www.ijres.net

Teachers' Research Characteristics, Competencies, Motivation, and Challenges: Basis for Research Manual

Alvin O. Insorio
San Pedro College of Business Administration/San Pedro Relocation Center National High School, Philippines

To cite this article:

Insorio, A.O. (2024). Teachers' research characteristics, competencies, motivation, and challenges: Basis for research manual. *International Journal of Research in Education and Science (IJRES), 10*(4), 799-825. https://doi.org/10.46328/ijres.3529

The International Journal of Research in Education and Science (IJRES) is a peer-reviewed scholarly online journal. This article may be used for research, teaching, and private study purposes. Authors alone are responsible for the contents of their articles. The journal owns the copyright of the articles. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of the research material. All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations regarding the submitted work.

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

IJRES International Journal of Research in Education and Science
2024, Vol. 10, No. 4, 799-825 https://doi.org/10.46328/ijres.3529

Teachers' Research Characteristics, Competencies, Motivation, and Challenges: Basis for Research Manual

Alvin O. Insorio

Article Info

Article History

Received:
27 June 2024
Accepted:
30 September 2024

Keywords

Challenges
Characteristics
Competencies
Manual
Motivation

Abstract

The study aimed to investigate the teachers' research characteristics, competencies, motivation, and challenges in conducting research, which served as a basis for developing a research manual. Explanatory sequential design was employed to elicit quantitative and qualitative data. Nine hundred teacher respondents using convenience sampling and twenty-five master teachers using purposive sampling voluntarily participated. Findings reveal that teachers were interested in teaching and learning research themes but produced less research based on the number of completed, presented, and published research papers. Also, they were moderately competent in conceptual, methodological, data analysis and interpretation, and dissemination and utilization aspects but more competent in technical aspects. However, they were extrinsically motivated to do research work to get promoted someday to get higher salaries. On the other hand, they were intrinsically motivated to do research work to improve their knowledge and skills and solve school problems. Meanwhile, teachers' challenges arose, like low-level competence, limited time, financial problems, and low parental and learner support. Hence, a research manual was based on the teachers' competencies, motivation, and challenges that must be created locally. So, school administrators may implement research-capability programs to upgrade the teachers' research competencies, provide technical assistance, and finance the teachers' research projects to motivate them.

Introduction

Countries worldwide aim for high-quality education that meets the needs and difficulties related to industrial-innovative development, concentrating on and investing in teacher research competency (Amirova et al., 2020). However, several worldwide studies have indicated that teachers must achieve the appropriate level of research competency and need help with research conceptualization (Celebi, 2021; Toquero, 2021). Efforts have been made worldwide to improve teachers' research skills to meet the expanding global need for new information (Evardo & Abina, 2023). Improving teachers' research skills promotes innovative educational development and, eventually, nation-building. In the Philippines, Republic Act 9155 (Chapter 1, Section 7(5), RA 9155) strengthens educational research, especially in basic education, by requiring the Department of Education (DepEd) to conduct educational research and studies that can serve as the basis for needed reforms and policy inputs. DepEd Order No. 43, s.

2015, or Revised Guidelines for the Basic Education Research Fund (BERF), stresses this even more by advocating for evidence-based policy formation through improved implementation that enhances transparency and accountability. In addition to this strategy, with DepEd Order No. 24, s. 2010, DepEd began to provide research funding through the Basic Education Research Fund (BERF). On the other hand, one of the mandates of the Enhanced Basic Education Act of 2013 (Republic Act 10533, 2013) is the delivery of a relevant, responsive, and research-based curriculum. The schools must develop a research culture in grades K–12.

In this regard, the DepEd issued an order to support the burden of the expenses incurred by the teachers. The BERF established a requirement that every region receives two million pesos annually (DepEd Order No. 24, s. 2010). Despite this, only a small number of teachers continue to pursue research. However, the commitment of DepEd Region IV-A CALABARZON to its contribution is defined by its goals to establish professional communities within different school divisions, comprising practitioners who possess both scientific and creative thinking skills; and organizing academic gatherings as an avenue for the exchange of research outputs (Basilio & Bueno, 2019). These goals define the region's commitment to its contribution. These research orientations obligate Schools Division Offices (SDO) to execute research-related tasks and initiatives of the DepEd Central and Regional Offices, as well as to develop and launch parallel programs that cater to the unique requirements of individual schools. Additionally, these research orientations encourage SDO to collaborate in developing research-related programs and projects. For example, the Conference for Basic Education Researchers (CBER) was the forum that allowed for the dissemination of research on a national scale, aside from different Division Research Conferences.

Despite the issuances mentioned above that encourage research activities, DepEd needs help persuading teachers to pursue research. The persistent, unresolved question is why not only a small number of teachers conduct research. Teachers are believed to be unable to conduct, use, and disseminate research if they lack competence, motivation, and guidance from DepEd officials. Teachers need support from the DepEd agencies, as stated in DepEd MATATAG's fourth critical component, " give support to teachers to teach better" (Department of Education, 2023). Teachers can teach better if research-based curriculum, innovation, pedagogies, and assessment are put into policies and practices. This is possible if an accessible research manual is created in the local setting to make the resources available for teachers' consumption.

In the local context, the SDO San Pedro City documented just eight completed research studies for the school year 2021–2022, four of which were submitted to the 2022 Virtual Conference on Basic Education Researchers (VCBER), but only two were accepted and presented. Moreover, despite having fifty-five offered research proposals, twenty-eight research projects have been completed for the school year 2022-2023. This results from San Pedro City's lack of a research culture and public-school teachers' limited research competencies, motivation, and guidance. So, teachers' research characteristics, competencies, motivation, and challenges must be investigated to guide the teachers in doing research projects as the basis for crafting the manual.

The research manual guides public school teachers in conducting scientific investigations to address educational problems, concerns, or issues. However, this is possible if grounded data are used to craft a research manual that

empowers public school teachers to deal with educational problems through research. So, it is imperative to conduct an in-depth study that guides public school teachers in building research projects by utilizing the research manual based on their characteristics, competencies, motivation, and challenges in conducting research. There is a great need to assess the research competency of teachers, which serves as the basis for helping them in research projects (Vasquez et al., 2022).

Public school teachers need much guidance in conducting research projects and various platforms where they can access the research learning materials, disseminate research findings, and receive training programs at any time. Also, a research manual is needed that guides the teachers in conducting a research project and DepEd officials in giving technical assistance. Through the provisions of a research manual, teachers' research competencies are enhanced, which empowers them to address school problems that will benefit the learners.

The study's findings are helpful to the SDO San Pedro City teachers because their research characteristics, competencies, and motivation are appropriately assessed, leading to basic information about the research manual. The data from this study serves as a guide for the DepEd officials in crafting capability training, provision of technical assistance, and bases in developing the research manual. A research culture is established if teachers produce quality research in the DepEd. Also, school divisions and administrators benefit because they know their teachers' strengths and weaknesses in producing research proposals and full-fledged research papers for journal publications. Hence, they are guided in giving technical assistance to address teachers' challenges in conducting research.

Literature Review

Teachers' characteristics in conducting research manifest the teachers' research competencies needed to carry out research work (Morron, 2018). Teachers' research characteristics tell the level of their research work. Hence, the research interest, types of research conducted, number of completed studies, presentations, publications, and seminars or training received contribute significantly to the development of research competency (Tamayo, 2021). Researchers with significant research interests participate actively in research projects (Jewell et al., 2022). Research interest leads the teachers to start a research topic and choose the type of research they need to do.

Research competency is a critical component in improving the quality of teaching and learning (Syahrial et al., 2022). Teachers must be research-competent because a lack of research competence may be the root of the current loss in teacher authority (Ghavifekr & Rosdy, 2015). Research competency is the capacity to apply knowledge and abilities when a professional task in a scientific field must be resolved (Prosekov et al., 2020). Also, it is a vital tool in conducting research work. It empowers the teachers to carry out rigorous research methods. Research competency can be developed through research projects (Hamnett & Korb, 2017), full-time and online training (Kintu et al., 2017), and a mixed educational environment (Geng et al., 2019). However, teachers need a research manual as a guide in doing research and writing the report to be capable and confident enough to conduct research properly.

Tamayo (2021) synthesizes research competency into conceptual, methodological, technical, dissemination, and utilization skills. Conceptual competency pertains to the researcher's knowledge and skills in identifying the researchable problem, formulating research questions, solutions, and hypotheses, identifying appropriate research design, methods, and statistical treatment, and ways of presenting and interpreting data (Tamayo, 2021). Methodological competency is demonstrated knowledge of the methods, techniques, procedures, and tools needed to respond to research challenges (Garay-Argandona et al., 2021), while data analysis and interpretation competency refers to the capacity to use computer software or data analysis tools and interpret the results (Morron, 2018). Technical competency is a complex skill that requires conducting and writing a research report (Jamieson & Saunders, 2020). However, Garay-Argandona et al. (2021) and Torres et al. (2021) found that researchers need to gain experience and skill in using plagiarism detection software, contributing to poor technical skills. On the other hand, dissemination competency refers to skills in presenting research findings to other people through conferences, meetings, forums, and publications. At the same time, utilization pertains to using the research findings for policy recommendations, program development, or project proposals (Tamayo, 2021).

