Indonesian Journal of Education Research (IJoER)
Vol. 7, No. 2, April 2026, pp. 104~117
ISSN: 2722-1326, DOI: 10.37251/ijoer.v7i2.2774

Research Capability and Professional Development Needs of Public School Teachers in Action Research: A Profile-Based Analysis

Jake M. Laguador[1], John Rey SR. Soverano[2]
[1,2] College of Education, Bicol State College of Applied Sciences and Technology, Naga City, Camarines Sur, 4400, Philippines

Article Info

Article history:

Received Feb 8, 2026
Revised Feb 26, 2026
Accepted Apr 4, 2026
Online First Apr 10, 2026

Keywords:

Educational Management
Human Capital
Professional Development
Research Capability
Training Program

ABSTRACT

Purpose of the study: This study aims to assess the professional development needs and research capability gaps of public elementary school teachers as a basis for developing targeted, evidence-informed interventions.

Methodology: Quantitative research method was utilized in the study with 62 teacher-respondents using cross-sectional survey questionnaire to gather data in terms of profile and development needs in research within three weeks. Data were analyzed using descriptive and inferential statistics.

Main Findings: The results revealed that teachers experience moderate to high research difficulty but are willing to engage in research capability training. They demonstrated a very high level of development needs in research across the six identified phases of the research program particularly the married teachers in conceptualization, production, and publication. Age, sex, and educational attainment do not significantly influence development needs, and research difficulty does not affect these needs, highlighting the necessity for targeted professional development.

Novelty/Originality of this study: This study is novel in identifying elementary teachers' specific research capability needs and using these insights to design a structured and contextualized training with mentoring support. By targeting skill gaps across all research phases, the program enhances teachers' professional competence, contributes to human capital development, and strengthens a sustainable culture of research in the educational community.

Corresponding Author:
Jake M. Laguador
College of Education, Bicol State College of Applied Sciences and Technology, Naga City Camarines Sur, 4400, Philippines
Email: jmlaguador@astean.biscast.edu.ph

1. INTRODUCTION

Public basic education faces persistent challenges due to limited resources and inadequate professional development for teachers in the Philippines, affecting instructional quality and school sustainability. The EDCOM II [1] report highlights teachers' difficulties in accessing training, constrained by limited slots in government programs and high costs in private offerings. Strengthening human capital through highly trained teachers is therefore essential in advancing Sustainable Development Goal 4. Grounded in human capital theory, education is recognized as the primary driver of knowledge and skills development, yet inequities continue to hinder access in low- and middle-income countries [2]. Human capital development, widely embedded in educational policies, enhances skills, knowledge, productivity, and innovation, ultimately improving living standards [3]. Evidence consistently affirms that high-quality teachers are critical to producing high-quality students [4]-[7].

Supporting elementary teachers through professional development requires systematic assessment of their needs. Needs assessment serves as the first step in designing relevant programs by identifying beneficiaries' specific challenges, skills gaps, and socio-economic conditions [8], [9]. Research underscores its value in ensuring that development initiatives address actual requirements [10], [11]. As a collaborative process, it highlights community strengths and concerns while guiding stakeholders in providing targeted support to enhance teachers' capacity and improve overall quality of life.

A group of teachers in schools is already considered a learning community. Thus, community profiling plays an important role in ensuring the needs of the people are identified to develop suitable programs and projects. This is based on specific requirements of the beneficiaries that involves systematic consultation and scientific inquiry with community stakeholders before project implementation [12]. This is a good practice that the design of the professional development programs is based on research [13], [14] where areas for improvement are identified before starting the training.

Relevant professional development programs are essential for maintaining instructional quality. Higher Education Institutions, as part of their social responsibility, collaborate with learning communities to enhance personal and professional well-being. However, elementary teachers often face barriers to participation in research training, including financial constraints, [15], [16] limited time [17], [18], heavy workload [19], and lack of interest or perceived relevance [20], [21]. Additional challenges include insufficient training, limited theoretical and practical skills, low motivation, and inadequate data-analysis capabilities [22], [23]. Despite efforts to promote action research, many teachers remain disengaged. This study therefore seeks to assess teachers' research capability needs to inform the design of a contextually appropriate extension program. Furthermore, the study is anchored in the concept of Corporate Social Responsibility which is a mechanism for institutions to voluntarily implement social environmental concerns into its operations and interactions with the community or stakeholders that exceed the legal or organizational responsibilities [24].

The study of Gullan et al. [25] examines how a school-based community service initiative helped empower inner-city minority youth, increasing outcomes such as self-efficacy, civic responsibility, and identity development paralleling the present study's focus on community service helping underprivileged communities. Community stakeholders are empowered to make decisions to alleviate their present conditions [2]. Higher education institutions provide learning opportunities and assistance to residents especially those who has no access to education [12].

Research training enhances teachers' attitudes, mentoring, and action planning [26], [27], strengthens pedagogy and instructional knowledge [18], fosters reflective and evidence-based teaching [28], and supports the integration of innovative strategies in classrooms and communities [29]. Capacity-building programs are therefore vital to developing teachers' research writing, critical thinking, and problem-solving skills, yet many higher education institutions focus on instruction while neglecting research preparation [30]. By enabling teachers to systematically address problems through the scientific process, research capacity contributes to evidence-based decision-making, classroom transformation, and broader institutional goals such as curriculum development, human resource management, career guidance, school safety, instructional material design, and character formation.

Considering all these issues in professional development of teachers and the benefits of assessing the needs towards creating a community development program for teachers will somehow contribute to the advancement of knowledge and skills in research as springboard in delivering sustainable quality education for the youth. Despite the growing emphasis on evidence-based practice and the institutionalization of action research in basic education, many elementary school teachers still demonstrate limited research productivity and uneven competence across the stages of the research process. Existing studies in the Philippine context have largely focused on general barriers, attitudes, or isolated competencies, but there remains a lack of comprehensive assessments that identify teachers' specific professional development needs across the different phases of research capability building. Moreover, most available programs are generic and not grounded in systematic needs analysis, resulting in training initiatives that may not address the most critical gaps.

While previous studies have documented the challenges faced by public school teachers in engaging with research, much of the existing literature tends to examine these barriers in isolation focusing either on individual competencies (e.g., limited research skills and confidence), institutional constraints (e.g., lack of funding and mentorship), or workload issues without offering an integrated analysis of how these factors interact to shape teachers' overall research capability [22], [23], [31], [32]. In addition, earlier studies are largely descriptive and provide limited direction for translating identified challenges into structured, needs-based professional development interventions tailored to public elementary school contexts [15], [16]. There is also a notable lack of localized, quantitative evidence that captures teachers' experiences and directly informs the design of sustainable research capacity-building programs in Philippine basic education. Addressing these gaps, the present study offers a context-specific analysis of teachers' research capability needs and uses these insights to inform the development of a targeted, evidence-based intervention framework.

The urgency of this study lies in the increasing expectation for teachers to engage in research for instructional improvement, policy compliance, and career advancement, despite persistent constraints in time, resources, mentorship, and technical skills. Without a clear understanding of their professional development needs, efforts to build a sustainable research culture in elementary schools may remain fragmented and ineffective; thus, this study seeks to provide empirical evidence to inform targeted and responsive research capability programs.

