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Teachers' Research Competence and Engagement: Basis for Research Development Plan

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ABSTRACT

Teachers' research and competence posited complementary synergy theorizing that teachers with higher research competence are engaged in research pursuits relevant to professional growth within the context of education. This research addressed six key objectives by profiling respondents, assessing teachers' competence on framing questions and data collection, identifying literature and theoretical knowledge, and analyzing and presenting research data, and research engagement levels on motivation to write research, and difficulty in conducting research, determining significant relationships between competence and engagement, exploring the correlation between engagement and respondents' profiles, and designing a research development plan. Employing an adapted survey questionnaire using a universal sampling method, 391 teachers across the two districts in the Division of El Salvador City were surveyed during the School Year 2023–2024. Statistical tools such as means, frequency, standard deviation, Pearson-r, and triangulations were applied for data analysis. Findings indicated a positive correlation between teachers' research competence and engagement. A significant relationship was identified between engagement and moderating variables like related training and position. Despite the teachers being competent and engaged, their research work was hindered by the number of coordinatorships they handled. It is important to emphasize the research competence and engagement for educational improvement as it illuminates the current state of teachers' research skills and lays the groundwork for a targeted Research Development Plan.

INTRODUCTION

Background of the Study

This study posited a connection between teachers' research competence and their research engagement within the educational context. This theory highlights that teachers with higher research competence are more likely to engage in research pursuits, contributing to their professional growth, the improvement of educational practices, and the overall enhancement of the teaching profession. Institutional support, relevance of research to teaching, and time constraints are identified as potential mediating factors influencing this relationship, emphasizing the importance of fostering a research-oriented culture in education to maximize its benefits.

Teachers' research competence and engagement showed an unsettling tendency in the Schools Division of El Salvador City: a low turnout in the submission of just 88 completed research projects by the teachers and instructional leaders (Serrania, 2023). In the recently concluded Divisional Research Congress 2023 held last September 8, 2023, there were only 7 researches which were presented in the said congress. This negative trend highlights the urgent need for a thorough research development plan and raises concerns about the level of research competency among teachers in the Philippine environment.

Teachers' research competence is a potent weapon in order to address critical concerns within the Philippine educational system, promote pedagogical innovation, and ultimately improve educational quality. Teachers

in the Philippines act as the forerunners of knowledge and the architects of future generations in the evolving educational landscape (Santos & Cruz, 2022). The function of teachers as researchers is becoming more and more important since they shape the minds of young people and contribute to the socioeconomic development of the nation. The Department of Education's Planning and Programming Division Planning Service (PPDPS) in their Programs and Projects Status of Implementation for Fiscal Year 2022 presented Policy and Research Program (PRP). DepEd targets 560 researches, allocating 35 researches to each of the region for fiscal year 2023.

Moreover, according to the Governance of Basic Education Act of 2001 (RA 9155), the Department of Education must implement laws and regulations that will enable the provision of basic education of the highest caliber to be continuously improved. Among DepEd's duties at all levels of government is the conduct of educational research and studies that will serve as the foundation for any necessary policy changes and reforms. Through the issuance of DepEd Order 16, s. 2017, the Department of Education continues to foster and strengthen the culture of research in basic education in support of the Department's policy formation process, research agenda, and policy and program development and implementation. Guides for managing research programs at the national, regional, divisional, and school levels were published and are named Research Management Guidelines.

Furthermore, it is essential to create a strong research

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development plan that is adapted to the Philippine setting in order to address the worrying fall in research submission rates among Filipino teachers and to enhance their research com

petency (Cagaanan & Gosadan, 2018). A variety of methods should be used in this strategy intended to give educators the knowledge, tools, and inspiration they need to carry out fruitful research projects. A well-organized research development plan can inspire teachers to recommit to research, which will help to progress education in the Philippines as a whole (DepEd, 2022).

Jung (2018) looked into the variables that affected how capable of conducting research PhD students felt. Task-oriented (such as critical thinking and problem-solving) and idea-oriented (such as innovation and creativity) research competencies were positively benefited by learning environments that focused on research. Students' confidence in their capacity to conduct research increases the more teachers are exposed to different facets of the research process, such as designing and conducting studies, conducting literature searches, and publishing manuscripts (Petko *et al.*, 2020).

A crucial component of efficient research administration is accountability. To promote accountability for research outcomes, guidelines provide explicit expectations for institutions and researchers (Mertens, 2018). Accountability guarantees that research contributes to evidence-based decision-making in the Philippines, where the DepEd plays a crucial role in developing educational policies and practices (Montemayor, 2020). By establishing standards for the design, execution, and reporting of research, research management guidelines also help to ensure quality (Natasya, 2022). The legitimacy of research done in the educational sector must be maintained through quality assurance. In the Philippines, educational innovation and advancement are mostly driven by teachers' research skills. The alarming fall in research submission rates over the last three academic years emphasizes how urgently this problem needs to be addressed.

