



Bridging the Gap: Research Competencies and Development Needs of Public Elementary School Teachers in Bustos District Elementary School

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ABSTRACT:

This study aimed to assess the research competencies and professional development needs of public elementary school teachers in Bustos District Elementary School for the 2024–2025 school year. Specifically, it described the demographic profile of the teachers and examined their research knowledge, attitudes, and skills. The study also investigated the relationship between teachers' socio-demographic profiles and their research capabilities. Utilizing a quantitative research design, the study surveyed all elementary teachers in the district through a structured questionnaire adapted from Abella (2015). Data were analyzed using frequency, percentage, weighted mean, and simple linear correlation analysis. Results revealed that the majority of teachers are experienced, predominantly female, and mostly hold the Teacher III position with Bachelor's degrees and Master's units. Teachers demonstrated satisfactory research knowledge, positive attitudes towards research, and good research skills, particularly in research design and writing objectives. However, skills in data collection methods and statistical analysis require improvement. A significant positive correlation was found between professional development activities and teachers' research capabilities, while other demographic factors showed no significant relationship. The study concludes that continuous professional development and practical research experience are essential for enhancing teachers' research competence. Recommendations include targeted training programs, active involvement in research projects, mentorship initiatives, and fostering a supportive research culture within schools.

Keywords: Research Competency, Professional Development, Elementary Teachers, Research Skills, Attitudes toward Research

Introduction

Education is a vital cornerstone of any progressive society, serving as a catalyst for individual growth and societal advancement. Central to the educational process are teachers, the dedicated professionals responsible for nurturing and guiding the future generations. As the educational landscape evolves to meet the demands of an ever-changing world, it becomes crucial to ensure that teachers possess the necessary skills and competencies to effectively engage in research and contribute to the continuous improvement of teaching methodologies.

Teachers need to be able to address issues in the classroom and have 21st-century abilities to accomplish these aims. Teachers can have a significant impact on how students learn and develop. Students' lives are impacted by classroom teachers who care about them, are knowledgeable about their subject, and have a thorough understanding of both the teaching process and how students learn and grow. (Amedu, quoted by Jordan, 2018).

The ability of teachers to conduct research and engage in evidence-based practices has become increasingly recognized as a fundamental component of professional development in the field of education. Research capabilities empower teachers to critically analyze educational theories, explore innovative instructional strategies, and implement evidence-based interventions to enhance student learning outcomes.

However, in order to equip teachers with the requisite research skills, it is imperative to first assess their current research capabilities comprehensively. The Department of Education, as an agency of the government, should take part in addressing problems, particularly the teaching-learning process. In other words, the teachers should research the solutions to the problems in their classrooms, which will improve the country's educational system.

The DepEd released DO No. 65, s. 2003, which institutionalizes research-based decisions and policy-making in the Department, to support this idea. This directive states that the Department's policies must be supported by research. The Department of Education now encourages school staff, particularly teachers, to perform action research to improve teachers' research skills.

Ulla, Barrera, and Acompañado (2017) stated unequivocally that the Philippine Department of Education (DepEd) had issued an order to all of its school heads, supervisors, and teachers to adopt "the enclosed Basic Education Research Agenda" which promotes the "conduct of education research" in the nation. Additionally, research should present data on improving educational standards and be based on the four Sulong Edukalidad pillars: 1) A review and update of the K–12 curriculum; 2) An improved learning environment; 3) The upskilling and skilling of teachers; and 4) The engagement of stakeholders for assistance and collaboration.

