School Research Culture and Teachers' Research Capabilities in Select Public Elementary Schools

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ABSTRACT

This study examined the school research culture and research capabilities of public elementary teachers in Pangantucan, Bukidnon. It described teachers' demographic profiles; assessed their perceptions of school research culture across institutional policies, administrative support, mentoring and collaboration, infrastructure and resources, and professional development; and evaluated their research capabilities in framing questions and collecting data, identifying literature and theory, and analyzing and presenting data. The study also tested the relationship between research culture and research capabilities and analyzed differences in capabilities by profile. Using a descriptive-correlational quantitative design, a validated questionnaire was administered to 183 teachers selected through proportionate stratified random sampling, and data were treated with descriptive statistics, Pearson correlation, and ANOVA.

Teachers reported a high level of research culture, with mentoring and collaboration as the strongest dimension and infrastructure as the weakest. They rated themselves capable overall, particularly in literature review and theoretical grounding, but were less confident in question formulation and varied data collection methods. All dimensions of research culture showed significant positive relationships with research capabilities, and capabilities differed significantly by teaching experience, age, and educational attainment. The study concludes that research culture in Pangantucan public elementary schools is generally strong and consistently supported, and recommends that school heads improve research infrastructure, provide professional development on research design and data collection, and strengthen structured mentoring programs to build a more sustainable research culture.

Keywords: Research Culture, Research Capability

INTRODUCTION

Education is central to sustainable development because it supports economic growth, democracy, social cohesion, and national unity. A school where staff are engaged in research and assume different roles in the research process gains positively from a strong research culture.

In the recent District Research Colloquium in Pangantucan West District, only six participants presented, with just one elementary teacher out of 123 teaching personnel, which shows a worrying lack of teacher research and the need for a more vigorous research and development strategy. Research now plays an increasingly important role in education by providing evidence-based solutions to complex school issues, and a strong research culture has become essential in a context of rapid change and rising expectations. As teachers are expected to develop learners' critical thinking, research competence, and writing skills, their own mastery of these skills becomes more urgent. While education aims to produce globally competent citizens, the system continues to face an educational crisis linked to a weak research culture and teachers' limited capabilities in educational inquiry.

Teachers with stronger research capabilities are better able to write academically and produce useful findings. Research capability, as a psychological resource, helps them manage the stages of writing and investigation. Studies show that many Filipino public-school teachers have low research engagement, limiting evidence-based support for programs and innovations and contributing to quality issues in the education system. Strengthening teachers' research, writing, and presentation skills is therefore vital for addressing classroom challenges and improving student performance. Against this backdrop, the present study examines the school research culture and research capabilities of public elementary teachers in Pangantucan, focusing on their profiles, perceptions of research culture, core research competencies, and the relationship between culture and capability across demographic groups.

Statement Of the Problem

This study aimed to determine the school research culture and research capabilities of select public elementary school teachers in Pangantucan, Bukidnon. S.Y 2025-2026. Specifically, it sought to answer the following questions:

1. How are the respondents distributed in terms of age, sex, civil status, highest educational attainment, designation, and teaching experience?

2. How do the respondents perceive the school's research culture based on institutional policies, administrative support, mentoring and collaboration, infrastructure and resources, and professional development opportunities?

3. What is the respondents' level of research capabilities with regard to framing questions and data collection, identifying literature and theoretical knowledge, and analyzing and presenting research data?

4. Is there a significant relationship between the respondents' perceived school's research culture and their research capabilities?

5. Is there a significant difference in the respondents' research capabilities when grouped according to their profile?

Hypothesis

Problems 1, 2, and 3 are hypotheses-free. Based on Problems 4 and 5, the null hypotheses were tested at the 0.05 significance level.

Ho1: There is no significant relationship between the respondents' perceived school's research culture and their research capabilities.

Ho2: There is no significant difference in the respondents' research capabilities when grouped according to their profile.

METHODOLOGY

This study used a quantitative descriptive-correlational design to examine how school research culture relates to public elementary teachers' research capabilities in Pangantucan, Bukidnon. All 335 kindergarten to Grade 6 teachers in the three districts formed the population; using proportionate random sampling and Slovin's formula at 0.05 margin of error, 183 teachers were selected as respondents. Data were gathered through a structured three-part questionnaire. Part I collected demographic and professional information (age, sex, civil status, highest educational attainment, designation, and teaching experience). Part II measured teachers' perceptions of school research culture across institutional policies, administrative support, mentoring and collaboration, infrastructure and resources, and professional development, using a researcher-developed, expert-validated scale based on related literature, DepEd policies, and institutional research frameworks. Part III assessed teachers' research capabilities in framing questions and collecting

data, identifying literature and theoretical knowledge, and analyzing and presenting findings, using an adapted instrument from Comon and Corpuz (2024).