Public school teachers must acquire and improve their research abilities to provide research outcomes (Caingcoy, 2020). However, they cannot do it alone. So, working in tandem, the DepEd and its collaborators must facilitate acquiring and growing knowledge, abilities, values, and positive attitudes among teacher researchers. Teachers in public schools should acquire and hone the research skills that allow them to conduct independent studies (Caingcoy, 2020). However, public school teachers' confidence in their abilities to write research is found to be in doubt (Abarro & Mariño, 2016; Macabago, 2017).

De la Cruz (2016) investigates the research capabilities of teachers at the Philippine State College. They found that researchers have strong conceptual abilities and moderate technical and computational competence. More seminars on writing the various sections of a research report should be offered, focusing on proper research methodology, acceptable statistical tools and procedures, and the development of relevant instruments. On the other hand, Tamban and Maningas (2020) assess the teachers' research and technical writing skills in Philippine public schools. They say that teachers are moderately capable of writing full-blown research. Teachers must possess exceptional writing skills to conduct comprehensive research that can be published or presented. This can be accomplished through participation in writing workshops or seminars, expert mentoring and coaching, providing research materials, and producing research work.

Similarly, Wong (2020) finds that master teachers in the Philippines are incompetent in the research capability dimensions, namely research process, dissemination, and utilization, indicating that their research capability is indeed low, resulting in low research productivity in basic education sectors. On the other hand, Caingcoy (2020), Agatep and Villalobos (2020), and Atutubo and Estonanto (2020) claim that teachers possess moderate research capability and motivation to write. They face difficulties in research processes and demonstrate potential in mentoring.

Gennis et al. (2020) conclude that several factors are identified as impediments to research participation. These include competition, a lack of interest, a lack of understanding, and limited time. Ulla et al. (2017) claim that

teachers conduct a research project because they want to advance in their careers. However, inadequate financial support from institutions, excessive teaching loads, and a dearth of research expertise and skills prevent them from conducting research. As a result, teachers believe that conducting research requires them to attend and participate in research training, earn research incentives, and have lighter teaching loads.

On the other hand, DepEd Order No. 16, s. 2017 guides the DepEd in various research initiatives. However, more is needed to guide public school teachers' research journey. So, a research manual is timely to construct as a reference on how to conduct research properly and write a well-written research report. Through the manual, teachers can conduct research and are guided in writing a report aligned with the prescription of DepEd Orders. The research manual offers a reference for the research-related projects of school administrators, teachers, and personnel to engage in research (Universidad De Manila, 2022). The research manual enlightens the minds of researchers to become responsible and well-guided.

The literature above justifies the need to investigate the teachers' research characteristics and competencies, including their motivation and the challenges faced in conducting basic education research. No study has yet explored the combination of the stated variables as the basis for crafting a research manual. Most of the previous studies treated the stated variables one by one. Also, various studies have contradicting findings regarding public school teachers' research competencies. Hence, this study considers important variables for developing a research manual to motivate and inspire public school teachers. A research manual helps the teachers become research practitioners and enthusiasts.

Theoretical and Conceptual Framework

The study leans on Bandura's self-efficacy theory, which emphasizes that one's ability to accomplish a particular mission or objective is determined by his or her own beliefs or convictions. Teachers' perceptions and judgments are impacted by their beliefs, which subsequently determine their classroom conduct and pedagogical methods (Allinder, 2015). This indicates that when the teacher researchers have a high level of self-efficacy toward research, they are confident in doing and finishing the research (Pamatmat, 2016). Teachers' self-efficacy in conducting research determines their research characteristics, competencies, and motivation. A teacher's strengths and areas for improvement in research may be better understood and addressed if their level of research self-efficacy is accurately assessed (Basilio & Bueno, 2019).

The figure below depicts the study's framework as a compass for undertaking the steps of a properly conducted study. Teachers' professional characteristics are influenced by the level of their research competence (Vasquez et al., 2022). Wong (2020) claims that training attended, research completed, research project involvement, research knowledge, attitude toward research, and institutional support correlate with research capability. However, Abarro and Mario (2016) claim that the research seminars or training attended affected their research competence.

Also, participants' research characteristics are considered such as research interest, types and number of research conducted, types of research presentations, number of publications, types of authorship, and levels of attendance

at research training or seminars. Meanwhile, research competencies are related to research training (Li et al., 2019), and motivation (Macabago, 2017). The number of completed studies and motivation determine the research competence of teachers (Caingcoy, 2020). The research productivity of teachers is influenced by their research interests, knowledge, skills, and external factors like benefits, incentives, and support (Meneses & Moreno, 2019).

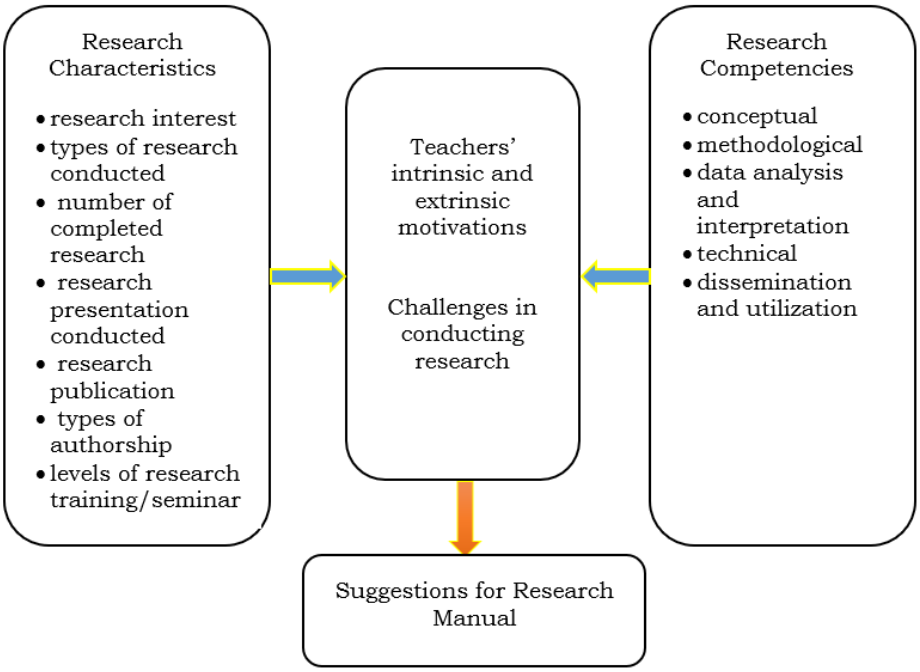

Figure 1. Conceptual Paradigm

Research competencies, such as conceptual, methodological, data analysis and interpretation, technical, dissemination, and utilization, are considered. Cagaanan and Gosadan (2018) find that elementary and secondary school teachers in public schools are "moderately capable" of writing a study proposal and a paper that could be published (Abarro & Mario, 2016, p.26), as well as having technical and computational skills (De la Cruz, 2016). Teachers' confidence in their abilities is most threatened by their lack of understanding of statistical content (Alfalla & Fabelico, 2020).

Meanwhile, intrinsic and extrinsic motivation are also considered, along with their challenges in conducting research, which served as the basis for crafting the research manual. Research competency positively correlates with motivation to write research papers (Caingcoy, 2020; Durmuşçelebi, 2018). In addition, the top five reasons for teachers' motivation to perform research are research utilization, personal happiness, a growing network, a research capability program, and administration assistance (Narbarte & Balila, 2018). Also, challenges experienced by master teachers in conducting research are elicited through interviews. However, high school teachers have research challenges, notably in literature search, findings presentation, results publication, and data gathering (Tindowen et al., 2019).

By the end of the study, suggestions for crafting the research manual based on the grounded data are produced to guide the DepEd personnel. The research manual must be aligned to DepEd Order No. 43, s. 2015, DepEd Order

No. 16, s. 2017, and DepEd Order No. 24, s. 2010 so that the users are well-guided in crafting research proposals for funding and research reports for conference presentations and publications. The research manual empowers public school teachers since their data are used in its development.

Research Questions

This study aimed to investigate the teachers' characteristics, competencies, motivation, and challenges for conducting research among public school teachers under the jurisdiction of the SDO San Pedro City, which serves as a basis for crafting the research manual. Specifically, it answered the following questions:

1. What are the research characteristics of teachers in terms of research interest, types of research conducted, number of completed research, research presentation conducted, research publication, types of authorship, and levels of research training/seminar?
2. What are the teachers' competencies in conducting research regarding conceptual, methodological, data analysis and interpretation, technical, and dissemination and utilization?
3. How may the teachers' intrinsic and extrinsic motivations to conduct research be described?
4. What are the challenges experienced by the teachers in doing research?
5. What are the teacher's suggestions for the research manual?