This study aims to assess the needs of the teachers in terms of their capability to conduct action research. Specifically, the study aims to present the demographic profile of the respondents in terms of age, sex, civil status, educational attainment, rank/position as part of the measure together with the psychographic profile in terms of level of their research experience in conducting, presenting and publishing research; to assess the needs in developing research skills in terms of conceptualizing, writing, conducting, presenting, publishing, and utilizing research and test the significant difference on the needs assessment of teachers when they are grouped according to profile variables; and develop a professional development training program in research.

2. RESEARCH METHOD

2.1. Research Design

The study employed a quantitative research design which is deemed appropriate for the type of data in determining the characteristics of the teacher-respondents and describe the level of their research capability regarding the essential components of the research process from conceptualization up to utilization of research findings and the common barriers they experienced in writing research. Quantitative research is an approach that tests objective theories by examining the relationship among variables, which can be measured typically on instruments so that numerical data can be analyzed using statistical procedures [33].

2.2. Respondents

The setting of this study is a public elementary school in the Philippines with 62 teachers or total enumeration of identified respondents for the purpose of delivering possible community development program. The partnership between the service provider and this public school also served as one of the outcomes of this study to help the teachers realize the goals of their research activities in terms production, publication, presentation, and utilization.

2.3. Instrument

The need assessment questionnaire for research capability of teachers was adapted from the concepts of the research conducted by Oancea [34], Paymalan and Erno [21], Cortes and Reyes Jr [20] and Caigncoy [35]. To ensure the validity of the data, the survey instrument underwent content validation by experts in Educational Management, Measurement and Evaluation and Research Management, who reviewed the items for clarity, relevance, and alignment with the study objectives. Revisions were made based on their feedback before the final distribution of the instrument. The questionnaire on research development needs was pilot tested to at least 40 respondents not included in the study and obtained a Cronbach's alpha value of 0.878 as shown in Table 1. The result implies that the instrument has a good internal consistency.

Table 1. Reliability Test of Development Needs Assessment Instrument

Development Needs Assessment	Number of Items	Cronbach's Alpha Value
Conceptualizing Research	3	0.878
Writing Research	9	
Conducting Research	6	
Presenting Research	3	
Publishing Research	3	
Utilizing Research	3	

2.4. Data Gathering Procedure

Approval of this research project was obtained from the institution and secured from the school principal prior to the data gathering. Data were gathered using an online survey form distributed to elementary school teachers through official communication channels. The survey link was sent to the participants and remained open for a period of three weeks to provide ample time for completion. Follow-up reminders were sent periodically to encourage participation and ensure an adequate response rate. The online form contained structured items aligned with the objectives of the study and was designed to capture the teachers' professional development needs in various phases of research capability building. In addition, clear instructions were provided to the respondents, and participation was limited to the target group of elementary school teachers to maintain the appropriateness of the data. The three-week data collection period, combined with reminder

messages, helped obtain sufficient and complete responses, thereby supporting the credibility and validity of the gathered data.

2.5. Ethical Consideration

All ethical standards for conducting research involving human participants were strictly observed throughout the study. Informed consent was obtained from all teacher-respondents prior to data collection as part of the survey form. Only those teachers who are willing to participate in the study were considered in the survey. Participation was voluntary, and respondents were assured of confidentiality, anonymity, and the right to withdraw from the study at any time without penalty. The welfare of the teachers was prioritized by ensuring that the needs assessment process did not disrupt their instructional responsibilities or cause undue stress. The study did not collect the names or any personal or critical data that could identify them as one of the respondents. Ethical standards were strictly observed throughout the study. Data were collected anonymously, and all identifying information was removed during processing to ensure confidentiality. Access to the dataset was restricted to the researchers, and findings were reported in aggregate form to protect participants' identities and ensure that the data were used solely for academic purposes.

2.6. Data Analyses

Quantitative data set was processed and analyzed using SPSS. Weighted mean, frequency count, rank and percentage are the descriptive statistical tools used to describe and analyze the gathered quantitative data from the survey. The Shapiro–Wilk test was employed to assess the normality of the continuous variables in the dataset. The results indicated that the data did not significantly deviate from a normal distribution ($p = 0.126 > 0.05$), thereby satisfying the assumption of normality and justifying the use of parametric statistical tests. The study variables were measured at appropriate levels: respondents' profile variables such as sex and civil status were treated as nominal, educational attainment as ordinal, and needs assessment scores as interval data. Consequently, the independent samples t-test was utilized to examine differences in mean scores across binary categorical variables (e.g., sex and civil status), assuming independence of observations and homogeneity of variances. For variables with more than two groups, such as age categories and levels of research difficulty, one-way analysis of variance was applied, with the assumption of normality, independence, and homogeneity of variance also considered. All statistical tests were conducted using a 0.05 level of significance.

3. RESULTS AND DISCUSSION

This study identified the level of research development needs of elementary school teachers through quantitative data along with research conceptualization, production (writing & conducting), presentation, publication, and utilization which is considered very high.

3.1. Teacher Respondents' Personal and Research Profile

Table 2. Frequency and Percentage Distribution on Teacher-Respondents' Personal and Research Profile (N=62)

Profile	Category	Frequency	Percent
Age	25-37	19	30.6
	38-50	28	45.2
	51-63	15	24.2
Sex	Male	7	11.3
	Female	55	88.7
Civil Status	Single	15	24.2
	Married	47	75.8
Highest Educational Attainment	Bachelor's Degree	30	48.4
	Master with Units	27	43.5
	Master's Degree	2	3.2
	Doctorate with Units	2	3.2
	Doctorate Degree	1	1.6
Rank	Master Teacher I	4	6.5
	Teacher III	10	16.1
	Teacher II	5	8.1
	Teacher I	43	69.4
Research Experience	Without	49	79.0
	With	13	21.0
Research Presentation Experience	Without	57	91.9
	With	5	8.1
Research Publication Experience	Without	61	98.4

	With	1	1.6
Research Utilization Experience	Without	53	85.5
	With	9	14.5
Level of Research Difficulty	Not Difficult	2	3.2
	Less Difficult	2	3.2
	Moderately Difficult	21	33.9
	Much Difficult	27	43.5
	Very Much Difficult	10	16.1
Willingness to Participate in the Training	No	2	3.2
	Yes	60	96.8

Table 2 presents the frequency count and percentage distribution on Teacher-Respondents' Personal and Research Profile. Out of the 62 respondents, 28 or 45.2 percent of them belong to 38-50 years old and 19 or 30.6 percent of them belong to the group of 25-37 years age bracket while the least group of respondents belongs to 51-63 years old with the mean age of 42.6 years. Fifty-five (55) or 88.7 percent of the respondents are female elementary teachers against seven (7) or 11.3 percent of male. Further, there are more married teachers (47 or 75.8%) than single (15 or 24.2%) as their civil status. Since these teachers are considered in the bracket of marrying age in the Philippines with the youngest participant of 25 years old, they are already expected to raise a family and get married. According to the study conducted by the group of Williams et al. [34] that the 25 – 27 age band is an important period for entering marriage life or cohabitation which supports the idea that Filipinos in their mid-20s face social expectations about having a family. In addition, the teacher-respondents are dominated by bachelor's degree holders (30 or 48.4%) since it is the only required educational background to teach in elementary schools. These married teachers chose to have a family rather than career advancement. Because result showed that 43.5 percent of them are still pursuing their master's degree while only 3.2 percent are master's degree holders. The least group of teachers belongs to two (2) teachers with doctorate units while one (1) teacher with doctorate degree. There are 43 or 69.4 percent of them have Teacher 1 positions and Teacher III with 10 or 16.1 percent and five (5) or 8.1 percent of Teacher II while only 4 or 6.5 percent of them with Master Teacher 1 position.