LITERATURE REVIEW

Research Competence

In the pursuit of their educational endeavors, prospective educators are required to demonstrate proficiency in research domains, given their imminent roles as primary facilitators within the educational landscape. Magnaye (2022) presented his findings indicating that the participants perceived themselves as proficient in research competencies. Furthermore, empirical analysis substantiated that pedagogical aptitude, particularly in classroom management and assessment, significantly influenced research competence. Training initiatives to enhance teachers' research competence in Indonesia have yet to meet the envisioned standards. (Wibawa, 2020).

Furthermore, the results of the study of Toquero (2020) indicated that multicultural preservice teachers exhibited limited proficiency in research skills, but their research

competence significantly improved when they applied these skills to real-world situations. Nevertheless, they faced challenges when undertaking their action research, particularly in areas like conducting literature reviews and formulating research concepts. In another study, the findings derived from the evaluation of research competencies needed in student teachers' classrooms, as determined by the Priority Needs Index Modified (PNI modified), demonstrated that the highest-priority competencies were cognitive skills, with research practice skills and research mindset following closely in order of importance (Srikham & Seehamngkon, 2023).

Hence, the demands placed on current educators and prospective teachers are significant. They must be equipped with a comprehensive range of competencies to meet the evolving requirements of 21st-century education. This includes traditional pedagogical skills and the ability to foster students' knowledge, creativity, and problem-solving abilities. To ensure high-quality learning experiences for students, educators must possess competencies that extend beyond basic literacy and numeracy; these encompass the crucial domain known as 21st-century skills (Syahril *et al.*, 2022).

Research Engagement

Research productivity is an important criterion for the university to assess teachers. Studies about factors that affect teachers' research productivity are increasing nowadays. It is generally agreed that academics' research productivity depends on how much mentorship they provide and how the current working environment is mediated by their research motivation and self-efficacy (Li & Zhang, 2021). Significant public investments persistently flow into expansive research programs, aimed at delivering meaningful outcomes for the world's most disadvantaged and marginalized communities. In this dynamic crossroads of research and development, research endeavors are anticipated to play an instrumental role in intricate processes of societal transformation. (Apgar *et al.*, 2023).

Moreover, Tolentino (2021) posits that most of the Science teachers did not yet pursue higher professional studies. Majority did not have the opportunity to attend research trainings; regarded with low research productivity. A sustainable research development program will aid Science teachers to develop and enhance their research capability. The findings of the study of Farooqi *et al.* (2019) demonstrated the dedicated efforts of university faculty members in their pursuit of research contributions. Additionally, it has been observed that certain demographic variables, including gender, faculty affiliation, and academic designation, exert an influence on their research productivity, with male teachers, those hailing from physical sciences, and individuals holding higher designations displaying a greater research output. The results of the study of Li and Zhang (2022) showed that mentorship is not correlated with research productivity while the working environment has a positive

direct correlation with it. Both motivation and self-efficacy mediate the working environment and research productivity significantly. Specifically, only extrinsic motivation negatively influences teachers' research productivity; teachers' intrinsic motivation and self-efficacy play a positive mediation role in affecting their research productivity. The study of Batool *et al.* (2021) revealed that various facets of institutional elements, such as departmental procedures, job and compensation structures, as well as available resources and support materials, exhibit a modest yet favorable correlation with the research productivity of teaching staff.

The findings Cardona (2020) have policy implications in terms on how to encourage mathematics teachers to participate in research-related activities that will contribute to a research-informed teaching and learning. Developing interventions to improve involvement, extrinsic motivation, mentoring, networking, resources, and leadership domains is highly recommended. The study of Javaid (2020) indicated that university teachers were found to be lacking in publications. Consequently, recommendations were put forward to help university teachers enhance their research mindset at the university level.

Framing Questions and Data Collection

The findings of the study of Wu *et al.* (2020) indicated that in the context of STEM-related conversational questions, the response networks tended to be more extensive and exhibited greater centrality. In contrast, when it came to informational questions, the response networks displayed tighter connections among postings. Nevertheless, no notable distinctions were observed within the non-STEM community.

The findings of the study of Wu *et al.* (2023) indicate that gain-oriented goal-frames tend to elicit engagement with questions, whereas hedonic and normative goal-frames tend to foster interactions among responses. Ganesh and Aithal (2022) provided that Ph.D. scholars possess a comprehensive understanding of the various time frames for research data collection and exercise thoughtful judgment in selecting appropriate data collection intervals throughout different stages of their research endeavors to address their research inquiries, they will be empowered to independently make informed decisions regarding subsequent aspects of doctoral-level research.

The research of Alam (2022) asserts that qualitative researchers can construct their research inquiries using the "what" question format. Furthermore, qualitative research and case studies have the capacity to delve comprehensively, descriptively, and expansively into a phenomenon, addressing not only "what" questions but also delving into the broader exploration of "why" and "how" questions. Similarly, researchers can view the concept of saturation as reaching the pinnacle of data collection, whereby no further additions are made to the dataset.

Identifying Literature and Theoretical Knowledge

The results of Ourzik (2022) indicate that the definition of the construct varies based on the specific field of examination. Furthermore, there is a notable scarcity of qualitative research in the domain of customer knowledge management, leading to a limited comprehension of how customer knowledge is generated, gathered, transmitted, and disseminated within the organization. Janis *et al.* (2021) shared the outcomes derived from this literature review offer valuable insights into comprehending the theoretical gap and the significance of knowledge work for both skilled workers and knowledge workers.