Method

Research Design

The study's design was an explanatory sequential mixed-methods research with quantitative and qualitative phases to capture in-depth data. Explanatory sequential mixed methods design uses the quantitative method and then qualitative methods in series, analyzes the data separately and interprets the results (Creswell & Plano-Clark, 2017). The first phase was a descriptive survey intended to measure the public school teachers' research characteristics, competencies, and motivations for conducting research, which serves as the basis for crafting the research manual. The second phase was a descriptive phenomenology study designed to narrate the participants' different experiences in conducting research work in public schools, including the challenges faced, motivation, and technical support needed. Descriptive phenomenology investigates a phenomenon such as human experiences, which is how things seem in individual experiences (Sundler et al., 2019). Then, information was produced as a basis for the research manual.

Participants

Convenience sampling was used to collect data from nine hundred teachers in twenty-eight SDO San Pedro City schools. The respondents for phase 1 provided a large volume of data that captured the public school teachers' research characteristics, competencies, and motivations for conducting research. Five hundred ninety-four elementary teachers participated aged 25 to 60 years old, while three hundred-six came from high school aged 27 to 62 years old. For phase 2, twenty-five master teachers from elementary and secondary schools were the participants using purposive sampling with the criteria of at least five years in service in public schools, at least

one year as master teachers, and experience in conducting research work in DepEd. The researcher's criteria and concerns form the basis for the sampling strategy known as purposive sampling (Syahrial et al., 2022). Master teachers were considered valuable participants because they are the right educational leaders to affect educational policies through research in the educational system (Basilio & Bueno, 2019). Also, master teachers must conduct in-depth studies or action research on instructional challenges at least once yearly, as stated in the Results-Based Performance Management System (RPMS).

Research Instruments

The research instrument was a three-part printed survey questionnaire for phase 1. Part 1 for the research characteristics has seven items; part 2 for research competencies has sixty items using the Likert scale 1 to 6 to measure the competency level; and part 3 has twenty items to measure the motivation level. The questionnaire was adapted from Morron's (2018) and Tamayo's (2021) studies with secured permission via email. Under phase 2, semi-structured interview guide questions with ten questions were carefully constructed based on the literature review to capture in-depth data on the challenges, motivations, technical support needed, and suggestions for the research manual.

Some modifications were made to the instruments to make them appropriate for the study. The research instruments undergo content validation by experts such as the public school district supervisor, education program supervisor, senior education program specialist, school head, and head teacher. A group of experts agreed on the validity of the questionnaire in terms of format and design, content, clarity, and usefulness. Content validation is the first quality that needs to be established by carefully examining each item (Ismail & Zubairi, 2022). After establishing the validity of the content, pilot testing of the questionnaire using forty respondents was conducted in one school to establish the reliability and accuracy of the instruments. Instrument pilot testing is required in quantitative research (Creswell & Plano-Clark, 2017). For the interview guide, the pilot interview was conducted with ten participants to check its appropriateness and completeness before its actual use.

Table 1 depicts the results of Cronbach's alpha reliability analysis. The table shows that the questionnaire was reliable since alpha values exceeded .95. This means that the responses to the questionnaire items were consistent, so the questionnaire was reliable.

Table 1. Cronbach’s alpha Reliability Coefficient of Questionnaire

Variable	n	α	Interpretation
Conceptual	10	.971	Excellent
Methodological	10	.958	Excellent
Data Analysis and Interpretation	10	.969	Excellent
Technical	10	.970	Excellent
Dissemination and Utilization	10	.964	Excellent
Extrinsic Motivation	10	.957	Excellent
Intrinsic Motivation	10	.958	Excellent

Data Gathering Procedure

After securing permission from the Schools Division Superintendent, another request letter was sent to the school head to secure permission for the survey questionnaire administration. The researcher's email address and contact number were indicated in the first and last parts of the questionnaire if any query or clarification arises. Questionnaires were distributed to the target respondents. Data were harvested to show the teachers' characteristics, competencies, and motivations for conducting research, which served as the basis for crafting the research manual. Then, semi-structured interviews were conducted with the master teachers to elicit their challenges, motivations, technical support needed, and suggestions for the research manual.

Ethical Considerations

In every study procedure, ethical issues such as participant rights, respect for authority, confidentiality of data and participant identities, correct data storage, and data distribution must be established (Drolet et al., 2023). As proof, a formal letter was obtained for authorization from the school division superintendent, school heads, and teacher participants before the implementation phase. Participation was voluntary, and no favor was received. Participants were free to refuse or cease participation at any time. Their identities were not revealed to anyone, and the data acquired from them were kept strictly confidential for two years on the researcher's laptop. Privacy and confidentiality were always practiced.

Pseudonyms were used instead of participants' names, and the study only features summary data. As part of respect, the researcher also emailed the authors of the altered questionnaire to obtain permission. Moreover, dissemination takes place through faculty meetings, research conferences, and online publications to share the findings worldwide and inspire others to benchmark this study's outputs. Any query regarding the study can be directed to the researcher, who welcomes it at any time.

Data Analysis

Data was cleaned to remove outliers, fix mistakes, and eliminate bias (Aziz et al., 2019). From nine hundred respondents, it was trimmed down to eight hundred eighty-one. Also, data imputation was done to treat missing data by replacing them with the median. Quantitative data were analyzed with Jamovi version 2.4.14 (frequency counts, percentages, means, medians, interquartile range (IQR), and standard deviations for descriptive analysis).

Qualitative data are analyzed with NVIVO version 12 (thematic analysis). The thematic analysis employs a descriptive method emphasizing lived experience, which relates to our perceptions of the world (Sundler et al., 2019). However, to set up data validation, the transcript and data analysis were sent back to the participants to get their approval and ensure the data were correct as a manifestation of member checking. Member checking provides the correctness of participant voices by allowing participants to affirm or not the data's completeness and accuracy (Candela, 2019).

Results

Figure 2 shows the research interest of the respondents. Most of the respondents (n=599) were interested in teaching and learning research topics since they were in a teaching position, followed by inclusive education (n=68) and gender and development (n=68). However, some teachers (n=10) were interested in ICT development, programming, administration, and supervision. The research interest leads the teacher actively to start a research topic (Jewell et al., 2022).

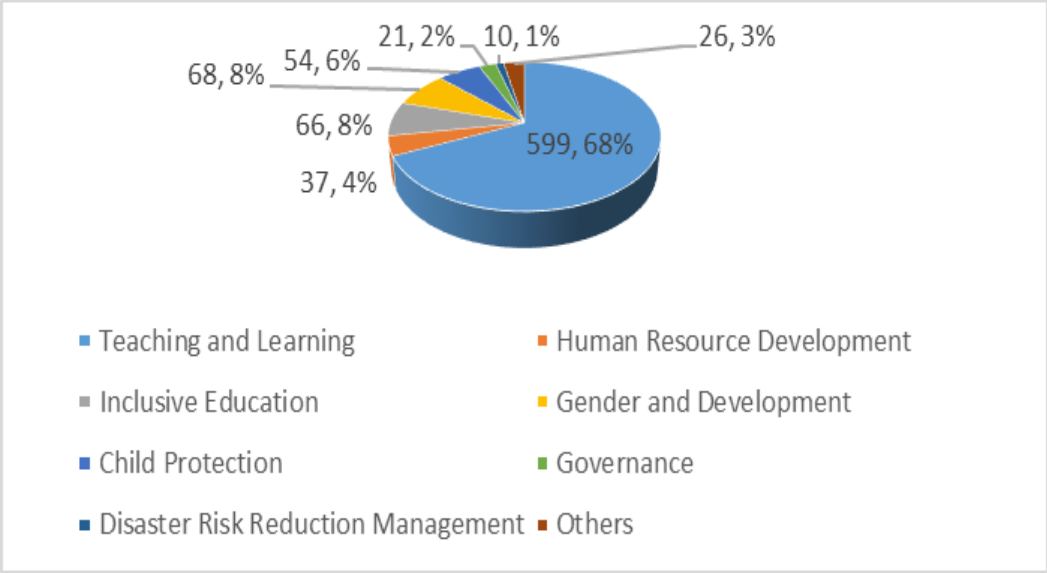

Figure 2. Research Interest of the Teacher Respondents

Figure 3 depicts the types of research completed by the respondents. The figure shows that 70% (n=618) of teachers had yet to complete research before, while 6% (n=51) have conducted both action and basic research. Only 108 have completed action research, while 104 have completed basic research, which is their master's thesis. This implies that teachers were new to conducting research activities.