When the respondents were asked about their experience in writing research, 49 or 79 percent of them have not produced action research yet against the 13 or 21 percent with research production. Out of these 13 with research paper already, only five (5) or 8.1 percent have research presentation experience against 57 or 91.9 percent without experience yet to present a paper in the conference or forum. Out of these 13 teachers with research paper, only 1 or 1.6 percent of research paper was published. Meanwhile, nine (9) or 14.5 percent of teachers responded that they have experienced already utilizing the findings of their studies to the intended community.

Teachers experienced/perceived high level of research difficulty as denoted by the 27 or 43.5 percent, followed by 21 or 33.9 percent who said moderately difficulty and very much difficult with 10 or 16.1 percent. Meanwhile, writing research is less difficult according to two (2) teachers while research is not difficult at all according to the answer of two (2) teachers in the survey. Furthermore, when they were asked if they are willing to participate in the research training to be provided to them, 60 or 96.8 percent answered positively that they will join the program while only two (2) teachers are not willing to participate in the training.

In terms of the development needs assessment on conceptualizing and writing research, the teacher-respondents answered that they considered very much needed to develop the ability to connect the problem with the existing theories, concepts and agenda (*WM*=3.60, *SD*=±0.64) and build concepts from the problems in the environment (*WM*=3.60, *SD*=±0.64). They also believed that they highly needed to identify the sources of research problems (*WM*=3.58, *SD*=±0.64). The composite mean score of 3.59 implies that they have very high level of development needs on research conceptualization.

Teachers acknowledge the necessity of identifying factors in conceptualizing research topics derived from problems in the classroom, institution, or community. They recognize problem identification as the first step in the research process. Prior studies [35], [37] highlight the need for training to strengthen teachers' competencies in formulating research and framing questions. However, teachers face significant challenges, including limited formal training, difficulty in crafting research topics, and lack of guidance. Despite these barriers, they remain aware of the importance of guidance in recognizing gaps and issues requiring investigation, as well as in refining ideas into problem statements that establish the rationale for research. Teachers emphasize the need to formulate problems that are clear, relevant, researchable, and grounded in theory or practice. At the conceptualization stage, developing research objectives is essential, as these guide the subsequent parts of the study. Formulating objectives requires training to identify key variables for addressing specific problems [22], [23]. This stage is critical for mentoring and coaching to ensure proper guidance, while feasibility considerations such as timelines, resources, data access, and participant availability which must also be addressed.

3.2. Development Needs Assessment on Conceptualizing, Writing and Conducting Research

Table 3. Development Needs Assessment on Conceptualizing, Writing and Conducting Research

Conceptualizing Research	WM	SD	VI	Rank
1. Identifying the sources of research problem	3.58	±0.64	Very Much	3
2. Connecting the problem with the existing theories, concepts and agenda	3.60	±0.64	Very Much	1.5
3. Building concepts from the problems in the environment	3.60	±0.64	Very Much	1.5
Composite Mean	3.59	±0.64	Very Much	
Writing Research	WM	SD	VI	Rank
1. Organizing the content of the introduction	3.61	±0.69	Very Much	7.5
2. Formulating the objectives of the study	3.65	±0.68	Very Much	4
3. Searching for related studies and literature	3.65	±0.63	Very Much	4
4. Identifying the different parts of Methodology	3.65	±0.63	Very Much	4
5. Analyzing the results of the study	3.65	±0.63	Very Much	4
6. Giving appropriate supporting literature	3.58	±0.64	Very Much	9
7. Making meaningful statements for the conclusion	3.61	±0.64	Very Much	7.5
8. Establishing recommendation from the results	3.65	±0.63	Very Much	4
9. Organizing the references	3.68	±0.62	Very Much	1
Composite Mean	3.63	±0.62	Very Much	
Conducting Research	WM	SD	VI	Rank
1. Determining sampling technique	3.65	±0.63	Very Much	3.5
2. Validating research instrument	3.69	±0.56	Very Much	1
3. Determining the procedure on data gathering	3.65	±0.66	Very Much	3.5
4. Managing the distribution of questionnaire	3.63	±0.63	Very Much	5
5. Identifying appropriate statistical treatment	3.66	±0.60	Very Much	2
6. Encoding of data from the questionnaire	3.60	±0.61	Very Much	6
Composite Mean	3.65	±0.58	Very Much	

Scale: 3.50-4.00: Very Much Needed (Very High); 2.50-3.49: Much Needed (High); 1.50-2.49: Slightly Needed (Low); 1.00-1.49: Not Needed (Very Low)

In terms of development needs assessment on writing research as shown in Table 3, teacher-respondents answered that they considered very much needed to develop the ability to organize the references (*WM*=3.67, *SD*=±.62) as the top 1 indicator followed by formulating the objectives of the study (*WM*=3.65, *SD*=±.69), searching for related studies and literature (*WM*=3.65, *SD*=±.63), identifying the different parts of methodology (*WM*=3.65, *SD*=±.63), analyzing the results of the study (*WM*=3.65, *SD*=±.63) and establishing recommendation from the results (*WM* =3.65, *SD*=±.63). Furthermore, they also considered very much needed the ability to organize the content of the introduction (*WM*=3.61, *SD*=±.69) and making meaningful statements for the conclusion (*WM*=3.61, *SD*=±.64). Meanwhile, giving appropriate supporting literature (*WM*=3.58, *SD*=±.64) obtained the least mean score with very much needed verbal interpretation. The composite mean score of 3.63 (*SD*=±0.62) implies that they have very high level of development needs on research writing.

Furthermore, the process of research writing needs more time to read studies and literature to lay down the scientific foundation of the proposal. The teacher-respondents are not trained to conduct literature reviews. The use of Artificial Intelligence as an application tool is seen as a valuable solution for assisting researchers in extracting significant findings from published materials [38], [39], particularly when time constraints limit their ability to thoroughly analyze sources during the research writing process. According to the teachers, they also have writing anxiety [18] which really find it hard for them to organize all the sources of information taken from the journals as reviewed studies and literature. They do not have any orientation on how to use Google Scholar Cite to copy the proper format of APA Style of reference.

Looking for relevant literature and studies is also found challenging as they are not used to the process of reviewing articles as part of the delivery of instruction for grade school pupils as well as developing theoretical and conceptual framework. Accordingly, teachers cited difficulty locating current and contextually relevant literature as a significant barrier to professional development [15]. They also find difficulty due to limited available literature in specific local and subject-area contexts [40] ,[41], they lack awareness or access to research databases and journals [42] and they also have problems in finding current, actionable studies that align with their teaching needs [15], [43]. Meanwhile, only four (4) of the respondents have at least completed their master's degree and one (1) respondent has completed the doctorate degree. These teachers have somehow learned these frameworks just recently because of their graduate studies. However, majority of these teachers are bachelor's degree holders which they completed more than 10 years ago, and they forgot already what they have

learned from their college teachers. They also want to learn how to discuss the findings of the study from the given data in the presented tables.