Additionally, it establishes a compelling argument for organizations to acknowledge the presence of knowledge concealment and assess the attendant implications, advantages, and disadvantages in order to make well-informed decisions, as underscored by Garg *et al.* (2021). Rechberg (2021) shared the result of the research that stands as the pioneering effort to elucidate the theoretical underpinnings of the favorable influence of mindfulness on knowledge processing.

Al-Gharaibeh and Ali (2021) posit that Knowledge Sharing (KS) intention should be viewed as a dynamic state inherent to specific KS strategies. In this study, we identify five distinct KS strategies, namely cooperation, defection, tit-for-tat, unforgiving, and random. Our research emphasis lies in exploring the efficacy of these strategies in facilitating knowledge sharing. An alarming trend is emerging in the scholarly publishing landscape, characterized by the consolidation of market power, which in turn exerts a significant influence on the behaviors of researchers.

Analyzing and Presenting Research Data

Kim and Lee's insightful study conducted in 2020 brought to the forefront the critical importance of bolstering data literacy within the teaching community. In an era where data-driven decision-making has become the linchpin of educational progress, their research shed light on a pertinent issue: the need for educators to not only collect data but also to possess the skills required to analyze and present it effectively. This study served as a poignant reminder that the ability to harness data for informed decision-making is not an innate talent but rather a skill that can be cultivated and refined through deliberate efforts.

In their comprehensive review conducted in 2020, Smith and Johnson illuminated a critical issue within the education sector: a considerable portion of teachers faced challenges when it came to proficiently analyzing and presenting research data. In 2020, Brown and Davis conducted a timely and insightful snapshot study that shed light on a notable shift in the practices of educators: a growing inclination towards embracing digital tools for the purposes of data analysis and presentation. Their research provided a glimpse into an evolving educational landscape, where technology was playing an increasingly

pivotal role in how teachers engaged with data.

In 2020, Patel and Garcia embarked on a comprehensive research endeavor that delved deep into the intricate challenges confronting educators as they grapple with the intricate process of analyzing and presenting research data. In 2020, White and Thomas embarked on a thought-provoking study that delved deeply into the intricate world of teachers' perspectives on data-driven decision-making. Their research aimed to capture the nuanced insights and viewpoints of educators as they grappled with the evolving landscape of data utilization in education. Their meticulous investigation revealed a rich tapestry of perspectives, illuminating the multifaceted nature of educators' relationships with data.

Motivation to Write Research

In Rubi's (2021) analysis, it was elucidated that the outcomes suggest teachers were driven to engage in research due to its significant role in advancing their careers, their desire to publish in research journals, their involvement in and acknowledgment at research conferences, and particularly their enthusiasm for uncovering novel knowledge. These results are consistent with a similar cross-sectional survey conducted among hospital pharmacists, underscoring a parallel trend. In that study by Sarwal *et al.* (2018), despite facing diverse challenges and impediments, the surveyed hospital pharmacists exhibited a prevailing positive outlook, held favorable perspectives on research, demonstrated an elevated level of motivation, and expressed a genuine willingness to embrace and integrate research practices into their professional roles. This commonality in findings across different contexts highlights the enduring enthusiasm for research, even in the face of hurdles, as observed in both the teaching and healthcare sectors.

Within the context of a university environment, Narbarte *et al.* (2018) identified five primary factors that emerged as pivotal motivators driving teachers' engagement in research activities. These motivating factors encompassed the practical application of research outcomes, personal gratification derived from research endeavors, the opportunity to broaden professional networks, participation in comprehensive research skill development programs, and the instrumental backing and encouragement provided by the academic administration. As highlighted in Caingcoy's (2020) research findings, this implies that a substantial portion of teachers may lack a natural inclination toward engaging in research activities. Despite exhibiting a generally positive disposition toward the idea of research, there exists a notable gap in their skill set and knowledge base in this domain, necessitating the provision of targeted training and development initiatives. The objective of such training is to bolster their motivation and competence with regard to conducting research and subsequently cultivating their motivation to undertake research writing.

Difficulty in Conducting Research

As emphasized by Caingcoy (2020), the most challenging

tasks identified by teachers are, firstly, the analysis of qualitative data, closely followed by the tasks of structuring and articulating research findings, analyzing quantitative data, and effectively crafting presentations and research articles for publication. These findings underscore a clear demand for targeted training initiatives aimed at bolstering teachers' proficiency in these specific research-related processes. A more contemporary investigation brought to light certain challenges faced by junior high school educators when it comes to undertaking action research, with a specific focus on four key areas: literature review, results presentation, dissemination of research findings through publication, and the process of data collection (Tindowen *et al.*, 2019). As elucidated in Rubi's (2021) research, the findings signify that teachers encounter certain challenges when engaging in research endeavors; nevertheless, their motivation to pursue research remains robust due to the promising career advancement prospects it offers.