However, in the Bustos district Elementary School, composed of 344 classroom teachers, a notable disparity exists in research completion, with only 68 teachers having participated in the recent Research Congress in the Schools Division of Bulacan. This is only 20% of the total population of the public elementary schools in Bustos Elementary School. This situation can be attributed to various challenges within the educational landscape. Firstly, a pervasive issue is the lack of dedicated time for research activities amid teachers' demanding schedules, which are already occupied by teaching responsibilities, lesson planning, and administrative duties. Additionally, a crucial hindrance is the limited research skills among teachers, necessitating targeted training and professional development opportunities to enhance their proficiency in conducting meaningful studies. Financial constraints further impede research initiatives, as teachers may lack the necessary funding for resources, materials, and external expertise. Inadequate access to research materials and a dearth of online databases pose additional obstacles, requiring efforts to improve resource accessibility. The mismatch of research interests with institutional priorities, a lack of mentorship, and the perceived complexity of research are additional challenges that deter teachers from engaging in research activities. Addressing these multifaceted issues necessitates a comprehensive approach involving professional development, resource allocation, administrative support, and a cultural shift to recognize and promote research activities among teachers in the Bustos District Elementary School.

In conclusion, this aimed to explore and assess the research capabilities of the elementary teachers as a crucial step towards their professional development. By comprehensively evaluating teachers' research knowledge, skills, and attitudes, this research seeks to identify strengths and areas for improvement, which will serve as the foundation for designing targeted trainings. Ultimately, this study strives to empower teachers with the necessary research competencies to drive educational innovation, enhance teaching practices, and ultimately improve student outcomes in the ever-evolving landscape of education.

Statement of the Problem

This study sought to determine the research competencies and professional development needs of public elementary school teachers in Bustos District Elementary School for SY 2024-2025.

Specifically, it sought to answer the following questions:

What is the profile of the elementary school teachers in terms of:

- age;
- gender;
- civil status;
- designation/position;
- highest educational attainment;
- length of service;
- number of trainings/seminars attended related to research;
- membership in organization; and
- number of researches conducted?

What is the research capability of elementary teachers in based on the following:

- research knowledge;
- research attitudes;
- research skills?

Is there any significant relationship between the socio-demographic profile of teachers and their research capability in terms of research knowledge, research attitudes and research skills?

Methodology

This section outlines the research design, population and sample, data gathering instruments and procedures, ethical considerations, and statistical tools used in the study.

Research Design

This study employed a **quantitative research design** to describe the profile of elementary teachers in Bustos District Elementary School, and examine the relationship between their demographic characteristics and research capabilities in terms of **knowledge, attitudes, and skills**.

Population and Sampling

The study involves **total enumeration** of all elementary teachers in the Bustos District Elementary School for the School Year 2024–2025. All public elementary schools in the district are covered, totaling 68 **respondents**.

Data Gathering Instrument

The main tool for data collection is a **structured questionnaire** adapted from Abella (2015), modified to suit the current study.

- **Part I:** Gathered respondents' demographic profile (age, gender, civil status, position, highest educational attainment, length of service, research-related trainings/seminars, organizational memberships, and number of research conducted).
- **Part II:** Assesses research capabilities in three areas:
- **Knowledge:** 50-item objective test
- **Attitude:** 5-point Likert scale measuring research usefulness, anxiety, passion, and relevance
- **Skills:** 5-point Likert scale evaluating research-related competencies

Data Gathering Procedure

Permission to conduct the study was obtained through a formal request to the Public Schools District Supervisor of Bustos via the School Principal of the researcher. Upon approval, the questionnaires were distributed personally to the teachers. Data collected was submitted for statistical analysis with the assistance of a professional statistician.

Ethical Considerations

The researcher upheld ethical standards throughout the study, observing the following:

- **Conflict of Interest:** The study was conducted solely for academic and institutional development purposes.
- **Privacy and Confidentiality:** Data access was restricted to the research team, with documents securely destroyed one year post-study.
- **Informed Consent:** Respondents were fully informed of the study's purpose, with participation being entirely voluntary.
- **Recruitment and Risk:** Participation involved no physical or emotional risk; confidentiality will be maintained.
- **Benefits:** Participants gained insights into their research capabilities, aiding in targeted professional development.
- **Compensation:** No financial compensation was provided.
- **Specimen Handling:** No biological or hazardous materials were involved.