The respondents also considered very much needed to develop their capacity to conduct research in validating research instrument (*WM*=3.69, *SD*=±.56) as the top 1 concern of the teachers followed by identifying appropriate statistical treatment (*WM*=3.66, *SD*=.6), determining the sampling technique (*WM*=3.65, *SD*=±0.63) and identifying the procedure on data gathering (*WM*=3.65, *SD*=±.66). Meanwhile, managing the distribution of questionnaires (*WM*=3.63, *SD*=.63) and encoding of data from the questionnaire (*WM*=3.60, *SD*=+.61) obtained the least mean scores with very much needed verbal interpretation. The composite mean score of 3.65 (SD=±.58) implies that they have very high level of development needs on how research is being conducted.

They also do not have enough experience on how to do the actual validation of the instrument because majority of them have no research activity for the last three years based on the survey. There are more researchers who just adapt research instruments from previous studies because these questionnaires already underwent the process of validation and reliability testing rather than developing a researcher-made instrument. Teachers are aware of the difficulty of the data gathering procedure which needs more time on doing observations, interventions, assessments and interviews to make the study more scientific with reliable and valid results. These findings confirmed the study of Tindowen et al. [18] which showed that teachers also have difficulties in conducting action research especially in searching the literature, presentation and publication of results, and data collection. They also have fear of statistics when talking about data processing. Teachers expressed low confidence in data analysis and theoretical grounding, describing feelings of anxiety and inadequacy when handling their own data [22]. Respondents of the study of Naldo and Ubayubay [44] identified low confidence and fear around sampling, data-gathering, and statistical interpretation, citing insufficient training. Likewise, result of the study of Torres [45] reported fear of teachers in conducting quantitative analysis, including uncertainty with sampling methods and tools, suggesting these anxieties start as early as elementary levels. With all these common challenges, the teachers recognized their need to identify appropriate statistical treatment because they are not using inferential statistics in performing data analysis in usual school reports. They might as well not apply descriptive statistics in most cases but only frequency count or percentage are the most common. Other research processes like sampling techniques and data gathering procedures [23], [45] also needed to be learned again by the teachers.

Additionally, they need more orientation on the topics about confidentiality, data privacy and informed consent. They want to build a solid understanding of protocols on how to conduct research grounded in ethical standards. Because elementary teachers have no formal training in research ethics. They mentioned during interview that they have uncertainty about ethical protocols for minors or vulnerable populations; difficulty in preparing and presenting ethics documents like informed consent forms and assent forms for minors. They also lack skills in using pseudonyms or managing sensitive information securely. Data analysis is another difficult task for them to perform on how they could provide proper interpretation of data from the result of statistics [22], [28]. The need to understand the quantitative and qualitative data analyses which are considered essential component of the training to be covered. In the interview conducted, they also showed interest in how to interpret the result accurately through drawing appropriate conclusions based on data and understanding significance versus practical implications. Data visualization is another skill they need to be capacitated in the use of graphs, tables and charts to communicate findings. They also expressed the need to understand how to triangulate data in terms of combining qualitative and quantitative findings to enhance validity.

3.3. Development Needs Assessment on Research Dissemination and Utilization

Table 4. Development Needs Assessment on Research Dissemination and Utilization

Presenting Research	WM	SD	VI	Rank
1. Preparing the PowerPoint presentation	3.60	±0.64	Very Much	2
2. Identifying the content for presentation	3.63	±0.63	Very Much	1
3. Speaking in public with confidence	3.53	±0.69	Very Much	3
Composite Mean	3.59	±0.61	Very Much	
Publishing Research	WM	SD	VI	Rank
1. Preparing the manuscript for publication	3.60	±0.61	Very Much	1.5
2. Selecting appropriate journal	3.55	±0.62	Very Much	3
3. Converting the paper into publishable format	3.60	±0.61	Very Much	1.5
Composite Mean	3.58	±0.59	Very Much	
Utilizing Research	WM	SD	VI	Rank
1. Applying the recommendations to the intended community	3.66	±0.57	Very Much	2
2. Developing action plans for utilization	3.61	±0.61	Very Much	3
3. Evaluating the effectiveness of the Programs, projects and activities	3.68	±0.57	Very Much	1

Composite Mean	3.65	±0.55	Very Much

Scale: 3.50-4.00: Very Much Needed; 2.50-3.49: Much Needed; 1.50-2.49: Slightly Needed; 1.00-1.49: Not Needed

In terms of the development needs assessment on research dissemination and utilization with regard to presenting research as shown in Table 4, the teacher-respondents answered that they considered very much needed to develop the ability to identify the content for presentation (*WM*=3.63, *SD*=±.63) and preparing the power point presentation (*WM*=3.60, *SD*=±.64). Meanwhile, speaking in public with confidence (*WM*=3.53, *SD*=±.69) obtained the least mean score. The composite mean score of 3.59 (*SD*=±0.61) implies that they have very high level of development needs on how research is being presented in the conference or forum.

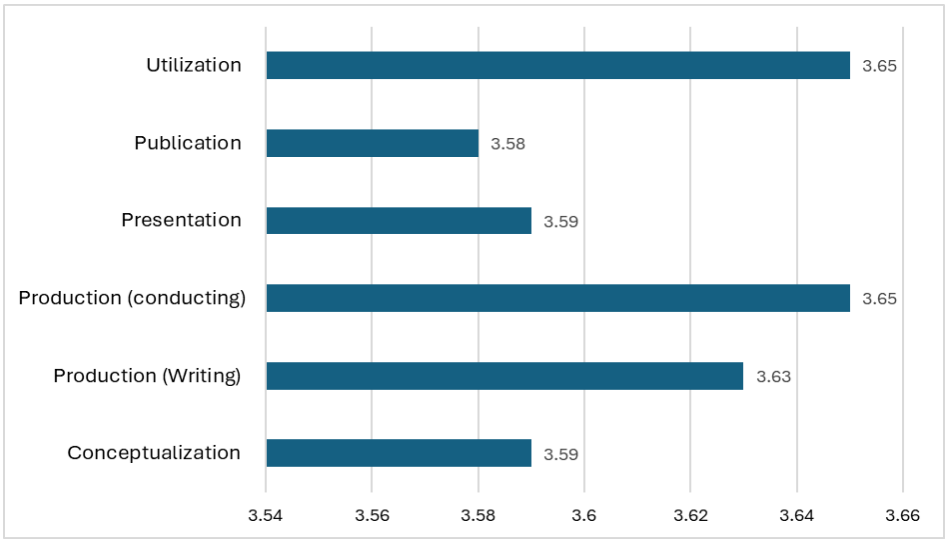
The results of the survey verified the needs of the teachers to be oriented on how research presentations are being conducted at international level because majority of these teachers could not participate in international conferences because of lack of completed research papers which are ready for submission. Teachers are aware of what they need to elevate both the quality of content and the professionalism of delivery. Many teachers, especially those new to the research experience common apprehensions or anxieties when it comes to research presentations [28], [44]. These concerns often stem from a mix of self-doubt, unfamiliarity and fear of judgement [46], [47]. These teachers are afraid of public speaking even though they are good at teaching inside the classroom, but they have the anxiety of facing in front of a different audience who might judge the way they speak and act during presentation.