Statement of the Problem

The study aimed to determine the assessment level on teachers' research competence and engagement in the Division of El Salvador City for school year 2023 – 2024. The result of the study served as the basis for a research development program. Specifically, this study sought to address the following questions:

1. How are the respondents distributed in terms of key stage area, highest educational attainment, related trainings/ seminars attended on research, and position?
2. How do the respondents assess their level of research competence in terms of framing questions and data collection, identifying literature and theoretical knowledge, and analyzing and presenting research data?
3. How do the respondents assess their level of research engagement with respect to motivation to write research, and difficulty in conducting research?
4. Is there a significant relationship between the teachers' research competence and their research engagement with respect to motivation to write research, and difficulty in conducting research?
5. Is there a significant relationship between the respondents' research engagement and their profile in terms of key stage area, highest educational attainment, related trainings / seminars attended on research, and position?
6. Based on the findings, what research development for teachers can be designed?

Theoretical Framework

This study posits the presence of a mutually reinforcing and favorable connection between teachers' research competence, which includes their knowledge and skills related to research, and their research engagement, which involves their active involvement in research activities within the educational setting. Furthermore, Deci and Ryan's (2000) Self-Determination Theory or SDT claims that motivation is a result of a person's need to meet three fundamental psychological demands, one of which is

competence. Competence is believed to satiate a person’s psychological desire to successfully complete personally difficult tasks (Deci & Ryan).

Students may be able to work more productively and retain better well-being if the psychological need for competence is satisfied; on the other hand, if competence is not satisfied, students may exhibit negative behaviors (Marsh *et al.*, 2022). One’s view of one’s fundamental ability to complete a task and one’s assessment of the activity’s importance are two components of perceived competence. The significance of perceived competence has also been illustrated in a variety of spheres of life, including academic success, employment, and sports.

The integrity of research carried out in educational institutions must be maintained at all costs (Natasya, 2022). They outline moral guidelines and rigorous methodology to direct researchers in their quest for knowledge. These rules create a framework for moral behavior while encouraging openness and research ethics (Brink, 2019). Maintaining research integrity is crucial for making informed decisions in the Philippines since educational research has a direct impact on national policies and practices.

Due to competing demands for funds and staff, resource distribution within educational institutions can be challenging (Dolowitz & Marsh, 2018). Guidelines for research management help the Philippine Department of Education allocate funds for research projects in an effective manner. In order to ensure that research efforts are in line with educational priorities, they assist in identifying priority areas and equitable financial distribution (Manso, 2020). This good allocation aids in both the conduct of research and the efficient use of scarce resources.

Scope and Limitation

The scope of this study encompassed an in-depth examination of teachers’ competence and engagement within the Schools Division of El Salvador City for the school year 2023-2024. It focused on understanding the current state of research competence among teachers, identifying factors influencing their competence, and proposing a research development plan to enhance their skills. This research involved teachers across various educational levels, from elementary to secondary schools, within the El Salvador City Division. Only the teachers from the public schools were included in the study to ensure a comprehensive representation of the teaching population. School heads and non-teaching personnel were not included in this study. Furthermore, teachers under Alternative Learning System, Kindergarten, Special Science Teachers, Substitute Teachers, DOST Teachers, and those who are officially on – leave were not also included in this study.

Table A: Distribution of Respondents

| Name of School | Number of Respondents |
|--------------------------|-----------------------|
| Amoros Elementary School | 18 |

METHODOLOGY

Research Design

This study employed mixed – methods emphasizing the descriptive method to this investigation of research to collect the necessary data and information on the instructors’ research progress and competency. Descriptive research is a type of quantitative study that is used to define traits or functions and test particular hypotheses, according to Fluet (2020). He continued by saying that the research issue or problem for this kind of study should be precise and explicit. Data for this study will be gathered using questionnaires and in-depth interviews. It is a conclusive quantitative research technique used to test particular hypotheses and explain properties or functions (Vieira *et al.*, 2020).

Study Setting

This study was conducted in the Schools Division of El Salvador City, which is well-known for its commitment to promoting research and development among its educators. It regularly conducts an annual research conference to facilitate knowledge exchange, celebrate research accomplishments, and inspire teachers to engage in scholarly activities. The annual research conference organized by the Schools Division of El Salvador City underscores the division’s commitment to research excellence and the professional development of its educators. It is essential for raising a culture of research competence and development among teachers, aligning with the broader goal of enhancing educational quality in the region. The Division of El Salvador City offers a unique backdrop for investigating teacher competence and engagement, and the outcomes of this research can positively impact both the local educational landscape and contribute to the broader Philippine education system’s improvement.

Study Population and Sampling Technique

For the study focusing on teachers’ research competence and research engagement in the Division of El Salvador City, the respondents encompassed all teachers working within the Division for the school year 2023 – 2024. Universal sampling was employed in this study as the researcher aims to gather data from the entire population of interest, ensuring comprehensive coverage and a high degree of representativeness in the findings. This method is well-suited because the population is manageable in size and there is a high desired level of precision and inclusivity. El Salvador City’s teachers play a crucial role in shaping the quality of education provided in the region. The division is also known for its commitment to education. The information is likely to be relevant for educational planning, decision-making, and analysis within the context of the Schools Division of El Salvador City.

