in Conducting Research

Challenges were somewhat evident across the four domains. Time constraints were the most prominent, followed by resource limitations, technical skills gaps, and institutional support concerns.

Table 4. *Summary of Challenges in Conducting Research*

Challenge Domain	Mean	Interpretation	Priority Concern
Time constraints	3.20	Somewhat Evident	Tight deadlines and competing workloads
Resource limitations	3.15	Somewhat Evident	Insufficient training opportunities and limited mentoring
Technical skills gap	3.07	Somewhat Evident	Academic writing, software use, and analysis
Institutional support	2.90	Somewhat Evident	Administrative encouragement and research culture

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International Journal
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The results indicate that the problem is not merely individual competence. Educators also require organizational support that protects time for research, improves access to training and mentors, and recognizes completed outputs. This conclusion is consistent with studies that identify workload and limited institutional resources as barriers to teacher-led research (Toquero, 2021; Ulla, 2018).

Differences Between Master Teachers and School Heads

Table 5. *Differences in Research Knowledge, Attitudes, and Challenges by Respondent Group*

Dimension	Group	Mean	SD	t	p	Interpretation
Research knowledge	Master Teachers	3.55	0.42	1.21	.23	Not Significant
	School Heads	3.60	0.39			
Attitudes toward research	Master Teachers	3.70	0.40	0.88	.38	Not Significant
	School Heads	3.72	0.37			
Challenges	Master Teachers	3.15	0.45	2.45	.02	Significant
	School Heads	3.35	0.41			

Note. A p-value below .05 indicates a statistically significant difference.

Master Teachers and school heads did not differ significantly in research knowledge or attitudes. This suggests that both groups possess comparable competence and motivation. However, school heads reported significantly greater challenges than Master Teachers ($p = .02$), likely reflecting the added administrative responsibilities associated with school leadership. The finding supports differentiated interventions: school heads need mechanisms that address time and institutional pressures, while Master Teachers require technical support that strengthens their capacity to conduct and mentor research.

The source manuscript also discussed possible school-level differences, but the detailed inferential table for elementary and secondary groups was not included. The present article therefore reports only the statistically documented role-based comparison.

Proposed Capacity-Building Program

The findings informed a four-component program designed to improve technical competence, strengthen dissemination, build mentoring networks, and institutionalize research support.

Table 6. *Proposed Capacity-Building Program*

Component	Objective	Key Activities	Schedule	Expected Output
Technical skills enhancement	Improve data analysis and academic writing	Hands-on workshops on statistics, qualitative coding, software tools, and APA writing	Term 1	Improved analytical and writing competence
Research dissemination training	Build confidence in presenting and publishing outputs	Seminars on research presentation, journal submission, and policy briefs	Term 1	More submissions and presentations
Mentoring and collaboration	Establish sustained peer support	Pair novice researchers with mentors and organize collaborative action research	Term 2	Active mentoring relationships and joint studies
Institutional support development	Integrate research into school governance	Policy workshops, protected research time, recognition systems, and school-based research policies	Term 3	Institutionalized district research culture

Monitoring should include pre-test and post-test results, completed studies, presentations, manuscript submissions, participant feedback, and periodic evaluation reports. These indicators will help determine whether training translates into sustained research productivity.

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International Journal
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CONCLUSION

Master Teachers and school heads in the DepEd Aliaga District possessed an adequate foundation for research engagement. Their conceptual understanding, methodological skills, and research writing competence were evident, and their attitudes toward research were positive. Nevertheless, their competence and confidence in data analysis remained weaker than other dimensions. Their capacity to produce research outputs was also affected by time constraints, limited resources, technical skills gaps, and insufficient institutional support. School heads reported significantly greater challenges than Master Teachers, indicating that research-development initiatives should respond to distinct role demands. Strengthening data analysis, academic writing, mentoring, dissemination, and organizational support can help transform individual motivation into sustained district-level research productivity.

Recommendations

1. Implement hands-on training in statistical analysis, qualitative coding, software use, instrument validation, and interpretation of results using real school-based datasets.
2. Establish a district mentoring mechanism that pairs novice researchers with experienced mentors and supports proposal development, data analysis, manuscript writing, and publication.
3. Provide protected research time, flexible timelines, access to references and technological tools, and recognition mechanisms for completed and disseminated outputs.
4. Develop role-responsive interventions: school heads should receive support for integrating research into school governance despite administrative demands, while Master Teachers should receive technical boot camps and mentoring preparation.
5. Create district dissemination opportunities, including research colloquia, a local research bulletin, journal-submission orientations, and support for uploading completed studies to appropriate DepEd platforms.
6. Conduct follow-up evaluation after program implementation to measure changes in competence, confidence, research productivity, dissemination, and institutional support.

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