The teacher answered that they considered very much needed to develop the ability to publish research in terms of preparing the manuscript for publication (*WM*=3.60, *SD*=±.61) and converting the paper into publishable format (*WM*=3.60, *SD*=±.61). Likewise, they also considered it very much needed to select appropriate journal (*WM*=3055, *SD*=±.62) for their research paper. The composite mean score of 3.58 (*SD*=±.59) implies that they have very high level of development needs on how research will be published in national or international journals.

The research development needs in publication obtained the least mean score among the six areas of needs assessment. Among the 62 respondents of the study, only one (1) participant answered with a research publication. Teachers confirmed that the result doesn't necessarily mean, they do not need the training in publication but more importantly, they need first to be trained on how to write and conduct research. They see publication as a long-term goal and tedious process which might be given emphasis in the later part of their training which is really the design of the program. Asking them about international publication is something overwhelming as elementary teachers. The study of Villalino and Cagasan [46] emphasized that publication is important for the promotion of teachers, since each publication is given credit in the evaluation, the respondents said they were encouraged to publish so they could raise the academic rank. Teachers used the points in publication to be promoted to higher rank. Even the evaluation in Basic Education is now considering research and publication as components or criteria for assessment. Moreover, teachers are more interested in having training on how to utilize the findings of their studies rather than publication. This signifies that teachers feel they need more support, training, or guidance in applying or using research findings in their classroom practices or decision-making.

In terms of Development Needs Assessment on Utilizing Research, the teacher-respondents answered that they considered very much needed to develop the ability to evaluate the effectiveness of the programs, projects and activities (*WM*=3.68, *SD*=±.57), and apply the recommendations to the intended community (*WM*=3.66, *SD*=±.57). Likewise, developing action plans for utilization (*WM*=3.61, *SD*=±.61) obtained the least mean score with very much needed verbal interpretation. The composite mean score of 3.65 (*SD*=±.55) implies that they have very high level of development needs on how research will be utilized by the intended community or group of people.

3.4. Summary of the Development Needs in Research Capability



Note: Overall Mean: 3.62 (Very High)

Figure 1. Summary of the Development Needs in Research Capability

Figure 1 presents the summary of the Development Needs of teachers in building their research capability. Result showed that they considered very much needed to develop their capability to conduct research (*CM*=3.65, *SD*=±.58) and utilize the findings of the research (*CM*=3.65, *SD*=±.55) which obtained the highest computed composite mean scores followed by writing research (*CM*=3.63, *SD*=±.62). Meanwhile, research conceptualization (*CM*=3.59, *SD*=±.63) and research presentation (*CM*=3.59, *SD*=±.61) are also considered very much needed by the teachers based on the result of the survey. Meanwhile, research publication emerged to have the least composite mean score out of the six (6) indicators. The grand composite mean score of 3.59 (*SD*=±.63) implies that they have very high level of development needs in terms of building their research capability.

3.5. Test of Difference on Development Needs According to Profile

Table 5 reveals the test of difference on development needs according to profile. In terms of age, the result showed that no significant difference exists on the level of development needs among teachers on research capability in terms of Conceptualization (*f*=1.351, *p*=0.267), Production-Writing (*f*=1.514, *p*=0.228), Production-conducting(*f*=0.932, *p*=0.40), Presentation (*f*=1.488, *p*=0.234), Publication (*f*=1.11, *p*=0.337), and Utilization (*f*=1.56, *p*=0.219) as denoted by the computed p-values which are all greater than 0.05 alpha level.

Table 5. Test of Difference on Development Needs According to Profile

Research Capability	Conceptualization	Production (Writing)	Production (conducting)	Presentation	Publication	Utilization
Age (years)						
25-37	3.53	3.55	3.54	3.53	3.53	3.6
38-50	3.51	3.56	3.62	3.5	3.51	3.57
51-63	3.82	3.87	3.81	3.82	3.78	3.87
f-value	1.351	1.514	0.932	1.488	1.11	1.56
p-value	0.267	0.228	0.400	0.234	0.337	0.219
Sex						
Male	3.38	3.32	3.38	3.33	3.19	3.29
Female	3.62	3.68	3.68	3.62	3.63	3.7
t-value	-0.643	-0.981	-0.851	-0.784	-1.267	-1.897
p-value	0.542	0.361	0.425	0.460	0.248	0.063
Civil Status						
Single	3.27	3.31	3.33	3.33	3.29	3.44
Married	3.69	3.74	3.74	3.67	3.67	3.72
t-value	-2.384*	-2.413*	-2.511*	-1.868	-2.264*	-1.685
p-value	0.02	0.019	0.015	0.067	0.027	0.097

Educational Attainment						
Bachelor	3.49	3.57	3.57	3.53	3.49	3.52
Master/ Doctor	3.69	3.69	3.71	3.64	3.67	3.77
t-value	-1.251	-0.786	-0.963	-0.65	-1.19	-1.809
p-value	0.216	0.435	0.339	0.518	0.239	0.075
Rank						
Teacher I	3.52	3.55	3.56	3.54	3.48	3.57
Teacher 2/3/MT	3.75	3.82	3.83	3.70	3.81	3.84
t-value	-1.366	-1.576	-2.146*	-0.986	-2.541*	-2.369*
p-value	0.177	0.120	0.036	0.328	0.014	0.021
Research Difficulty						
Moderate	3.49	3.56	3.63	3.54	3.6	3.65
Much	3.72	3.75	3.73	3.68	3.61	3.68
Very Much	3.7	3.79	3.8	3.77	3.8	3.80
f-value	0.993	0.841	0.389	0.671	0.57	0.289
p-value	0.377	0.437	0.679	0.516	0.569	0.750

** Significant at p<.05; **Highly Significant at p<.01 (2-tailed)*

Results also showed that teachers have high levels of development needs in research regardless of age. This signifies that the teachers have different levels of development needs in research capability across ages wherein even those teachers in late adulthood have also expressed high level of development needs in research because of lack of research experience and training in conducting and writing research. Younger teachers have more recent research experience from their graduate studies than older teachers who haven't engaged in research for years. Some older teachers have more focused-on teaching or administrative roles, limiting their exposure to research. Research training is also not uniform across generations. Research was not always emphasized in their In-Service Training. Individual motivation and mindset also play an important role in research. Willingness to engage in research and improve their skills is often driven by interest, institutional support and career goals but not age. Teachers of any age can show high or low motivation to build research capacity. Several researchers also noted that learning needs are shaped by research exposure but not age. Teachers with little to no experience in writing proposals, publishing, presenting will need capacity-building, whether they are 25 or 60 years old. Although younger generations are now open to various opportunities in teaching profession, where they recognize the importance of research and advanced studies to have salient points in ranking of teachers.

No significant difference exists on the level of development needs among teachers on research capability when grouped according to sex. This signifies that both males and females have varying needs and interest on how they really wanted to be trained in research. It is good to note that both sexes have equal chance and access to be given the training in all aspects of the program.