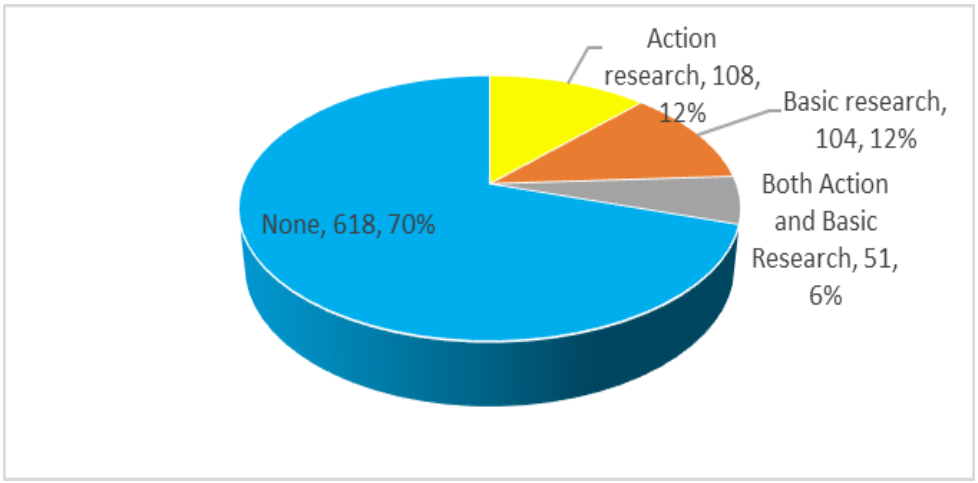

Figure 3. Types of Research Conducted by the Respondents

Figure 4 displays the number of completed research by the respondents. It reveals that 72% (n=631) of the respondents still need to complete research, while 28% (n=250) have completed their research. This means that there were teachers who were able to conduct research but were not able to complete it for various reasons. So, teachers need technical and financial assistance like research projects and programs that will motivate and capacitate them. Through research projects, teachers developed their research competencies (Hamnett & Korb, 2017).

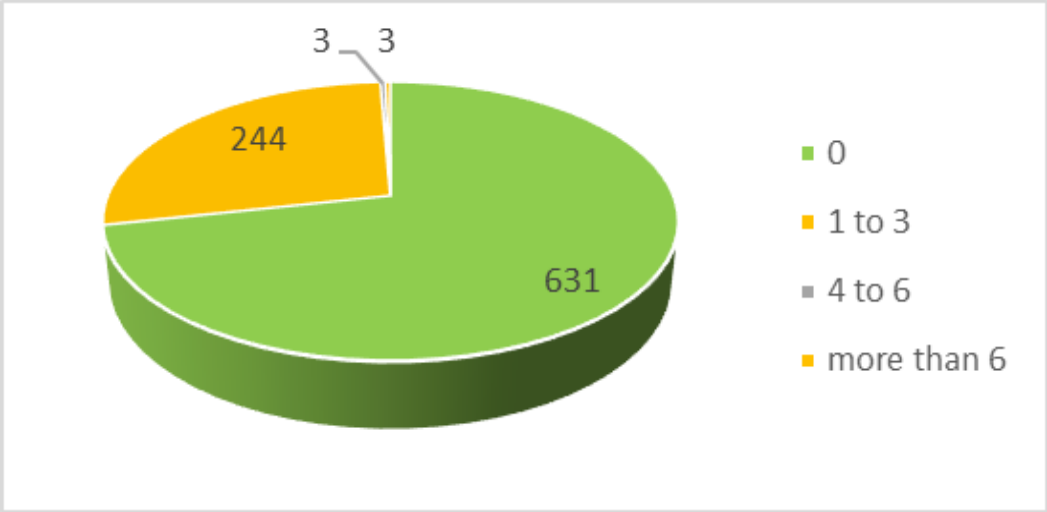

Figure 4. Number of Completed Research by the Respondents

Figure 5 displays the research presentations conducted by the respondents. Most of the respondents (n=563) did not experience research presentations. However, 71 experienced them via LAC session, 69 via conference, 58 via seminar/training, 35 via faculty meeting, and 320 via forum. On the other hand, 65 of them experienced the said activities during their graduate studies. This implies that teachers need to practice proper research dissemination.

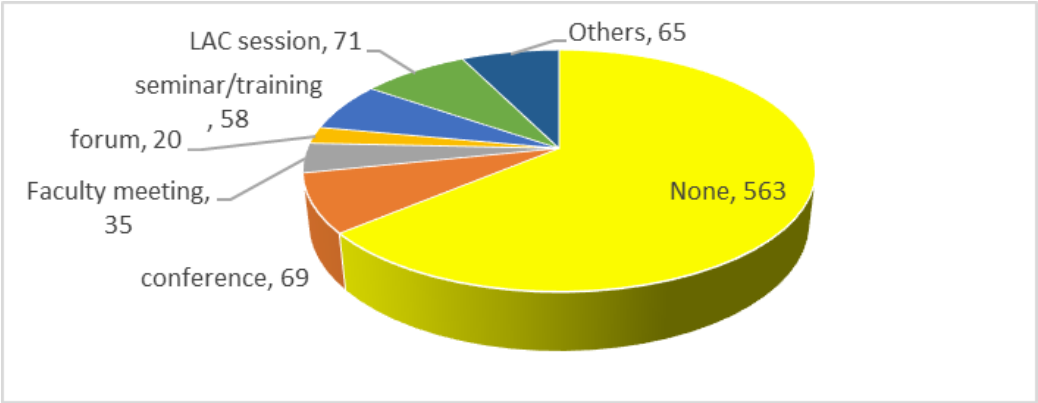

Figure 5. Research Presentation Conducted by the Respondents

Figure 6 presents the research publications of the respondents. Eighty percent (n=705) of the respondents have no research publications, while 20% have. One hundred seventy-six have research publications, mostly in printed local journals, while only twenty-four have international online research publications. This implies that research publication was not a part of the basic education culture in a public school.

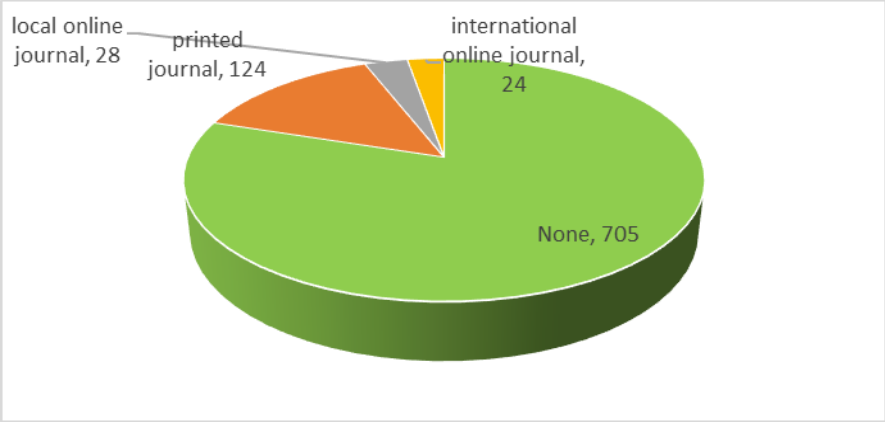

Figure 6. Research Publication Conducted by the Respondents

Figure 7 presents the type of research authorship of the respondents. Out of 881, 668 did not have authorship, while 193 have. Of these, 97 have sole authorship, 71 are co-authors, and 25 have sole and co-authorship. This means that only 225 of the respondents were engaged in research work.

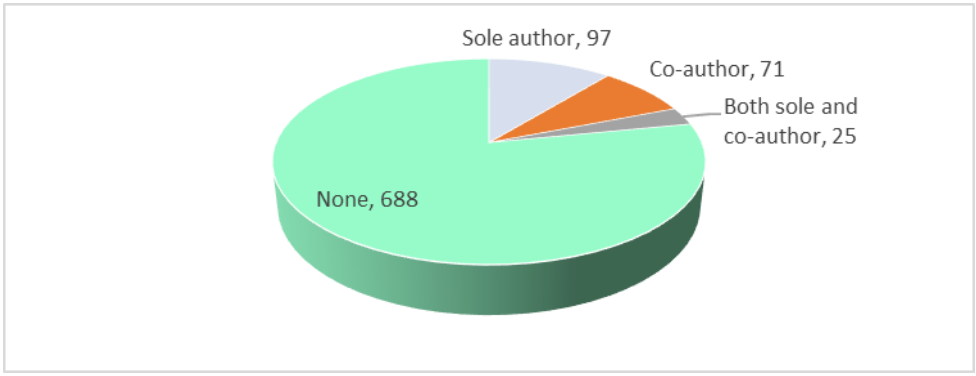

Figure 7. Types of Research Authorship Conducted by the Respondents

Table 2 depicts the number of hours of research training/seminar attended by the respondents. In school-based seminars, the teachers had an average of 6.28 hours; in the division seminar, there was an average of 2.65 hours of training. However, only some teachers received regional, national, and international research seminars/training. So, the respondents need research training to improve their research skills. Research training can help develop teachers' research competency even online (Kintu et al., 2017). The more seminar or training attended by the teachers, the higher the research competency will be (Moron, 2018).