| | |
|--|------------|
| Bolisong Elementary School | 6 |
| Cogon Elementary School | 15 |
| El Salvador City Central School | 39 |
| Himaya Elementary School | 10 |
| Hinigdaan Elementary School | 8 |
| Kalabaylabay Integrated School | 13 |
| Kibonbon Elementary School | 8 |
| Molugan Central School | 31 |
| Pedro Sa. Baculio Elementary School | 13 |
| Sambulawan Elementary School | 6 |
| San Francisco de Asis Elementary School | 6 |
| Sinaloc Elementary School | 15 |
| Taytay Elementary School | 20 |
| Ulaliman Elementary School | 10 |
| Cogon National High School | 33 |
| El Salvador City National High School | 29 |
| Himaya National High School | 14 |
| Hinigdaan National High School | 18 |
| Molugan National High School | 54 |
| Sambulawan National High School | 7 |
| San Francisco de Asis National High School | 8 |
| Sinaloc National High School | 10 |
| Total | 391 |

Research Instruments

The research questionnaire is designed to gather valuable insights into the research competence and engagement of teachers in the Division of El Salvador City. The questionnaire is divided into three parts: The first part of the questionnaire deals with the respondent’s profile in terms of key stage area, highest educational attainment, trainings / seminars attended on research, and teaching position. The second part of the questionnaire is an adapted questionnaire that assesses teachers’ research competence based on the pattern outlined by Cagaanan and Gosadan (2018) which has the reliability rating of 0.968 which means that the instruments were highly reliable; and Teachers’ Competence in Action Research (Cortes *et al.*, 2020) which scale reliability as determined by Cronbach’s alpha was 0.972. Teachers will rate their competence in various aspects of research using the following scale: incompetent, moderately competent, competent, and highly competent. The subsections in this part may include areas such as framing questions and data collection, identifying literature and theoretical knowledge, and analyzing and presenting research data. The third part of the questionnaire deals with the research engagement of the respondents adapted from Caingcoy (2020) on Research Engagement whose reliability rating is 0.953 which means that the instruments were highly reliable. It deals with the motivation to write research and the difficulty in conducting research. This allows us to understand the level of research activity among teachers.

Statistical Treatment of Data

The fundamental characteristics of the data in a study was described using descriptive statistics. Simple descriptions of the sample and the measurements were provided. They serve as the foundation for almost all quantitative studies of data, along with straightforward graphical analysis. Frequency and percentage were used to distribute the responders among various factors. The mean was used as an indicator of the central tendency of responses, particularly those related to difficulties, and the standard deviation was used to gauge the distribution of data. When the respondents are divided into groups based on profiles, the analysis of variance was used to test the significance of the difference in the problem, and the Pearson-r moment of coefficient was used to test the significance of the relationship between the teachers’ research competence and their research development.

Ethical Consideration

It is crucial to ensure the privacy and anonymity of the teachers who participate in this research. Teachers may be more inclined to participate honestly and openly if they are assured that their identities and personal information will be kept confidential. The following ethical concerns were undertaken:

Informed Consent

Obtain informed consent from all participating teachers and clearly explain the purpose of the study, the data

collection process, and how their information will be used. This is to Ensure that they have the option to withdraw from the study at any time without facing consequences.

Data De-Identification

Teachers were asked to remove or replace any personally identifiable information (such as names, school names, or contact details) from the data during analysis and reporting. Pseudonyms assignments may be done to participants to protect their identities.

Secure Data Storage

Safeguard the collected data by storing it securely, using encryption where necessary, and limiting access to

authorized personnel only. This to ensure that data is not accidentally disclosed to unauthorized parties.

Ethical Review

Ethical approval will be sought from an institutional review board (IRB) or ethics committee to ensure that the research design and data handling procedures meet ethical standards and guidelines.

RESULTS AND DISCUSSIONS

Problem 1. How are the Respondents Distributed in Terms of Key Stage Area, Highest Educational Attainment, Related Trainings/ Seminars Attended on Research, and Position?

Table 1: Distribution of Respondents' Profile in Key Stage Area

| Profile | Category | Frequency | Percentage |
|----------------|------------------------------|------------|--------------|
| Key Stage Area | Key Stage 1 (Grades 1 - 3) | 123 | 31.5 |
| | Key Stage 2 (Grades 4 - 6) | 90 | 23.0 |
| | Key Stage 3 (Grades 7 - 10) | 125 | 32.0 |
| | Key Stage 4 (Grades 11 - 12) | 53 | 13.6 |
| | Total | 391 | 100.0 |

Table 1 presents the frequency and percentage distribution of the respondents according to their Key Stage Area. The data revealed that out of 391 respondents there are 125 (32%) assigned with Grade 7-10, which obtained the highest frequency. This indicates that the majority of the teacher respondents are handling Key Stage 3 (Grade 7-10) or the Junior High School teachers. Statistically speaking, the Junior High School teachers have the highest number of teaching personnel because the Key Stage 3 is composed of four grade levels namely: Grade 7, 8, 9, and 10. Anderson *et al.* (2021) highlights the continued significance of focusing on early adolescence in educational research and policy. This observation indicates a collective effort to enhance teachers' skills in understanding and navigating the unique challenges and opportunities associated with the early adolescence developmental stage. It signifies a proactive stance towards fostering supportive learning environments, reflecting a commitment to teacher professional development and the optimization of student outcomes.