In terms of civil status, result showed that married teachers have significantly higher levels of development needs for research in terms of Conceptualization (t=-2.384, p=.020), writing research (t=-2.413, p=.019), conducting research (t=-2.511, p=.015) and publication (t=-2.264, p=.027). Meanwhile, no significant difference exists on presentation (t=-1.868, p=.067) and utilization (t=-1.685, p=.097). This signifies that the respondents have expressed different levels on development needs in presentation and utilization regardless of their civil status. Single teachers have more flexibility to join after-hours workshops or out-of-town conferences, enroll in graduate school or research mentoring programs while married teachers prioritize job stability and family life over research output.

On the other hand, married teachers have significantly higher research development needs than single people in terms of their civil status. They have time constraints due to family responsibilities where married teachers often juggle multiple roles as spouse, parent, household manager, which reduce the time and energy available for attending research training, reading literature, and writing and revising manuscripts. Married teachers struggle to balance personal obligation with opportunities for professional growth. Thus, for married teachers they have less time for research practice which leads to greater need for structured development opportunities. This is where the proposed training program comes in to assist them in completing their research projects. Some married teachers have delayed or paused their graduate studies or research involvement due to family planning. They take on more stable, long-term teaching roles with heavier workloads and less access to research-focused tasks. Research is often deprioritized in favor of teaching and family commitments. Their needs reflect a desire to catch-up or re-enter research actively, especially if aiming for promotion or academic rank. The need is not due to lack of ability, but sometimes a shift in focus over time.

Educational attainment showed no significant difference exists on the level of development needs among teachers across various academic degrees. This signifies that the teachers have recognized the need for

development in research regardless of their educational attainment. For them, earning a higher degree does not automatically reduce their needs to further research development. In terms of rank, the result showed that significant difference exists on conducting research (t=-2.146, p=.036), publication (t=-2.541, p=.014) and utilization (t=-2.369, p=.021) where those having ranks of Teacher II and above have significantly higher level of development needs for research compared to the group of Teacher I.

Elementary school teachers exhibit varying levels of research development needs, which are not determined by educational attainment alone. Formal degrees, including master's and doctorate programs, often emphasize theory over practice, leaving many teachers underprepared or lacking confidence in research design, implementation, and publication. The quality of research training, personal engagement, and continuous practice matter more than diploma level, as skills may fade without regular use. Findings also show that teachers in higher ranks report greater research development needs due to role expectations, career stage, and heightened self-awareness, while entry-level teachers perceive fewer needs because of limited involvement in research. Regardless of rank or qualification, teachers reported moderate research difficulties, particularly in statistics, data management, literature review, and report writing, underscoring the importance of capacity-building programs tailored to their diverse needs. Furthermore, study of Morales et al. [49] showed that the perceived moderate level of difficulty of participants in conducting action research indicates some areas that need professional development programs which include training in statistics, data organization, literature searching, and writing reports.

In terms of research difficulty, the results showed that there is no significant difference in the research capability of teacher-respondents when they are grouped according to their research difficulty profile as denoted by the computed p-values of greater than 0.05. This signifies that whatever level of difficulty they experienced in research; it is not considered a factor that influences their development needs in research. Even those respondents with low level of research difficulty recognized their needs to develop research skills.

3.6. Professional Development Training Program

The professional development training program called Strengthening Teachers' Ability through Research Training (START) is an initiative designed to enhance the research capability of elementary school teachers based on the identified professional development needs from the study. The findings of the study were used as the primary basis in identifying the specific areas where teachers demonstrated high professional development needs in research capability. Each phase of the training program was designed to directly address these gaps, particularly in research planning, methodology, data analysis, and research writing. As a result, the program structure, content, and activities were aligned with the teachers' actual needs to ensure relevance, practicality, and effective skill development. The program aims to improve teachers' understanding of basic research concepts, designs, and methodologies; develop their skills in formulating research problems, questions, and objectives; and strengthen their competence in data collection, analysis, and interpretation. It also focuses on improving teachers' ability to write research reports using standard academic formats while providing mentoring and technical support throughout the research process. Through structured workshops, guided practice, and collaborative activities, the program seeks to encourage the conduct and utilization of classroom-based research for instructional improvement and to foster a sustainable culture of research among elementary school teachers.

Recent studies support the effectiveness of needs-based and structured research training programs for teachers, consistent with the design of the START initiative. Studies indicate that professional development programs that are contextualized, sustained, and aligned with teachers' actual needs significantly enhance research knowledge, self-efficacy, and classroom practice. Liu et al. [50] found that targeted professional development interventions improve teachers' self-efficacy when they are intensive and relevant, while Zhou et al. [51] reported that structured training strengthens teachers' confidence and engagement in research and inquiry-based practices. Similarly, Thongpuban et al. [52] highlight the importance of combining training with ongoing mentoring and technical support to ensure meaningful skill development, particularly in resource-limited contexts. Emerging approaches such as guided practice, collaborative learning, and reflective activities have also been shown to improve teachers' understanding of research processes and promote sustained engagement in classroom-based inquiry. Furthermore, recent studies emphasize that supportive institutional environments and access to mentorship are critical in fostering teachers' research productivity and long-term professional growth. Collectively, these findings affirm that programs like START which is anchored on identified needs, hands-on training, and continuous support which are effective in enhancing teachers' research capability and cultivating a sustainable culture of research in education.

This study is limited by its reliance on self-reported data, which may be subject to bias on how teachers perceive or assess their research needs and competencies. The scope of the sample was confined to a specific group of elementary school teachers, which may limit the generalizability of the findings to other regions or contexts. In addition, the cross-sectional design captures teachers' needs only at one point in time and does not reflect possible changes over a longer period. The study also focused on perceived rather than actual research performance, and it did not fully account for external factors such as institutional support, access to resources, and workload, which may significantly affect teachers' research capacity.

4. CONCLUSION

The profile of the respondents shows that most of the teachers are in the middle age group and dominated by females, mostly married who are bachelor's degree holders with Teacher I position and majority without research experience on production, presentation, publication and utilization. Teacher-respondents have moderate to high level of research difficulty, and they are willing to participate in the research capability training. Teachers have very high level of development needs on research capability in terms of the six (6) identified phases for the research training from conceptualization to utilization where married teachers have significantly higher development needs on research conceptualization, production and publication. Teachers expressed high level of development needs in research regardless of age, sex and educational attainment while married teachers have significantly higher levels of development needs for research than unmarried respondents. Meanwhile, level of research difficulty is not a factor that influences their development needs in research. The findings of the study serve as baseline information to the design of Professional Development Training Program called Strengthening Teachers' Ability through Research Training (START). This program was proposed and implemented to provide comprehensive coaching and mentoring to the elementary school teachers as beneficiaries.

Future research study may be conducted in the impact or outcome of this community project after one (1) to two (2) years of the training program, where the participants could be able to produce research papers for the school or for funding from the division office; participate in local, national or international research conferences; publish a research article in reputable research journal; become part of the Google Scholar with paper citation and utilize the findings of research that contribute to the community development.

ACKNOWLEDGEMENTS

Authors would like to thank the teachers who served as the respondents of the study.