Statistical Treatment of Data

The following statistical methods was applied:

- **Frequency and Percentage (%)** – to summarize the respondents' demographic profile.
- **Weighted Mean (\bar{x})** – to evaluate the respondents' research knowledge, attitudes, and skills.
- **Simple Linear Correlation Analysis** – to examine relationships between the teachers' profile and their research capabilities.

Results and Discussion

This chapter presents the analysis of the data gathered to answer the problems raised in the study.

Profile of the Teacher-Respondents

Table 1. Profile of the Teacher-Respondents

Variables	<i>F</i>	%
Age		
18 - 26 years old	2	2.94
27 - 35 years old	13	19.12
36 - 44 years old	22	32.35
45 – 62 years old	31	45.59
Total	68	100.00
Gender		
Male	5	7.35
Female	63	92.65

Total	68	100.00
Civil Status		
Single	15	22.06
Married	50	73.53
Widowed	3	4.41
Total	68	100.00
Position		
Teacher I	5	7.35
Teacher II	3	4.41
Teacher III	53	77.94
Master Teacher I	6	8.82
Master Teacher II	1	1.47
Total	68	100.00
Educational Attainment		
BSEED/BEED graduate	10	14.71
With MA units	35	51.47
Master's degree	14	20.59
With doctoral units	7	10.29
PhD/EdD	2	2.94
Total	68	100.00
Length of Teaching Experience		
1 year to 10 years	22	32.35
11 – 20 years	25	36.76
21 – 30 years	16	23.53
31 – 40 years	5	7.35
Total	68	100.00
Number of trainings and seminars		
Below 5	61	89.71
5 and above	7	10.29
Total	68	100.00
Membership in Organization		
None	2	2.94
1	48	70.59
2	11	16.18
3	5	7.35
4	2	2.94
Total	68	100.00
Number of conducted research		
None	48	70.59
1 - 4	19	27.94
5 and above	1	1.47
Total	68	100.00

- On Age. A great number of the teacher-respondents (31 or 45.59%) are 45 to 62 years old, while only two (2.94%) are 18 - 26 years old.
- On Gender. Most (63 or 92.65 %) are female, while the rest (5 or 7.35 %) are male.
- On Civil Status. Majority of the teacher-respondents (50 or 73.53 %) are married while three (4.41 %) are widowed.

- On Position. Great majority of the teacher-respondents (53 or 77.94%) hold the Teacher III position, while only one (1.47%) is Master Teacher II
- On Educational Attainment. The majority of the respondents (35 or 51.47%) are Bachelor's Degree holders with Master's Degree units. Only two (2.94 %) are Ph.D. or EdD graduates.
- On Length of Teaching Experience. A significant percentage (25 or 36.76%) have 11 – 20 years of teaching experience, while five (7.35%) have been teaching for 31 – 40 years.
- On Number of Training and Seminars Related to Research. Most of the respondents (61 or 89.71 %) have attended less than five training or seminars related to research while seven (10.29%) have 5 and above trainings and seminars related to research.
- On Membership in Organization. Majority of respondents (48 or 70.59%) have membership in a specific organization, while a small proportion (2 or 2.94%) reported not being affiliated with any organization. Additionally, a similarly small portion (2 or 2.94%) indicated having membership in four different organizations.
- On Number of Conducted Research. The majority of respondents (48 or 70.59%) have not conducted any research, while just one respondent (1.47%) has completed more than five research projects.