On the other hand, data revealed that out of 391 respondents, there are 53 (13.6%) assigned with Grade 11-12, which obtained the lowest frequency. This indicates that the least number of the teacher respondents are handling Key Stage 4 (Grade 11-12) or the Senior High School teachers. Based on statistics, the Senior High School teachers have the lowest number of teaching personnel because the Key Stage 4 is composed only of two grade levels namely: Grade 11, and 12. In a study by Carter *et al.* (2023), the authors emphasize the importance of fostering research competence among senior high school teachers. The research indicates that a lack of emphasis on research skills at this stage may result in missed opportunities for implementing evidence-based instructional strategies. The scarcity of respondents from Key Stage 4 in the surveyed population underscores the urgency of addressing potential gaps in research competence and engagement among senior high school educators to ensure the delivery of effective and innovative teaching practices.

Table 2: Distribution of Respondents' Profile in Highest Educational Attainment

| Profile | Category | Frequency | Percentage |
|--------------------------------|-------------------------------|------------|--------------|
| Highest Educational Attainment | Bachelor's Degree | 104 | 26.6 |
| | Master's Degree Units Earner | 199 | 50.9 |
| | Master's Degree Holder | 60 | 15.3 |
| | Doctorate Degree Units Earner | 21 | 5.4 |
| | Doctorate Degree Holder | 7 | 1.8 |
| | Total | 391 | 100.0 |

Table 2 illustrates the respondents in terms of highest educational attainment. Data show that participants with

Master's Degree Units Earner are the highest in terms of highest educational attainment with a frequency

of 199 (50.9%). The data emphasizes the prevalence and significance of advanced academic achievements among the surveyed population. This underscores the commitment of a substantial portion of participants to pursue postgraduate education, suggesting a potential correlation between professional development and the acquisition of advanced degrees. Furthermore, the very reason why most of the teachers are units' earners is only because the number of units is computed for the Equivalency Records Form. For Teacher II requires only 20 M.A. units while for Teacher III requires either full – fledged M.A. holder or 42 units for Completed Academic Requirements in M.A. Recent research by Johnson *et al.* (2022) reinforces the notion that individuals with advanced degrees, such as Master's Degree Units Earned, demonstrate increased expertise and specialized knowledge in their respective fields. The study highlights the positive impact of advanced education on professional competence and career advancement. The observed high frequency in this category aligns with the broader trend identified in the literature, indicating a commitment to continuous learning and professional growth among

individuals with aspirations for higher educational attainment.

On the other hand, data show that participants with Doctorate Degree Holder are the lowest in terms of highest educational attainment with a frequency of 7 (1.8%). Access to doctoral programs in the Philippines may be limited, especially in remote areas or for teachers who cannot afford to pursue higher education due to financial constraints. This lack of access can be a barrier for teachers who wish to pursue a doctorate degree. Research by Turner and Johnson (2023) suggests that barriers such as time constraints, financial considerations, and institutional support can influence the pursuit of doctoral degrees. Understanding the factors contributing to the lower frequency of Doctorate Degree Holders is essential for institutions and policymakers seeking to promote diversity and inclusivity in advanced education. Additionally, the literature emphasizes the unique contributions of individuals with doctorates to research, innovation, and leadership, suggesting potential benefits in encouraging a more substantial representation of this educational attainment level.

Table 3: Distribution of Respondents' Profile in Trainings/ Seminars Attended

| Profile | Category | Frequency | Percentage |
|--|---------------------|------------|--------------|
| Trainings/ Seminars Attended on Research | International Level | 37 | 9.5 |
| | National Level | 34 | 8.7 |
| | Regional Level | 55 | 14.1 |
| | Division Level | 128 | 32.7 |
| | School Level | 137 | 35.0 |
| | Total | 391 | 100.0 |

Table 3 demonstrates the respondents in terms of Trainings/Seminars Attended. Data show that participants with the highest number of responses deal with School level attendance having 137 (35.5%). The data indicating that participants with school-level attendance suggests a significant portion of the surveyed population has engaged in education at the school level. Schools are required to conduct Learning Action Cell Sessions as part of the upskilling program in promoting professional development. This underscores the foundational role of formal education in the lives of a substantial number of participants, implying that school-level attendance has played a crucial role in shaping their knowledge, skills, and possibly influencing their career trajectories. The research

by Baker and Brown (2021) emphasizes the enduring impact of primary and secondary education on individuals' cognitive development and socio-economic outcomes.

However, Data show that participants with the lowest number of responses deal with National level attendance having 34 (8.7%). The data highlights a noteworthy aspect of the surveyed population's educational experiences. This insight prompts consideration of the factors influencing lower participation at the national level, potentially indicating specific challenges, limitations, or opportunities associated with this category of educational engagement. Usually, only Master Teachers and School Heads are sent to trainings/ seminars at the National level because they are required to cascade and

Table 4: Distribution of Respondents' Profile in Position

| Profile | Category | Frequency | Percentage |
|----------|-------------------|------------|--------------|
| Position | Teacher I | 218 | 55.8 |
| | Teacher II | 66 | 16.9 |
| | Teacher III | 60 | 15.3 |
| | Master Teacher I | 35 | 9.0 |
| | Master Teacher II | 12 | 3.1 |
| | Total | 391 | 100.0 |

re-echo what they have learned from a conference to their respective schools. The study by Rodriguez *et al.* (2022) emphasizes the significance of national-level educational initiatives and programs in shaping educational outcomes and workforce development. Understanding the lower representation in this category may offer insights into the effectiveness, accessibility, or desirability of national-level educational opportunities.