REFERENCES

[1] Second Congressional Commission on Education (EDCOM 2). *Turning Point: A Decade of Neces. Ref.* [Final report]. 2024.
[2] I. I. Llenares and C. C. Deocaris, "Measuring the Impact of an Academe Community Extension Program in the Philippines," *Mal. J. of Learn. & Inst.*, vol. 15, no. 1, pp. 35-55, 2018, doi:10.32890/mjli2018.15.1.2
[3] O. J. Adelakun, "Human capital development and economic growth in Nigeria," *Euro. J. of Bus. & Man.*, vol. 3, no. 9, pp. 29-38, 2011.
[4] M. K. Nyatsikor, E. M. Sosu, P. Mtika, and D. Robson, 'Teacher characteristics and children's educational attainment in Ghana: do some teacher characteristics matter more for children attending disadvantaged schools?," In *Fron. in Educ.*, Frontiers Media SA. vol. 5, p. 162, Sept. 2020, doi: 10.3389/feduc.2020.00162
[5] I. Fauzi, and A. N. Johan, "Reviewing Teacher Effectiveness in Improving Student Learning," *EBONY: J. of Eng. Lang. Teach., Ling., & Lit.*, vol. 4. No. 1, pp. 39-49, 2024, doi:10.37304/ebony.v4i1.12295
[6] R. Bernhard, T. McDermott, C. Hasenhüttl, K. Burn, and P. Sammons, "A focus on quality of teaching in schools increases students' progress of attainment. Evidence from English secondary schools," *Sch. Eff. & Sch. Improv.*, vol. 35, no. 4, pp. 506-530, 2024, doi: 10.1080/09243453.2024.2398601
[7] M. A. Engida, A. S. Iyasu, and Y. M. Fentie, Impact of teaching quality on student achievement: student evidence. In *Fron. in Educ.*, Frontiers Media SA. vol. 9, pp. 1-10, Jul. 2024, doi: 10.3389/feduc.2024.1367317
[8] A. V. Gwanko, "Enhancing paddy productivity through improving the irrigation scheme at Serengeti village in Bunda district", Doctoral dissertation, The Open University of Tanzania, 2015.
[9] E. J. Kebwe, "Establishment of Beekeeping Project for Poverty Reduction to Youth HISA Group in Nduli Village-Iringa Municipal," Doctoral dissertation, The Open University of Tanzania, 2017.
[10] Y. Suarez-Balcazar, "Community Needs Assessment: Bringing Real Voices to the Health Care System," In: Calhoun, E., Esparza, A. (eds) Patient Navigation. Springer, New York, NY, 2018, doi: 10.1007/978-1-4939-6979-1_1
[11] R. C. Garcia, "Integrating Community Services and Research: A Livelihood Needs Assessment at the Countryside of the Philippines," *J. of Educ. & Prac.*, vol. 8 no. 3, pp. 113-119, 2016.
[12] M. P. Amparado and G. E. Colonia, "Community Needs Assessment of Village Opao, Mandaue City, Cebu, Philippines," *Ceb. J. of Teach. Educ.*, vol. 1, no. 1, pp. 83-100, Jun. 2020, doi: 10.31219/osf.io/8crf5
[13] A. P. Esteban, "Assessing the impact of community extension program in a Philippines state university: A comprehensive framework and analysis," *Edel. Appl. Sci. & Tech.*, vol. 9, no. 2, pp. 1659-1675, 2025, doi: 10.55214/25768484.v9i2.4853
[14] T. Murad, N. Assadi, M. Zoabi, S. Hamza, and M. Ibdah, "The contribution of professional learning community of pedagogical instructors, training teachers and teaching students within a clinical model for teacher education to their professional development," *Euro. J. of Educ. Res.,* vol. 11, no. 2, pp. 1009-1022, 2022, doi: 10.12973/eu-jer.11.2.1009
[15] J. M. C. Chin, G. S. Ching, F. del Castillo, T. H. Wen, Y. C. Huang, C. D. del Castillo, and S. M. Trajera, "Perspectives on the Barriers to and Needs of Teachers' Professional Development in the Philippines during COVID-19," *Sustainability*, vol. 14, no. 1, p. 470, 2022, doi: 10.3390/su14010470
[16] E. C. Jardinico III, A. M. T. Bacaron, J. D. Singson, J. H. Grande, J. G. D. Mijares, and M. B. Capanas, "Surviving on a Shoestring: An In-depth Look into the Financial Realities of Public Junior High School Teachers," *Asian J. of Educ. & Soc. Stud.*, vol. 50, no. 8, pp. 117-129, 2024, doi: 10.9734/ajess/2024/v50i81511