Research culture items were rated from Strongly Agree to Strongly Disagree, and capability items from All the Time to Never. Instrument validity and reliability were established through expert review and pilot testing with 30 comparable teachers, yielding Cronbach's alpha values from 0.860 to 0.930. After securing institutional approvals, data were collected via print and online surveys, with follow-up reminders to maximize responses. Descriptive statistics summarized profiles, research culture, and capabilities, while Pearson's correlation, t-tests, and ANOVA ($\alpha = 0.05$) tested relationships and differences across profile variables. Ethical standards on informed consent, confidentiality, anonymity, voluntary participation, and limited, disclosed AI assistance were strictly observed.

RESULTS AND DISCUSSION

Table I. Distribution of Respondents' Profiles

Variable	Category	Frequency	Percentage
Age	50 years old and above	26	14.21
	40 – 49 years old	61	33.33
	30 – 39 years old	53	28.96
	29 years old and below	43	23.50
	Total	**183**	**100.00**
Sex	Male	30	16.39
	Female	153	83.61
	Total	**183**	**100.00**
Civil Status	Single	42	22.95
	Married	131	71.58
	Widowed	9	4.92
	Separated	1	0.55
	Total	**183**	**100.00**
Highest Educational	With Doctorate Degree Units	6	3.28
Attainment	Master's Degree	48	26.23
	With Master's Degree Units	95	51.91
	Bachelor's Degree	34	18.58
	Total	**183**	**100.00**
Current Designation	Master Teacher II	5	2.73
	Master Teacher I	8	4.37
	Teacher III	37	20.22
	Teacher II	24	13.12
	Teacher I	109	59.56
	Total	**183**	**100.00**
Teaching Experience	36 years and above	10	5.46
	31-35 years	13	7.10
	26-30 years	10	5.46
	21-25 years	19	10.38
	16-20 years	19	10.38
	11-15 years	23	12.57
	6-10 years	49	26.78
	1-5 years	40	21.86
	Total	**183**	**100.00**

Table 1 shows that the teaching force in the selected public elementary schools is largely composed of mid-career teachers. This group has substantial classroom experience and familiarity with school demands, placing them in a good position to participate in and sustain a stronger research culture. Their professional

stability and reflective practice support continuity in school programs and make it easier to connect classroom problems to researchable topics. The largest age group is 40–49 years (33.33%), indicating a core of professionally mature teachers who can bridge school policies and classroom realities and who are well placed to lead action research and collaborative inquiry. In contrast, only 14.21% are 50 years and above, which may limit the transfer of institutional memory and reduce opportunities for intergenerational mentoring, underscoring the need to actively involve senior teachers as research advisers and mentors.

Most respondents are women (83.61%), reflecting the typical gender profile of Philippine elementary schools. Female teachers therefore play a central role in instruction, school programs, and the emerging research culture, but their dominant presence also highlights the need for gender-responsive support in workload, leadership, and research opportunities, while efforts to attract more male teachers could enhance diversity and broaden perspectives.

The sample is predominantly married (71.58%), suggesting a relatively stable workforce whose family support can reinforce commitment and long-term engagement in school programs, including research, but whose dual responsibilities require flexible scheduling and supportive policies. In terms of academic preparation, over half hold a bachelor's degree with master's units, indicating an academically progressing workforce with strong potential for research development, though the small number with doctoral units points to the need for more support toward advanced study and research leadership.

Most teachers occupy entry-level ranks, especially Teacher I (59.56%), showing that many are in early stages of their careers and need mentoring and structured development to grow into research-active and leadership roles. Teaching experience is concentrated in the 6–10-year range (26.78%), representing early- to mid-career teachers who are experienced enough to contribute meaningfully yet still open to innovation and collaborative inquiry. The low proportion of very senior teachers, however, suggests that schools must deliberately strengthen systems for knowledge transfer, mentoring, and retention so that veteran expertise continues to support research culture and school improvement.

Table II. Summary Distribution of Respondents' Perception of the Level of the School's Research Culture

Variable	Mean	SD	Descriptive Rating	Qualitative Interpretation
Institutional Policies	2.84	0.10	Agree	High
Administrative Support	2.77	0.34	Agree	High
Mentoring and Collaboration	2.89	0.11	Agree	High
Infrastructure and Resources	2.57	0.21	Agree	High
Professional Development Opportunities	2.82	0.13	Agree	High
Overall	2.78	0.22	Agree	High

Table II shows that teachers perceive a high level of school research culture, with an overall mean of 2.78 (SD = 0.22) across all five dimensions. This indicates that research-related policies, support systems, collaborative practices, and professional development opportunities are present enough to support teacher engagement in research. A culture at this level provides a foundation for building teachers' confidence, capability, and motivation to undertake studies that contribute to school improvement and evidence-based practice, although some aspects are stronger than others, and the culture is not yet fully institutionalized.