Table 2. Number of Hours of Research Training/Seminar Attended by the Respondents

Seminar/Training	Minimum hour	Maximum hour	Mean	Standard Deviation
School-Based Seminar	0	361	6.28	20.6
Division Level	0	360	2.65	16.1
Regional Level	0	120	.34	4.47
National Level	0	100	.63	5.52
International Level	0	48	.32	2.84

Table 3 displays the conceptual competencies of teachers in conducting research. It shows that teachers were moderately competent when transforming school problems into research problems, conducting a literature review, constructing titles, objectives, and research questions, establishing hypotheses, and determining the research design, sampling techniques, and sample size. However, they needed to be more competent in formulating conceptual frameworks with supporting theories, constructing research instruments, selecting statistical treatments, and presenting and analyzing data. Overall, they were moderately competent conceptually.

Table 3. Conceptual Competencies of Teachers in Conducting Research

Statement	Median	IQR	Interpretation
1. Transform a school/classroom problem into a good research problem.	3	2	Moderately Competent
2. Review literature from quality sources.	3	2	Moderately Competent
3. Construct a good research title.	3	2	Moderately Competent
4. State the research objectives and questions.	3	2	Moderately Competent
5. Formulate a conceptual framework based on the research objectives and supporting theories.	2	2	Least Competent
6. Establish the research hypothesis or assumption and the significance of the study.	3	2	Moderately Competent
7. Determine the research design, sampling methods, and sample size.	3	2	Moderately Competent
8. Establish the research instrument to be used for data gathering.	2	2	Least Competent
9. Select the appropriate statistical treatment/data analysis tools to be applied.	2	2	Least Competent
10. Present and analyze data properly.	2	2	Least Competent
Overall median	3	2	Moderately Competent

Table 4 displays the teachers' methodological competencies in conducting research. Teachers were moderately competent in finding related literature from the Internet, pilot-testing the intervention, communicating well with the people involved, securing permission, following ethical standards, and collecting data using research instruments. However, they needed to be more competent in instrument construction and validation and utilizing multiple data collection methods. Overall, they were moderately competent in research methods.

Table 5 depicts teachers' data analysis and interpretation competencies in conducting research. It reveals that teachers have the least competencies in choosing appropriate statistical tools for data analysis, utilizing computer software, presenting data variedly, and using theories as lenses for data interpretation. Poor statistical understanding contributes to poor teachers' confidence in conducting research (Alfalla & Fabelico, 2020). However, they were moderately competent in interpreting computer-generated data, interpreting data based on research questions, comparing and contrasting research findings, drawing implications and conclusions, and giving valid recommendations. Overall, they were moderately competent in analyzing and interpreting data.

Table 4. Methodological Competencies of Teachers in Conducting Research

Statement	Median	IQR	Interpretation
1. Find related literature using web sources.	3	2	Moderately Competent
2. Pilot-test the innovation, intervention, or strategy before implementing it.	3	2	Moderately Competent
3. Implement innovation, intervention, or strategy based on the action plan.	3	2	Moderately Competent
4. Communicate well with the research-involved people properly.	3	2	Moderately Competent
5. Secure permission from the authorities, participants, and parents.	3	2	Moderately Competent
6. Construct valid and reliable research instruments.	2	2	Least Competent
7. Validate the research instrument to be used.	2	2	Least Competent
8. Follow ethical standards in conducting research.	3	2	Moderately Competent
9. Use multiple data collection methods.	2	2	Least Competent
10. Administer and retrieve data collection instruments ethically.	3	2	Moderately Competent
Overall median	3	2	Moderately Competent

Table 5. Data Analysis and Interpretation Competencies of Teachers in Conducting Research

Statement	Median	IQR	Interpretation
1. Choose an appropriate statistical tool or qualitative data analysis method.	2	2	Least Competent
2. Utilize computer software for data analysis.	2	2	Least Competent
3. Interpret data produced by computer software.	3	2	Moderately Competent
4. Present factual data gathered in narrative, tabular, or graphical forms.	2	2	Least Competent
5. Interpret and analyze the data to answer the question posed in the study supported by the literature.	3	2	Moderately Competent
6. Compare and contrast the research findings with previous studies.	3	2	Moderately Competent
7. Use a theoretical framework in interpreting the data.	2	2	Least Competent
8. Draw implications as well as possible practical applications of the study.	3	2	Moderately Competent
9. Arrive at valid conclusions based on the data presented.	3	2	Moderately Competent
10. Give recommendations in light of the conclusions previously presented.	3	2	Moderately Competent
Overall median	3	2	Moderately Competent

Table 6 shows the technical competencies of teachers in conducting research. Teachers were less competent in writing the various parts of the research proposal and terminal report as opposed to the findings of Agatep and Villalobos (2020), Atutubo and Estonanto (2020), Cagaanan and Gosadan (2018), Caingcoy (2020), Tamban and Maningas (2020). This implies that they needed technical assistance to focus on writing a research paper even though they were moderately competent in academic writing. However, they were moderately competent in following the prescribed DepEd format, citing literature using APA style, and paraphrasing or summarizing borrowed text. Public school teachers were least competent in conducting and writing research properly. So, they need training, seminars, and provision of technical assistance because improving their research competencies provides more research outputs (Caingcoy, 2020).

Table 6. Technical Competencies of Teachers in Conducting Research

Statement	Median	IQR	Interpretation
1. Demonstrate expertise in academic writing using formal language.	3	2	Moderately Competent
2. Possess familiarity with the standard format of the research paper prescribed by DepEd.	3	2	Moderately Competent
3. Paraphrase or summarize borrowed text from reputable sources.	3	2	Moderately Competent
4. Cite literature properly using APA citation style.	3	2	Moderately Competent
5. Write the reference list properly following the APA 7th edition reference style.	2	2	Least Competent
6. Write the introduction and methodology of a research paper rigorously.	2	2	Least Competent
7. Write the results and discussion part coherently.	2	2	Least Competent
8. Write a conclusion and recommendations based on the research findings.	2	2	Least Competent
9. Write the abstract and keywords correctly.	2	2	Least Competent
10. Write the research terminal report completely.	2	2	Least Competent
Overall median	2	2	Least Competent

Table 7 shows the dissemination and utilization competencies of teachers in conducting research. Teachers needed to gain more competencies in publishing publishable research articles in international peer-reviewed journals. These were due to unfamiliarity with the IMRD format and needing to use plagiarism software parallel to the findings of Garay-Argandona et al. (2021) and Torres et al. (2021). Also, they needed to be more competent in utilizing research findings to formulate school policies, programs, or projects and promote a culture of continuous improvement. However, they needed to be more moderately competent in presenting research outputs in various venues, producing instructional materials, improving learning outcomes, and solving school or classroom problems. Overall, they were moderately competent to disseminate and utilize the research findings.

Table 8 displays the extrinsic motivation of teachers to conduct research. Teachers conducted research because

they wanted to be promoted to increase their salaries someday. So, promotion and higher salaries were the best extrinsic motivation for the teachers. Also, they did research for awards and recognition to receive respect and admiration from others, received incentives, attended conferences, and improved social status. So, extrinsic motivation plays a vital role in teachers' motivation to conduct research. The teacher benefits and incentives influenced teachers' research productivity, which supports the findings of Meneses and Moreno (2019).

Table 7. Dissemination and Utilization Competencies of Teachers in Conducting Research

Statement	Median	IQR	Interpretation
1. Write a research paper in a publishable format.	2	2	Least Competent
2. Present research output and findings in conferences, forums, meetings, seminars, or training.	3	2	Moderately Competent
3. Publish a research paper in an international peer-reviewed journal.	2	2	Least Competent
4. Produce research materials for instruction or training like worksheets, brochures, devices, applications, etc.	3	2	Moderately Competent
5. Use research findings to improve learning outcomes and teaching practices.	3	2	Moderately Competent
6. Use research findings to formulate policies, programs, or projects.	2	2	Least Competent
7. Use research outputs to improve faculty or staff development.	3	2	Moderately Competent
8. Use research findings to solve school or classroom problems.	3	2	Moderately Competent
9. Utilize research findings to improve the curriculum content, pedagogy, and assessment.	3	2	Moderately Competent
10. Utilize research findings to promote a culture of continuous improvement.	2	2	Least Competent
Overall median	3	2	Moderately Competent

Table 8. Extrinsic Motivations of Teachers to Conduct Research

I am conducting research …	Median	IQR	Interpretation
1. for performance requirements.	4	2	Motivated
2. to be promoted someday.	5	2	Very Motivated
3. for monetary incentives.	4	2	Motivated
4. to increase my salary.	5	2	Very Motivated
5. for awards and recognition.	4	2	Motivated
6. to receive respect and admiration.	4	2	Motivated
7. for peer recognition.	4	2	Motivated
8. to improve my social status.	4	2	Motivated
9. because of the flexible time given to a researcher.	4	2	Motivated
10. to attend local, national, or international conferences or fora.	4	2	Motivated
Overall median	4	2	Motivated

Table 9 presents teachers' intrinsic motivations to conduct research. The table reveals that teachers conducted research to improve their knowledge and skills in solving school problems by helping students and co-teachers. So, self-improvement and helping others were the tremendous intrinsic motivations of the teachers. Also, they felt motivated to conduct research because of their sense of responsibility to contribute to the body of knowledge and seek social respect. Hence, they valued research work and were interested in knowing more about it.