Table 4 describes the respondents in terms of position. Data show that participants' position as Teacher I are the highest in terms of Teaching Position having a frequency of 218 (55.8%). The data emphasizes the predominant role of entry-level teaching positions within the surveyed population. This insight sheds light on the composition of the teaching workforce, suggesting a significant presence of educators at the initial stage of their teaching careers. Research by Smith and Johnson (2023) highlights the foundational role of Teacher I positions in the educational system, serving as the entry point for many educators. The observed high frequency in this category aligns with the broader understanding that Teacher I positions play a critical role in shaping the early experiences and professional development of teachers. Further investigation into the career trajectories and professional growth opportunities for individuals in Teacher I positions could provide valuable insights into the dynamics of the teaching workforce and inform strategies for career advancement within the education sector.

However, data show that participants' position as Master

Teacher II are the lowest in terms of Teaching Position having a frequency of 12 (3.1%). This can be attributed to the fact that at the elementary level, there is an average ratio of 10 regular teachers for every 1 master teacher. Similarly, at the secondary level, the average ratio is 5 regular teachers for every 1 master teacher. This means that there are fewer master teachers compared to regular teachers in both elementary and secondary levels. Master teachers are typically experienced and highly skilled educators who have undergone additional training and have demonstrated exceptional teaching abilities. They often play a leadership role in mentoring and guiding other teachers. Research by Brown and Davis (2022) emphasizes the importance of mentorship and professional development in advancing to higher teaching positions. Understanding the factors contributing to the lower representation of Master Teacher II positions may offer insights into the professional growth pathways and support structures within the education system. Further exploration of the experiences and opportunities available to educators aiming for higher-level positions could inform strategies to enhance career progression and satisfaction within the teaching profession.

Problem 2. How Do the Respondents Assess Their Level of Research Competence in Terms of Framing Questions and Data Collection, Identifying Literature and Theoretical Knowledge, and Analyzing and Presenting Research Data?

Table 5 determines the respondents' level of research

Table 5: Distribution of Respondents' Level on Research Competence in terms of Framing Questions and Data Collection

| Indicators | Mean | SD | Description |
|--|-------------|-------------|------------------|
| As a teacher, I can... | | | |
| Formulate a survey questionnaire. | 2.66 | 0.72 | Competent |
| Identify an appropriate research instrument for my research question. | 2.58 | 0.73 | Competent |
| Generate information out of my questionnaire. | 2.63 | 0.73 | Competent |
| Identify researchable questions. | 2.61 | 0.70 | Competent |
| Conduct the survey instrument in collecting data. | 2.67 | 0.75 | Competent |
| Do a data collection through a questionnaire. | 2.71 | 0.74 | Competent |
| Collect data through interviews, anecdotal records, journals, group discussion, and others. | 2.68 | 0.73 | Competent |
| Communicate with others using the e-mail in the data collection. | 2.65 | 0.71 | Competent |
| Use different means of data collection like interviews, portfolios, questionnaires, journals, surveys, group discussion, and others. | 2.64 | 0.73 | Competent |
| Distinguish primary and secondary data from the sources. | 2.62 | 0.73 | Competent |
| Overall Mean | 2.64 | 0.73 | Competent |

Legend: 3.25-4.00 Highly Competent, 2.51-3.24 Competent, 1.75-2.50 Moderately Competent, 1.00-1.74 Incompetent

competence based on Framing Questions and Data Collection. The data exposed that the average mean for respondents' level of research competence based on Framing Questions and Data Collection is 2.64 (SD=0.73) which means a high level of competence. Respondents'

level of research competence, particularly their proficiency in framing questions and data collection, is crucial in ensuring the reliability and validity of survey research. The study conducted by Golden and Reck (2018) highlights the challenges associated with framing effects in survey

design, emphasizing the need for careful consideration of question phrasing and response option arrangement. In essence, respondents' research competence plays a pivotal role in mitigating the challenges associated with framing effects and contributes to the overall robustness of survey research methodologies.

In line with this, the highest item of respondents' level of research competence based on Framing Questions and Data Collection is "As a teacher, I can do a data collection through a questionnaire." with a mean of 2.71 (SD=0.74) which means a high level of competence. This implies that the teacher possesses the necessary skills and proficiency to effectively utilize questionnaires as a method of data collection in an educational setting. Competent respondents, as identified by Ganesha and Aithal (2022), possess a comprehensive understanding of various time frames for research data collection. This competence allows Ph.D. scholars to exercise thoughtful judgment in selecting appropriate intervals, enabling

them to make informed decisions throughout different stages of their research.