Among the dimensions, mentoring and collaboration obtained the highest mean (2.89, SD = 0.11), suggesting that teachers most clearly experience research culture through opportunities to work together, seek guidance, and receive mentoring. Such collaborative environments help reduce isolation, encourage shared learning, and build research confidence, making them a key strength that can be leveraged to reinforce other dimensions of research culture. In contrast, infrastructure and resources registered the lowest mean (2.57, SD = 0.21), still within the high range but relatively weaker than the rest. This suggests that while some facilities and materials are available, access to research tools, digital resources, and archival systems remains limited or inconsistent, constraining teachers' ability to carry out, store, and build on research efficiently. Strengthening infrastructure and resource systems, particularly digital and archival support, therefore emerges as a priority for deepening

and sustaining school research culture.

Table III. Summary of the Teachers' Level of Research Capabilities

Variable	Mean	SD	Descriptive Rating	Qualitative Interpretation
Framing Questions and Data Collection	2.79	0.07	Most of the Time	Capable
Identifying Literature and Theoretical Knowledge	2.88	0.05	Most of the Time	Capable
Analyzing and Presenting Research Data	2.87	0.05	Most of the Time	Capable
Overall	2.85	0.07	Most of the Time	Capable

Table III shows that teachers demonstrate a generally adequate level of research competence, with an overall mean of 2.85 (SD = 0.069), interpreted as Capable ("Most of the Time") across the three domains. Identifying Literature and Theoretical Knowledge has the highest mean (2.88), followed closely by Analyzing and Presenting Research Data (2.87), while Framing Questions and Data Collection is lowest (2.79), though still within the Capable range. This pattern indicates that teachers are more confident in the academic and conceptual aspects of research, such as locating sources, understanding theories, and grounding studies in existing literature than in the initial stages of research design and data gathering. Strong skills in literature review and theoretical anchoring enhance the depth and credibility of their work and provide a solid base for further capability development, as noted by Francisco (2020), Magallanes et al. (2020), and Caingcoy (2020).

However, the relatively lower mean for Framing Questions and Data Collection suggests that formulating clear research problems and selecting appropriate data collection methods remain challenging for some teachers. Weaknesses at this stage can reduce the rigor, relevance, and reliability of the entire research process and make later analysis and interpretation more difficult, a concern echoed by Llego (2020), Salandanan (2020), and Manila et al. (2022). Overall, public elementary school teachers in Pangantucan have functional research capabilities but still need sustained professional development and mentoring, especially in research design and data collection to strengthen confidence and technical proficiency.

Table IV. Result of the Test on the Relationship Between the Respondents' Schools' Research Culture and their Research Capabilities

Schools' Research Culture	**Teachers' Research Capabilities**			
	Framing Questions and Data Collection	Identifying Literature and Theoretical Knowledge	Analyzing and Presenting Research Data	Overall
	r-value p-value	r-value p-value	r-value p-value	r-value p-value
Institutional Policies	0.60 <0.000001 S	0.64 <0.000001 S	0.62 <0.000001 S	0.62 <0.000001 **S**
Administrative Support	0.56 2.22E-16 S	0.54 4.885E-15 S	0.57 <0.000001 S	0.55 <0.000001 **S**
Mentoring and Collaboration	0.54 2.442E-15 S	0.46 4.358E-11 S	0.48 4.758e-12 S	0.50 <0.000001 **S**
Infrastructure and Resources	0.51 2.052E-13 S	0.46 7.661E-11 S	0.49 2.683e-12 S	0.48 <0.000001 **S**
Professional Development Opportunities	0.73 <0.000001 S	0.56 2.22E-16 S	0.48 5.908e-12 S	0.59 <0.000001 **S**

*Correlation is Significant at p<0.05 alpha level

Table IV shows that all dimensions of school research culture are positively and significantly related to teachers' research capabilities (r = 0.48–0.62, p<0.000001), leading to the rejection of the null hypothesis. This indicates that a supportive research environment, including policies, mentoring, resources, and professional development, plays an important role in strengthening teachers' competence, rather than developing research skills in isolation. Among the five dimensions, institutional policies have the strongest association with research capability, while infrastructure and resources have the weakest, though still significant, relationship. These results suggest that improving teachers' research competence requires a holistic approach that prioritizes clear institutional policies and strong support systems alongside adequate infrastructure and resources.