On the extent of the research capability of the public elementary school teachers

Table 2. Teachers' Research Capability

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Dimension	Sub-Dimensions	Mean	Descriptive Rating
Knowledge	Principles of Research	6.57	Satisfactory
	Research Methodology	7.72	Satisfactory
	Data Collection Methods	4.66	Satisfactory
	Data Analysis	6.75	Satisfactory
	Overall	25.71	Satisfactory
Attitude	Research Usefulness	4.23	Extremely Positive
	Research Anxiety	3.52	Positive
	Research Passion	3.61	Positive
	Relevance to Life	3.47	Positive
	Overall	3.71	Positive
Skills	Writing Introduction	3.75	Good
	Stating the Objectives	3.87	Good
	Literature Research	3.71	Good
	Designing the Research	3.86	Good
	Sampling	3.69	Good
	Statistical Analysis	3.65	Good
	Presentation and Analysis	3.76	Good

	Formulating Conclusions & Recommendations	3.69	Good
	Referencing	3.74	Good
	Overall	3.75	Good

Knowledge- Teachers demonstrated a satisfactory understanding across key areas of research knowledge. They showed an adequate grasp of Principles of Research (6.57), Research Methodology (7.72), Data Collection Methods (4.66), and Data Analysis (6.75). The overall mean of 25.71 indicates that while teachers possess foundational knowledge of research, there is room for improvement to deepen their expertise, particularly in practical aspects such as data collection. Teachers demonstrated a satisfactory level of research knowledge, indicating a basic understanding of research principles and methodologies, but with limited depth, particularly in data collection. This aligns with findings by McChesney, & Aldridge, (2019), who noted that many educators possess foundational research knowledge but often lack advanced expertise due to limited formal training.

Attitude-Teachers exhibited a generally positive attitude toward research. Their perception of Research Usefulness (4.23) was rated extremely positive, reflecting strong recognition of research's importance in their profession. Although some Research Anxiety (3.52) exists, possibly due to the complexities involved in conducting research, their overall attitude remains optimistic. Research Passion (3.61) and the sense of Relevance to Life (3.47) were also positively rated, indicating willingness and motivation to engage in research activities. The overall attitude mean of 3.71 confirms a positive mindset toward research participation. The respondents displayed a positive attitude toward research, recognizing its usefulness despite some anxiety related to complexity and data analysis. This is consistent with Bandura's (1997) theory as cited by Bandura & Locke (2003), which posits that positive attitudes and self-efficacy promote engagement in challenging tasks, such as research.

Skills- Teachers rated their research skills as good, with confidence in tasks such as Writing Introduction (3.75), Stating Objectives (3.87), and Designing Research (3.86). Skills in Statistical Analysis (3.65), while still rated good, were the lowest among the sub-dimensions, highlighting an area that may require further training and support. The overall mean skill score of 3.75 suggests that teachers generally feel capable of conducting research but could benefit from skill enhancement, particularly in data analysis and interpretation. Teachers rated their research skills as good, particularly in designing research and writing objectives, though statistical analysis was a relative weakness. Similar observations were made by Ivanenko, et. al (2015), who emphasized the need to strengthen data analysis skills among educators to enhance their research competence.

While teachers possess a satisfactory knowledge base and positive attitudes, enhancing their statistical analysis and practical research skills through targeted training will improve their overall research capabilities. Their openness to research presents a promising foundation for professional growth, as supported by existing literature. Teachers possess a satisfactory knowledge base, positive attitudes, and good research skills, providing a strong foundation for further development. However, targeted training that focuses on statistical analysis, data collection methods, and real-world applications can significantly improve their research competence. Their positive attitude, particularly regarding the usefulness of research, is an encouraging factor that can foster greater engagement and success in research activities.

Table 3. Relationship between the Profile of Elementary School Teachers and Their Research Capability

Profile Variables	Knowledge (r)	Attitude (r)	Skills (r)
	Principles	Methodology	Data Collection
Age	-0.08	0.001	-0.232
Gender	-0.032	0.025	0.084
Civil status	0.105	0.097	-0.028
Position	-0.012	0.103	0.013
Highest Educational Attainment	0.048	0.194	0.231
Length of Service	-0.082	0.019	-0.175
Number of Trainings/Seminars Attended	0.312	0.299	0.332
Membership in Organization	-0.022	-0.01	-0.022
Number of Research Conducted	0.377	0.345	0.277

The correlation analysis reveals several important relationships between teachers' demographic and professional profiles and their research capabilities in terms of knowledge, attitude, and skills.