Table 9. Intrinsic Motivations of Teachers to Conduct Research

I am conducting research …	Median	IQR	Interpretation
1. because I am very much interested.	4	2	Motivated
2. because I enjoy it.	4	2	Motivated
3. for scholarly pursuits.	4	2	Motivated
4. to improve my knowledge and skills.	5	2	Very Motivated
5. because of the sense of achievement from publication and presentation.	4	2	Motivated
6. because I seek a sense of social respect.	4	2	Motivated
7. to contribute to society's new body of knowledge.	4	2	Motivated
8. because of my sense of responsibility as a teacher.	4	2	Motivated
9. because I value the complexity of research work.	4	2	Motivated
10. to help my students or colleagues to solve problems.	5	2	Very Motivated
Overall median	4	2	Motivated

Figure 8 depicts the challenges experienced by the teachers in conducting research.

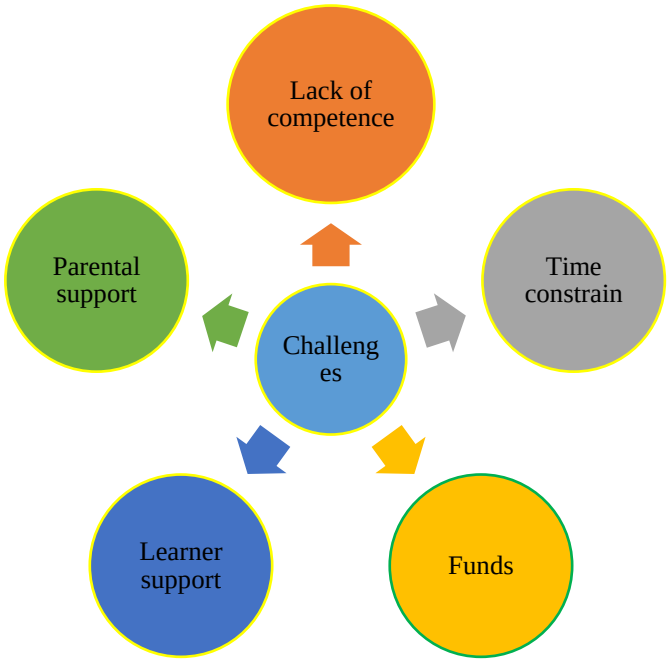

Figure 8. Challenges Experienced by the Teachers in Doing Research

The main challenge was needing more competence in starting the research project from ideation to reporting. Teachers need to become competent in conceptualizing a topic, writing a proposal, implementing innovation or

intervention, analyzing data, utilizing computer applications, dissemination of findings, and utilization. Also, they needed more time to conduct research since they had many clerical works to finish and projects to implement. Hence, they need funds to finance their research work for materials provision, transportation, subscription to online sources, and internet connection. However, teachers also needed more parental and learner support during the implementation of innovation or intervention in their action research.

The words of the participants supported the findings above.

> "First, expensive; second, the time; we do not have enough time. Then, the most important thing is that we do not have any idea on how to come up with research because we do not have training."- Teacher 8
>
> "I do not know what the research content is, I do not know how it is done, I have no idea what it is, and then, of course, I am reading books just to know."-Teacher 16
>
> "It is a challenge what we are doing here; the learners are already involved, but the support of the learners is minimal."-Teacher 18

Figure 9 displays the teachers' suggestions for the research manual. The teachers suggested including the whole research process in the content, including the step-by-step procedure for conducting research for basic and action research. Also, the research agenda served as a priority topic when crafting a research proposal. Moreover, they wanted guidelines for writing a research proposal and completing research that was aligned with the standards prescribed by the DepEd. Similarly, they wanted a research template with complete parts and explanations to guide writing and sample research works from other teachers from different schools. Overall, the research manual must have a package of all the information needed to produce quality research work following the DepEd standards and processes.

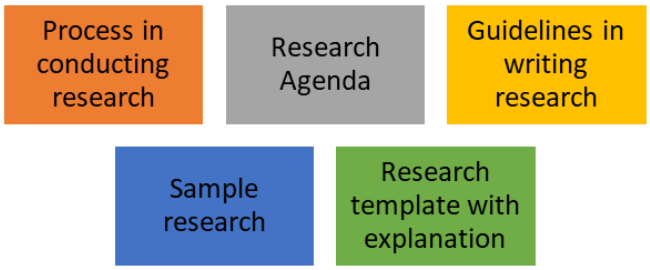

Figure 9. Suggestions for Research Manual

Excerpts from the interview supported the findings above.

> "In the manual, we have to input all the necessary information such as the requirements, how to do the proposal procedures, how to propose research, how to conduct the research, how to gather data, how to interpret data, and how to participate in different kinds of research festivals." – Teacher 9
>
> "We start with the research process. Then, what are our targets? What is our research agenda so that our research team can focus on that."- Teacher 24

Discussion

This study aimed to investigate the teachers' research characteristics, competencies, motivation, and challenges for conducting research among public school teachers, which serves as a basis for crafting the research manual. Most teachers have research interests in teaching and learning themes for action research. However, teachers need to be more competent in conducting research, which causes low research production, as seen in a low number of completed, presented, and published research papers. Also, a few seminars/trainings are held at regional and international levels. However, they used to attend seminars/training mostly in school or the division office.

Teacher's research competencies are moderate in conceptual, methodological, data presentation and interpretation, and dissemination and utilization. However, in a technical aspect, they are least competent, similar to the findings of Abarro and Mariño (2016) and Macabago (2017) but opposite to the findings of Caingcoy (2020), Agatep and Villalobos (2020), and Atutubo and Estonanto (2020). This means that the research writing aspect is the most important to develop among teachers for them to conduct research through training (Kintu et al., 2017). Technical competency is needed to conduct research and document the process correctly (Jamieson & Saunders, 2020). So, they need constant training in academic writing with mentoring and coaching sessions following APA style. The more training means, the higher the research competency (Li et al., 2019). Also, they need a strong background in data analysis and interpretation utilizing the software available.

Public school teachers should improve their research skills to conduct research independently (Caingcoy, 2020) by attending seminars and training, receiving technical assistance regularly, providing time to conduct research, receiving leadership support, and giving funds. Teachers need more training in writing different parts of research reports using statistical tools to develop technical aspects that support De la Cruz's (2016) findings. Lack of statistical tool understanding threatened the teachers to conduct research (Alfalla & Fabelico, 2020). Moreover, teachers' exceptional writing skills are required to produce comprehensive research (Tamban & Maningas, 2020), which can be acquired. So, teachers' research competencies must be developed and nurtured to inspire them to pursue independent studies until they build a good research culture.

Aside from a lack of competence, teachers also experience limited time due to workload, supporting Gennis et al.'s (2020) findings. Also, inadequate financial support contributes to teachers' challenges, supporting Ulla et al.'s (2017) findings. However, they are motivated to conduct research to be promoted someday to earn higher salaries, supporting Ulla et al.'s (2017) findings but opposing Narbarte and Balila 's (2018) findings. In addition, they are intrinsically motivated to solve school problems and help students through research. So, the teacher's motivation influences the teacher's research productivity (Meneses & Moreno, 2019).

For the research manual, teachers suggested including the whole research process, research agenda, guidelines in writing, research template, and sample completed research. The manual must be written in a user-friendly manner that is suitable for beginning researchers. Also, the manual served as a reference for conducting research (Universidad De Manila, 2022) and writing good research reports—the manual guides teachers in writing research aligned with the prescribed format of DepEd.

In the lens of self-efficacy theory, if the teachers have high research self-efficacy, they tend to have high research competencies and motivation. They can conduct independent studies capable of making sound contributions to uplifting the quality of education through research. Assessing teachers' research self-efficacy means understanding their areas for improvement, which serves as a means of helping the teachers (Basilio & Bueno, 2019). So, a timely assessment must be done to check if the teachers are competent enough to conduct the research. The higher the self-efficacy toward research is, the more confident the teachers are in finishing any research activity (Pamatmat, 2016). So, teachers must have confidence in conducting research that manifests as their research competence.

The study signifies the importance of assessing teachers' research characteristics, competence, motivation, and challenges using respondents from different schools. Also, considering the teachers' research experiences reveals the challenges and reasons for not completing the research activity. The collected data provided the basic information needed to make the research manual as a guide for the researchers.