[17] A. Camral, and G. Sumayo, "Continuing Professional Development Engagement and Pedagogical Competence of Public Elementary School Teachers," *Int. J. of Multi. Stud. in Hig. Educ.*, vol. 2, no. 1, pp. 77-104, 2022, doi: 10.70847/592788
[18] D. J. Tindowen, J. Guzman, and D. Macanang, "Teachers' conception and difficulties in doing action research," *Uni. J. of Educ. Res.*, vol. 7, no. 8, pp. 1787-1794, 2019, doi: 10.13189/ujer.2019.070817
[19] D. G. Caabas, F. Diaz, A. L. Luna, J. Borris, J. Borris, J. A. G. Dadule, D.K. Saac, T. Dangkulos, and R. I. Bitangcol, "Self-efficacy, productivity, and challenges in conducting action research among public school teachers," *Education Digest,* vol. 19, no. 1, pp. 16-24, 2024.
[20] S. T. Cortes, and M. S. Reyes Jr, "Challenges in conducting action research: Experiences from Biology teachers of a Province in Mindanao, Philippines," *J. Pend. Prog.*, vol. 11, no. 2, pp. 151-164, 2021, doi: 10.23960/jpp.v11.i2.202102
[21] I. B. Paymalan, and E. J. B. Erno, "Status, challenges and directions of research involvement of teachers: A baseline study for research and development intervention program in Dinagat Division," *J. of Educ. Res.*, vol. 5, no. 4, pp. 14-35, 2020.
[22] V. Tingabngab and B. Binayao, "Challenges faced by the public elementary school teachers in conducting action research," *Teach. Educ. & Curr. Stud.*, vol. 8, no. 1, pp. 14-22, 2023, doi: 10.11648/j.tecs.20230801.13
[23] J. Oestar, and C. Marzo, "Teachers as researchers: Skills and challenges in action research making," *Int. J. of Thee. & Appl. in Elem. & Sec. Sch. Educ.*, vol. 4, no. 2, pp. 95-104, 2022, doi: 10.31098/ijtaese.v4i2.1020
[24] D. E. Susilo, "The Effects of Corporate Social Responsibility to the Corporate Value,". *Arthatama: J. of Bus. Man. & Acc.*, vol. 2, no. 2, pp. 85–96, 2018.
[25] G. L. Gullan, T. J. Power and S. S. Leff, "The Role of Empowerment in a School-Based Community Service Program with Inner-City, Minority Youth," *J. Adolesc. Res.*, vol. 28, no. 6, pp. 664–689, Nov. 2013, doi: 10.1177/0743558413477200.
[26] P. P. Bonus, "Refining the Research Capability of Master Teachers: It's Challenges and Courses of Action," *Int. J. of Inn. Sci. & Res. Tech.,* vol. 9, no. 8, Aug. 2024, doi: 10.38124/ijisrt/IJISRT24AUG258
[27] M. Matjašič, and J. Vogrinc, "Research competence of pre-service teachers: a systematic literature review," *Euro. J. of Educ. Res.,* vol. 13, no. 2, pp. 877-894, 2024, doi: 10.12973/eu-jer.13.2.877
[28] J. M. Saro, and J. D. Taray, "Teachers as Researchers: Practices, Perspectives, Problems, and a Plan of Action (4Ps) for Public School Teachers in Writing Action Research," *Amer. J. of Int. Res. & Inn.,* vol. 3, no. 3, 2024, doi: 10.54536/ajiri.v3i3.3344
[29] J. M. D. Aquino, I. P. Palad, and A. P. Simbre, "Filipino teachers' aspiration on their personal and professional development," *Asia-Pac. J. of Hum. Dev. & Fam. Stud.*, vol. 1, no. 1, pp. 101-114.
[30] J.M. Laguador and JRS. Soverano, "Elementary School Teachers' Attitude Towards Research as Basis for a Proposed Enhancement Plan," *Int. J. of Soc. Sci. Res. & Rev.*, vol. 5, no. 12, pp. 642-651, 2022, doi: 10.47814/ijssrr.v5i12.833
[31] J.E. Flores, "Unveiling Factors Influencing Research Hesitancy and Limited Research Engagement among Filipino Beginning Teachers". *New Tr. in Qual. Res.*, vol. 20, no. 4, pp. 1-16. 2024, doi: 10.36367/ntqr.20.4.2024.e1048
[32] J.Y. Abella, E.A. Cadorna, J.G. Taban, and L.V. Ramirez, "An assessment of Filipino public school teachers' research competence: A basis for an enhancement professional development programme", *Int. J. of Lear, Tea. & Educ. Res*, vol. 23, no. 12, pp. 1-14, 2024, doi: 10.26803/ijlter.23.12.14
[33] J. W. Creswell, and J. D. Creswell, *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications, 2017.
[34] A. Oancea, N. Fancourt, J. Robson, I. Thompson, A. Childs and N. Nuseibeh, "Research capacity-building in teacher education," *Oxford Review of Education*, vol. 47, no. 1, pp. 98-119, 2021, doi: 10.1080/03054985.2020.1842184
[35] M. Caigncoy, "Research Capability of Teachers: Its Correlates, Determinants and Implications for Continuing Professional Development," *J. of Wor. Engl. & Educ. Prac.,* vol. 2, no. 5, pp. 1-11, 2020, doi: 10.32996/jweep.2020.2.5.1
[36] L. Williams, M. Kabamalan, and N. Ogena, "Cohabitation in the Philippines: Attitudes and behaviors among young women and men," *J. of Marr. & Fam.*, vol. 69, no. 5, pp. 1244-1256, 2007, doi: 10.1111/j.1741-3737.2007.00444.x
[37] L. M. Desimone, "Improving impact studies of teachers' professional development: Toward better conceptualizations and measures," *Educ. Res.*, vol. 38, no. 3, pp. 181-199, 2009, doi: 10.3102/0013189X08331140
[38] J. de la Torre-López, A. Ramírez, and J. R. Romero, "Artificial intelligence to automate the systematic review of scientific literature," *Computing*, vol. 105, no. 10, pp. 2171-2194, 2023.
[39] F. Bolanos, A. Salatino, F. Osborne, and E. Motta, "Artificial intelligence for literature reviews: Opportunities and challenges," *Art. Intel. Rev.*, vol. 57, no. 10, p. 259, 2024.
[40] J. C. Gregorio, "Social studies teachers' perception in the use of educational websites in online teaching in the Philippines: A systematic literature review," *Int. J. of Multi. Res. & Anal.,* vol. 5, no. 2, 2022, doi: 10.47191/ijmra/v5-i2-30
[41] L. A. N. Gatdula, A. C. Gomez, D. W. Rosales and S. J. O. Sunga, "Challenges encountered in teaching and learning literature: Perspectives from higher education students and faculty members," *Wor. Wide J. of Multidisc. Res. & Dev.*, vol. 8, no. 01, pp. 17-22, 2022, doi: 10.17605/OSF.IO/23JWK
[42] I. J. R. Geverola, R. C. Mutya, L. M. Bañados-Siason and A. M. Bonotan, "Challenges and struggles of public senior high school science teachers during the new normal," *J. of Res., Pol. & Prac. of Teach. & Teach. Educ,*, vol. 12, no. 1, pp. 49-68, 2022, doi: 10.37134/jrpptte.vol12.1.4.2022
[43] L. Adao, C. C. Relleve, J. Salazar, K. F. Macawile and M. Chavez, "Teachers' challenges, capabilities, and needs in teaching learners with reading difficulties," *J. of Sci. & Educ.*, vol. 3, no. 3, pp. 221-231, 2023, doi: 10.56003/jse.v3i3.173
[44] T. R. Naldo and R. M. Ubayubay, "Cultivating action research culture among teachers," *Int. J. of Multidisc. Res. & Anal.*, vol. 7, no. 07, 2024, doi: 10.47191/ijmra/v7-i07-15

[45] J. L. Torres, "Uncovering Teachers' Challenges in Teaching Qualitative Research: Basis for Innovation and Training,". *J. of Interdisc. Persp.*, vol. 2, no. 6, 2024, doi: 10.5281/zenodo.11100287

[46] R. D. Saboya, "Teachers' anxiety and challenges in writing action research in basic education: Input for an enhancement training program," *Azal Arts & Hum.,* vol. 1, no. 2, 1–22, 2024, doi: 10.55687/aah.v1i2.86

[47] M. P. Juacalla and V. A. Estalilla Jr., "Teachers' perspectives, readiness, and needs on action research: An extension service needs assessment," *Euro. J. of Sci. Inno. & Tech.*, vol. 3, no. 2, pp. 75-85. 2023.

[48] N. A. P. Villalino and E. G. Cagasan, "Conditions Surrounding Publication Performance of Faculty Members of Two Selected Higher Education Institutions In Eastern Visayas, Philippines," *Ann. of Trop. Res.*, vol. 34, no. 2, pp. 75–94, 2012, doi: 10.32945/atr3425.2012

[49] M. P. E. Morales, E. L. R. Abulon, P. R. Soriano, A. P. David, M. V. C. Hermosisima and M. G. Gerundio, "Examining teachers' conception of and needs on action research," *Iss. in Educ. Res*, vol. 26, no. 3, pp. 464-489, 2016, doi: 10.1080/13674589700200009

[50] J. Liu, K. Wang, and Z. Pan, "The effectiveness of professional development in the self-efficacy of in-service teachers in STEM education: A meta-analysis," *Beh. Sci.*, vol. 15, no. 10, pp. 1-24, 2025, doi: 10.3390/bs15101364

[51] X. Zhou, L. Shu, Z. Xu, and Y. Padrón, "The effect of professional development on in-service STEM teachers' self-efficacy: A meta-analysis of experimental studies," *Int. J. of STEM Educ.*, vol. 10, no. 37, pp. 1-20 2023, doi: 10.1186/s40594-023-00422-x

[52] W. Thongpuban, C. Thongphukdee, and J. Prongprommarat, "Needs for the Development of Competency-Based Instruction of Small-Sized Secondary Schools' Teachers under the Office of Nakhon Ratchasima Secondary Education," *J. of Educ. and Learn.*, vol. 14, no. 3, 315-327, 2025, doi: 10.5539/jel.v14n3p315