Table V. Test of Difference in the Research Capabilities of the Respondents when Grouped According to their Profile

Teachers' Profile	Teachers' Research Capabilities		
	Framing Questions and Data Collection	Identifying Literature and Theoretical Knowledge	Analyzing and Presenting Research Data
	f-value p-value	f-value p-value	f-value p-value
Age	2.72 0.0460 **S**	4.02 0.0085 **S**	4.87 0.0028 **S**
Sex	1.06 0.3974 NS	0.81 0.2607 NS	0.76 0.1986 NS
Civil status	0.85 0.4657 NS	0.93 0.4286 NS	1.29 1.2941 NS
Highest Educational Attainment	2.99 0.0325 **S**	2.87 0.0378 **S**	3.41 0.0187 **S**
Current Designation	0.35 0.8448 NS	0.23 0.9100 NS	1.09 0.3631 NS
Teaching Experience	2.46 0.0197 **S**	5.83 <0.001 **S**	7.63 <0.001 **S**
Overall	1.74 0.845 NS	2.45 0.920 NS	3.18 1.000 NS

*significant at p<0.05 alpha level S – significant NS – not significant

Table V shows no significant differences in research capability when teachers' profiles are considered collectively, indicating a comparable level of competence across the three domains. Sex, civil status, and current designation likewise show no significant differences, suggesting that these characteristics do not substantially shape research skills. In contrast, age, highest educational attainment, and teaching experience are significantly associated with research capability, with older, more educated, and more experienced teachers demonstrating stronger competence. These results show the need for targeted support and professional development for younger, less experienced, and lower-qualified teachers to build a more inclusive research culture.

SUMMARY

The study portrays a predominantly female, mostly married, early- to mid-career teaching workforce that is steadily professionalized, with many pursuing or holding graduate credits and most occupying entry-level designations. Teachers report a generally strong school research culture characterized by supportive policies, active leadership, and accessible mentoring and collaboration, though infrastructure, digital resources, funding, and hands-on training remain uneven. Overall, they see themselves as capable in framing questions and collecting data, using literature and theory, and analyzing and presenting data, with particular strength in literature use but continuing needs in technical and advanced analytic skills.

A key finding is the moderately strong, positive link between school research culture and teacher research capability, especially where mentoring, collaboration, clear policy, and sustained professional development are present. Differences in capability are not marked by sex, civil status, or rank, but are significantly higher among older, more experienced, and more academically advanced teachers, showing the value of maturity, experience, and graduate study. Taken together, the results suggest schools are on a positive trajectory toward a more fully realized research culture, but must still address resource gaps, deepen mentoring systems, expand advanced technical training, and provide differentiated, stage-sensitive support so that research becomes a central, embedded driver of teaching quality, school improvement, and better student outcomes.

CONCLUSIONS

Based on the findings, it can be concluded that the research culture in public elementary schools in Pangantucan, Division of Bukidnon, is generally “high” and supported across key institutional areas. Teachers report moderate capabilities in framing research questions, utilizing relevant literature and theory, and analyzing or presenting research findings, demonstrating a solid, shared foundation for scholarly activity. Among all areas, well-developed institutional policies proved the most influential, showing the strongest alignment with improvements in teachers’ research capabilities.

Mentoring and collaboration, professional development, and consistent administrative support were also positively associated with greater teacher research competence. While infrastructural and resource gaps remain the most significant areas in need of attention, addressing them would further sustain and strengthen teacher-led research efforts.

Statistical analysis shows that variables such as age, highest educational attainment, and teaching experience meaningfully shape research ability, while sex, civil status, and designation do not. This suggests that experience and advanced education outweigh demographic factors in building research capacity. Most importantly, strengthening school culture through clear policies, empowering leadership, mentorship, and targeted growth opportunities will foster effective, confident educators and promote sustained innovation and excellence in basic education.

RECOMMENDATIONS

Based on the results of the study, the following recommendations are hereby proposed:

School heads should prioritize strategic retention and re-engagement of senior teachers. Initiatives may include flexible post-retirement or advisory roles, structured exit interviews to document best practices, and regular legacy workshops in which veteran teachers can formally share expertise and lessons learned with mid-career and junior colleagues.

School heads should establish designated spaces for research activities, invest in reliable internet, computing devices, and printing facilities, and acquire or subscribe to e-libraries, research platforms, and software. Institutionalize the creation and regular updating of an accessible research archive, both digital and physical, ensuring that teachers have ready access to past and current research for reference and inspiration.

School heads should implement regular, practical workshops focused on research problem formulation and

hands-on training in both qualitative and mixed-methods data collection techniques (e.g., interviews, focus groups, journals, observations). Create peer-feedback "research clinics" or communities of practice where teachers collaboratively develop, test, and refine research questions and instruments.

School heads should maximize infrastructure upgrades and pair them with explicit capacity-building efforts, ensuring that every distribution of new tools or technology is accompanied by sustained, skill-based training, technical support, and clear guidelines that encourage their use in actual research projects.

School leaders should launch structured research onboarding or induction programs with built-in mentorship, pairing novices with research-active peers or senior teachers for ongoing support. Regular orientation sessions and refresher courses should break down research into accessible components, with a particular focus on the practical application of research tools and methods in the classroom.

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