Conclusions and Recommendations

Regarding research characteristics, teachers were very interested in teaching and learning themes, but only some had conducted action or basic research. Unfortunately, few teachers could complete the research by the end of the school year for various reasons. Consequently, only some could present research papers at conferences and fora, or published even in reputable journals. On the other hand, teachers received school-based training on conducting research, but not all of them, and there were few division-based trainings. So, the SDO San Pedro may conduct division-wide training and conferences annually to capacitate the teachers and motivate them to build a research culture.

Teachers were moderately competent in research concepts, methods, data analysis and interpretation, and dissemination and utilization. However, they were slightly competent in technical aspects. Regarding motivation, promotion someday and a high salary were the best extrinsic motivations, while improving knowledge and skills and helping solve school problems were the two best intrinsic motivations. Teachers may pursue conducting research as a means of promotion to gain a better salary someday. So, the SDO San Pedro City needs to integrate these competencies in teachers' capability training to make the teachers competent in conducting research.

Teachers experienced challenges in conducting research, such as low level of research competency, limited time, using personal funds, and low parent and student support. These contribute to low research production in basic education. So, DepEd officials must find ways to address the teachers' challenges, leading to high research productivity. They need to develop teacher's research competency, motivate teachers, and provide technical assistance regularly. On the other hand, the research manual must include the research agenda, processes, guidelines, templates, and sample research. In addition, the manual guides teachers in conducting research work and writing a research report.

Public school teachers must constantly attend research seminars/training to keep updated with the latest research

trends and upgrade their research competencies. They must also finish graduate studies to educate themselves and earn higher degrees. In addition, they need to present research papers at an international conference to have a research network and publish them in an international peer-reviewed journal to disseminate research findings worldwide.

The study was limited to DepEd public schools in one city. Future studies should be conducted more comprehensively, considering private school teachers. Future researchers may conduct in-depth investigations of teachers' completed research to assess their writing competency. On the other hand, the research manual may be done in the future based on the teacher's suggestions provided in the study to disseminate research information and outputs appropriately. The research manual must be user-friendly, accessible, and appropriate to teachers' research learning needs.

Acknowledgments

The researcher wholeheartedly expresses his gratitude first to Almighty God and Lord Jesus who are the source of wisdom, knowledge, and opportunities to overcome life challenges. Thank you for everything and fulfilling life.

To the Schools Division Superintendent, Rogelio F. Opulencia, thank you very much for allowing the researcher to conduct a study in San Pedro City. Your support to the researcher motivates him to face obstacles in data collection.

To all school heads in SDO San Pedro City, thank you for allowing me to gather data within your respective schools. Your assistance to the researcher inspires him to continue the research process despite the financial constrain.

To the validators, Marites M. Urcia, Rosalie M. Mabale Ph D, Victorina D. Palanas, Maria Belynda Lagayan-Lallabban, and Lorina R. Amago, thank you for extending your technical assistance to the researcher. Your suggestions make the research instruments suited to the needs of the concerned teachers.

To all teacher respondents and master teacher participants, gratitude to all of you. You are the main reason why this study was conducted. Your desire to learn more about research and uplift the quality of basic education services ignite the passion of the researcher to finish this study.

References

Abarro, J. O., & Mariño, W. P. (2016). Research capabilities of public secondary and elementary school teachers in the Division of Antipolo City. *International Journal of Scientific and Research Publications, 6*(6), 407-410. https://bit.ly/3bF9DNJ

Agatep, J. L., & Villalobos, R. (2020). Research capabilities among selected graduate school students in

Philippines. Science Insights Education Frontiers, 6(2):691-705. https://doi.org/ 10.15354/sief.20.or037

Alfalla, B., & Fabelico, F. (2020). Pre-service teachers' pedagogical competence and teaching efficiency. *Journal of Critical Reviews,* 7(11). http://dx.doi.org/10.31838/jcr.07.11.36

Allinder, R. M. (2015). An examination of the relationship between teacher efficacy and curriculum-based measurement and student achievement. *Remedial and Special Education, 16*(4), 247–254. https://doi.org/10.1177/07419325950160040

Amirova, A., Iskakovna, J. M., Zakaryanovna, T. G., Nurmakhanovna, Z. T., & Elmira, U. (2020). Creative and research competence as a factor of professional training of future teachers: Perspective of learning technology. *World Journal on Educational Technology: Current Issues, 12*(4), 278–289. https://doi.org/10.18844/wjet.v12i4.5181

Atutubo, V., & Estonanto, A. J. (2020). Research competency of senior high school teachers in Sorsogon City. *Asia Pacific Journal of Multidisciplinary Research, 8(*4), 136-142. http://www.apjmr.com/wp-content/uploads/2020/12/APJMR-2020.08.04.15.pdf

Aziz, N. A., Seman, S. A., Hashim, M. J., Roslin, R. M., & Ishar, N. I. (2019). Millennial learners' acceptance and satisfaction of blended learning environment. *Asian Journal of University Education, 15*(3), 129-141. https://doi.org/10.24191/ajue.v15i3.7845

Basilio, M., & Bueno, D. (2019). Research skills and attitudes of master teachers in a division towards capability training. *19th CEBU – Philippines Int'l Conference on Economics, Education, Humanities & Social Sciences*. https://doi.org/10.17758/ERPUB3.UH0119421

Caingcoy, M. (2020). Research capability of teachers: Its correlates, determinants and implications for continuing professional development. *Journal of World Englishes and Educational Practices, 2*(5), 1-11. https://doi.org/10.32996/jweep.2020.2.5.1

Cagaanan, J. C. A., & Gosadan, B. D. (2018). Research competency among elementary school teachers: An evaluative assessment for School-Based Action Research (SBAR). *JPAIR Institutional Research Journal, 11*(1), https://bit.ly/2V5soDo

Candela, A. G. (2019). Exploring the function of member checking. *The Qualitative Report, 24*(3), 619-628. https://nsuworks.nova.edu/tqr/vol24/iss3/14

Çelebi, M. (2021). Investigation of the attitudes and competencies of teachers in project schools towards scientific research in a developing country. *Journal of Teacher Education and Educators, 10*(1), 99–125. https://files.eric.ed.gov/fulltext/EJ1310240.pdf

Creswell, J.W., & Plano-Clark, V.L. (2017). *Designing and conducting mixed methods research (3rd ed.),* Sage Publications, Inc, Thousand Oaks, CA.

De la Cruz, J. L. (2016). The research capability of Ilocos Sur Polytechnic State College: A basis for a capability enhancement program. *International Journal of Management and Social Sciences Research, 5*(7), 39-45. https://bit.ly/2yAEnkU

Department of Education (2023). MATATAG: DepEd's new agenda to resolve basic education woes. https://www.deped.gov.ph/2023/01/30/matatag-depeds-new-agenda-to-resolve-basic-education-woes/

DepEd Order No. 16, s. 2017. *Research management guidelines*. https://www.deped.gov.ph/wp-content/uploads/2017/03/DO_s2017_016.pdf

DepEd Order No. 43, s. 2015. *Revised guidelines for the Basic Education Research Fund (BERF).* https://www.deped.gov.ph/2015/09/16/do-43-s-2015-revised-guidelines-for-the-basic-education-research-fund-berf/

DepEd Order No. 24, s. 2010. *Basic education research fund.* https://www.deped.gov.ph/2010/03/08/do-24-s-2010-basic-education-research-fund/

Drolet, MJ., Rose-Derouin, E., Leblanc, JC. Ruest, M., & Williams-Jones, B. (2023). Ethical issues in research: Perceptions of researchers, research ethics board members and research ethics experts. *Journal of Academic Ethics*, 21, 269–292. https://doi.org/10.1007/s10805-022-09455-3

Durmuşçelebi, M. (2018). Examination of students' academic motivation, research concerns and research competency levels during the education period. *Universal Journal of Educational Research, 6*(10), 2115-2124. https://doi.org/ 10.13189/ujer.2018.061008

Evardo, O., & Abina, I. L (2023). Research competence of out-of-field teachers in teaching practical research: Input to capability building series. *International Journal for Multidisciplinary Research, 5*(2), 1-15. https://doi.org/ 10.36948/ijfmr.2023.v05i02.1808

Garay-Argandona, R., Rodriguez-Vargas, M.C., & Hernandez, R.M., Carranza-Esteban, R., Turpo, J.E. (2021). Research competencies in university students in virtual learning environments. *Cypriot Journal of Educational Science, 16*(4), 1721-1736. https://doi.org/10.18844/cjes.v16i4.6031

Ghavifekr, S., & Rosdy, W. A. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science 1*(2):175–91. https://doi.org/10.21890/ijres.23596.