Age shows a weak and mostly non-significant relationship with research knowledge and attitude, except for a significant negative correlation with knowledge on data collection ($r = -0.232$). This suggests that younger teachers may be more familiar or comfortable with modern data collection techniques, possibly due to recent training or technological familiarity (Kumar & Vigil (2011).

Gender, civil status, position, length of service, and membership in organizations did not significantly correlate with research knowledge, attitude, or skills, indicating that these factors may not directly influence teachers' research capability in this context (Caingcoy (2020).

The highest educational attainment demonstrates a moderate positive correlation with knowledge in research methodology ($r = 0.194$) and research skills ($r = 0.231$), indicating that teachers with higher education levels tend to have a better understanding and practical research skills. This supports the findings by Zvarych, et. al (2022), who emphasized the importance of advanced academic training in developing research competencies.

The number of training and seminars attended by teachers is positively and significantly correlated with all aspects of research capability: knowledge of principles ($r = 0.312$), methodology ($r = 0.299$), attitude ($r = 0.332$), and skills ($r = 0.332$). This highlights the crucial role of continuous professional development in enhancing teachers' research capabilities. Similar findings were reported by Mertler (2024), who emphasized that training is a key factor in empowering educators to engage effectively in research activities.

Likewise, the number of research projects conducted has a strong positive correlation with knowledge of principles ($r = 0.377$), methodology ($r = 0.345$), attitude ($r = 0.277$), and skills ($r = 0.277$), demonstrating that hands-on experience is crucial in building confidence and competence in research. This aligns with the experiential learning theory, which suggests that practical application deepens understanding and skills acquisition

Professional development through training and active research participation is crucial for enhancing teachers' research capabilities. To build a culture of teaching based on research, educational administrators should encourage teachers to participate in research programs and organize research-related seminars for all staff. As research skills are improved through further education, schools may offer rewards to their teachers for completing advanced degrees.

Because data collection knowledge declines with age, training programs must address the technology and data knowledge gap between younger and older educators to ensure all teachers are up to date with current research approaches.

Overall, focusing on continuous training, practical research experience, and academic advancement can significantly improve elementary teachers' research proficiency, ultimately contributing to improved educational outcomes through informed instructional practices.

Conclusions:

Most of the respondents are experienced teachers, and the majority are between 45 and 62 years old, female, and married. A majority of teachers in ESL work as Teacher III and have a Bachelor's degree, as well as some Master's units. Although their research understanding is sufficient, they show a positive approach toward research and are well-skilled in designing research as well as writing objectives. However, gathering and understanding data, as well as conducting statistical analyses, still needs improvement. Participating in professional activities, such as attending training and seminars, is linked to the positive development of research skills, knowledge, and attitude. Gaining experience with research also significantly enhances teachers' research skills. It also found no significant relationship between research capability and gender, civil status, or years of service. For this reason, regular professional learning and involvement in research are important for elementary school teachers to upgrade their research skills.

Recommendations:

School administrators and education policymakers should prioritize providing more frequent and targeted training programs that focus on data collection methods and statistical analysis. Likewise, teachers should be encouraged and supported to actively participate in research projects actively, thereby gaining practical experience and improving their confidence and competence in research. In addition, institutions shall ensure a supportive environment that promotes research culture by recognizing and rewarding teachers' research efforts. Furthermore, developing mentorship programs where experienced researchers guide novice teachers could enhance research skills and attitudes among these teachers. Finally, continuous monitoring and evaluation of teachers' research capabilities should be conducted to ensure that professional development initiatives effectively meet their needs and contribute to improved teaching practices.

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