Geng, S., Law, K.M.Y., & Niu, B. (2019). Investigating self-directed learning and technology readiness in blending learning environment. International *Journal of Educational Technology in Higher Education, 16*(17) https://doi.org/10.1186/s41239-019-0147-0

Gennis, H., DiLorenzo, M., Riddell, R. P., & Rebecca Spiegel, R., Connolly, J., & Martin, J. (2020). Does exposure to university researchers improve undergraduate perceptions of research?: A quasi cluster-randomized controlled trial. *Innovations in Education and Teaching International, 57*(6), 655-667, https://doi.org/10.1080/14703297.2019.1654401

Hamnett, H., & Korb, A. S. (2017). The coffee project revisited: Teaching research skills to Forensic chemists. *Journal of Chemical Education, 94*(4): 445-450. https://doi.org/10.1021/acs.jchemed.6b00600

Ismail, F. K., & Zubairi, A. M. (2022). Item objective congruence analysis for multidimensional items content validation of a reading test in Sri Lankan University. *English Language Teaching, 15(*1), 106-117. https://doi.org/10.5539/elt.v15n1p106

Jamieson, L., & Saunders, M. (2020). Contextual framework for developing research competence: Piloting a validated classroom model. *Journal of the Scholarship of Teaching and Learning, 20*(3), 1-19. https://doi.org/10.14434/josotl.v20i3.24487

Jewell, D. O., Jewell, S. F., & Kaufman, B. E. (2022). Designing and implementing high-performance work systems: Insights from consulting practice for academic researchers. *Human Resource Management Review, 32*(1), 100749.https://doi.org/10.1016/j.hrmr.2020.100749

Kintu, M.J., Zhu, C., & Kagambe, E. (2017). Blended learning effectiveness: The relationship between student characteristics, design features and outcomes. *International Journal of Educational Technology in*

Higher Education 14(7) https://doi.org/10.1186/s41239-017-0043-4

Li, X. D., Chen, H. J., Wang, L., Kong, X. Y., & Ying, J. (2019). Scientific research capability and continuing education needs for nurses with Master's degree in China. *The Journal of Continuing Education in Nursing, 50*(2), 61-68. https://doi.org/10.3928/00220124-20190115-05

Macabago, S. M. (2017). Teachers' motivation, attitude, perceived capability, and difficulty to conduct action research: A basis for intervention plan for public elementary school teachers (unpublished thesis). *Malaybalay City, Bukidnon: Bukidnon State University.*

Meneses, J., & Moreno, N. (2019). Factors influencing research productivity of Rizal Technological University: Input to research capability development program. *International Journal of Education and Research, 7*(3), 85-110.

Morron, A. (2018). Implementation of BERA of DepEd: Basis for a research capability building plan. (Unpublished dissertation). *Eulogio "Amang" Rodriguez Institute of Science and Technology, Manila.*

Narbarte, M. P., & Balila, J. S. (2018). Research involvement, motivation, and university initiatives as agents for enhancing research culture and quality. *Catalyst, 17*, 68-78. https://bit.ly/2x7sRx8

Pamatmat, F. (2016) Research attitudes of teaching personnel in one Philippine state university: Basis for development & sustainability towards excellence. *Journal of Language and Literature, 3*(3), 12-17

Prosekov, A., Morozova, I., & Filatova, E. (2020). A case study of developing research competency in university students. *European Journal of Contemporary Education, 9*(3), 592-602. https://doi.org/10.13187/ejced.2020.3.592

Republic Act 9155 (2001). *An act instituting a framework of governance for basic education, establishing authority and accountability, renaming the Department of Education, Culture, and Sports as the Department of Education, and for other purposes.* https://www.officialgazette.gov.ph/2001/08/11/republic-act-no-9155/

Republic Act 10533. (2013). An act enhancing the Philippine basic education system by strengthening its curriculum and increasing the number of years for basic education, appropriating funds therefor and for other purposes. https://www.officialgazette.gov.ph/2013/05/15/republic-act-no-10533/

Sundler, A., Lindberg, E., Nilsson, C., & Palmér, L. (2019). Qualitative thematic analysis based on descriptive phenomenology. *Nuring Open, 6*(3), 733-739. https://doi.org/10.1002/nop2.275

Syahrial, S., Kuniawan, D. A., Asrial, A., Sabil, Husni., Maryani, S., & Rini, E. F. S. (2022). Professional teachers: Study of ICT capabilities and research competencies in urban and rural? *Cypriot Journal of Educational Science. 17*(7), 2247-2261. https://doi.org/10.18844/cjes.v17i7.7590

Tamayo, P. A. (2021). *Research catalyzing framework for developing the research culture of STEAM faculty in Philippine SUCs.* (Unpublished dissertation). *Philippine Normal University, Manila.*

Tamban, V., & Maningas, O. (2020). Research capability of public school teachers: A basis for research capability enhancement program. *PEOPLE: International Journal of Social Sciences, 6*(1), 222-235. https://doi.org/10.20319/pijss.2020.61.222235

Tindowen, D. J., Guzman, J., & Macanang, D. (2019). Teachers' conception and difficulties in doing action research. *Universal Journal of Educational Research, 7*(8), 1787-1794. https://doi.org/10.13189/ujer.2019.070817

Toquero, C. M. D. (2021). Real-world: Preservice teachers' research competence and research difficulties in

action research. *Journal of Applied Research in Higher Education, 13*(1), 126–148. https://doi.org/10.1108/jarhe-03-2019-0060

Torres M. C., Acal, C., El Homrani, M., & Mingorance Estrada, Á. (2021). Impact on the virtual learning environment due to COVID-19. *Sustainability, 13*(2), 582. https://doi.org/10.3390/su13020582

Ulla, M. B., Barrera, K. B., & Acompanado, M. M. (2017). Philippine classroom teachers as researchers: Teachers' perceptions, motivations, and challenges. *Australian Journal of Teacher Education, 42*(11). http://ro.ecu.edu.au/ajte/vol42/iss11/4

Universidad De Manila (2022). University *Research Manual.* https://udm.edu.ph/udm2/university-research-manual/

Vasquez, K. M., Torres Rivera, J. L., Mayuri-Ramos, E. Ruth Huamani-Torres, R., & Rivera-Zamudio, J. (2022). Research Hotbeds: A Practice for Scientific Development in Universities. *NeuroQuantology 20*(5), 568-574. https://doi.org/10.14704/nq.2022.20.5.nq22210

Vasquez, R., Zales, J., & Atmosfera, R. (2022). Needs analysis on the research capabilities of the diocesan secondary school teachers of Abra: Basis for a capability enhancement program. *South Florida Journal of Development, 3*(4), 4384-4396. https://doi.org/10.46932/sfjdv3n4-018

Wong, A. (2020). Driving forces of master teachers' research capability: Towards building a research culture in the Division of Romblon, Philippines. *International Journal of Advanced Research and Publications, 3*(7), 92-97. https://www.researchgate.net/publication/340886920

Author Information

Alvin O. Insorio

https://orcid.org/ 0000-0002-4746-6225

San Pedro College of Business Administration

San Pedro Relocation Center National High School

San Pedro City, Laguna

Philippines

Contact e-mail: *alvininsorio0413@gmail.com*

Appendix.

Letter of Permission

February 1, 2024

ROGELIO F. OPULENCIA
OIC-Schools Division Superintendent
SDO San Pedro City
City of San Pedro, Laguna

Sir:
Greetings!
The undersigned is working on the division-wide basic research under the Educational Research and Development Fund entitled "Teachers' Research Characteristics, Competencies, Motivation, and Challenges: Basis for Research Manual. Concerning this, I would like to ask permission to allow me to collect data by administering the survey questionnaire to the teachers of the twenty-eight schools under SDO San Pedro City and conducting interviews with the master teachers. The study aims to investigate the teachers' characteristics, competencies, motivation, and challenges for conducting research among public school teachers, which serves as a basis for crafting the manual. Rest assured that the information they will share will be treated with utmost confidentiality and will be used only in this research.

Attached herewith is the research proposal and instruments to be used for your reference.

Hoping for your positive response to my request.

Truly yours,

ALVIN O. INSORIO
Researcher
SPCDRA - President
Contact Number: 09282643124
Email: alvin.insorio001@deped.gov.ph

Noted:
ENRIQUE R. MALIMATA
Principal IV

LORINA R. AMAGO
PSDS – Cluster 3

Timetable/Gantt Chart

ACTIVITIES	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb -Mar 2024	Apr 2024	May 2024	June-July 2024	Aug 2024
Pre-Implementation 1. Printing and reading of literature and division research report.									
2. Writing the proposal to be signed by the authority									
3. Securing permission from the Superintendent and school heads									
4. Expert Validation and pilot testing of research instruments									
Implementation 5. Data collection for Phase 1 (Printing, photocopying, administering, and retrieval of survey questionnaire)									
6. Analysis and interpretation of data from Phase 1 including the crafting of content for the division virtual research hub and manual									
7. Data collection for Phase 2 (Interview and member checking with the master teachers)									
8. Analysis and interpretation of data from Phase 2 including the crafting of the division virtual research hub and manual									
Post-Implementation									
9. Writing the research report and research manual for the final copy									
10. Editing and revising of research report, research virtual hub, and manual									
11. Printing, hard bounding, and submission of research report and research manual to the division research committee									
12. Present research findings via school LAC session and faculty meeting.									