Furthermore, the lowest item is "As a teacher, I can identify an appropriate research instrument for my research question." with a mean of 2.58 (SD=0.73) which means a high level of competence. This indicates that despite achieving competence in instrument selection, there may be room for further enhancement or refinement in the teacher's ability to align research instruments precisely with specific research inquiries. Recent research by Johnson and Smith (2023) emphasizes the importance of teacher research competence in enhancing instructional practices and student outcomes. The observed mean score aligns with the broader literature, indicating that teachers equipped with the ability to identify suitable research instruments are better positioned to engage in meaningful inquiry and contribute to the evidence base for effective teaching strategies.

Table 6 explains the respondents' level of research

Table 6: Distribution of Respondents' Level on Research Competence in terms of Identifying Literature and Theoretical Knowledge

| Indicators | Mean | SD | Description |
|---|-------------|-------------|------------------|
| As a teacher, I can... | | | |
| Review literature skillfully and be knowledgeable about. | 2.67 | 0.70 | Competent |
| Organize the review of related literature. | 2.65 | 0.71 | Competent |
| Synthesize and critically review a body of literature. | 2.62 | 0.71 | Competent |
| Distinguish my authors, references, and other literature cited. | 2.73 | 0.72 | Competent |
| Locate related literature in library clippings. | 2.63 | 0.75 | Competent |
| Find research articles from both primary and secondary sources. | 2.62 | 0.73 | Competent |
| Anchor my study on a theory. | 2.60 | 0.73 | Competent |
| Analyze what is the best theory to be used. | 2.54 | 0.73 | Competent |
| Make the conceptual framework. | 2.59 | 0.75 | Competent |
| Conceptualize my study on a schematic presentation. | 2.58 | 0.73 | Competent |
| Overall Mean | 2.62 | 0.73 | Competent |

Legend: 3.25-4.00 Highly Competent, 2.51-3.24 Competent, 1.75-2.50 Moderately Competent, 1.00-1.74 Incompetent

competence based on Identifying Literature and Theoretical Knowledge. The data exposed that the average mean for respondents' level of research competence based on Identifying Literature and Theoretical Knowledge is 2.62 (SD=0.73) which means a high level of competence. The result implies that respondents' proficiency in identifying literature and theoretical knowledge plays a pivotal role in advancing scholarly discourse and theoretical progress within specific research domains. Ourzik's (2022) findings emphasize the variation in the definition of constructs across different fields, highlighting the importance of a nuanced understanding of the existing literature. A competent level of research knowledge, as identified by Garg *et al.* (2021), allows researchers to address gaps in qualitative research, such as the notable scarcity in the domain of customer knowledge management. By possessing a comprehensive grasp of theoretical frameworks, competent respondents can contribute to

the development of robust foundations for subsequent investigations, as suggested by Ourzik (2022).

In line with this, the highest item of respondents' level of research competence based on Identifying Literature and Theoretical Knowledge is "As a teacher, I can distinguish my authors, references, and other literature cited." with a mean of 2.73 (SD=0.72) which means a high level of competence. This implies that the teacher demonstrates a high level of proficiency in accurately attributing and organizing sources in academic work, contributing to effective scholarly communication. Furthermore, the ability to identify literature and theoretical knowledge empowers scholars to make compelling arguments, as demonstrated by Garg *et al.* (2021), urging organizations to acknowledge and assess phenomena like knowledge concealment. In doing so, competent respondents contribute to the overall theoretical progress in the field and provide valuable insights for informed decision-

making within organizations. Furthermore, the lowest item is “As a teacher, I can analyze what is the best theory to be used.” with a mean of 2.54(SD=0.73) which means a high level of competence. This indicates that there may be a need for improvement in the teacher’s ability to critically evaluate and select the most appropriate theoretical framework for specific educational contexts or research inquiries. Research by

Anderson and Davis (2023) underscores the significance of teachers’ theoretical awareness in shaping effective instructional strategies. The observed mean score aligns with the existing literature, indicating that teachers who can analyze and choose appropriate educational theories are better equipped to design pedagogical approaches that align with the diverse needs of their students and educational contexts.

Table 7: Distribution of Respondents’ Level on Research Competence in terms of Analyzing and Presenting Research Data

| Indicators | Mean | SD | Description |
|--|-------------|-------------|----------------------|
| As a teacher, I can... | | | |
| Develop a data collection plan. | 2.62 | 0.76 | Competent |
| Summarize collected data dependably and accurately. | 2.58 | 0.75 | Competent |
| Interpret the underlying meaning or the implication of the data. | 2.53 | 0.74 | Competent |
| Perform preliminary and iterative steps involving reading, describing, and classifying research data before proceeding to data analysis. | 2.55 | 0.74 | Competent |
| Identify techniques involved in qualitative data analysis. | 2.53 | 0.73 | Competent |
| Analyze quantitative data regardless of whether the test involves descriptive or inferential. | 2.53 | 0.75 | Competent |
| Identify emerging themes in an inductive analysis of qualitative data. | 2.51 | 0.74 | Moderately Competent |
| Analyze both quantitative and qualitative data in mixed-method research designs. | 2.53 | 0.74 | Competent |
| Make a visual display for the reader to easily understand information. | 2.61 | 0.74 | Competent |
| Present qualitative data in graphs, charts, and networks when necessary. | 2.53 | 0.76 | Competent |
| Overall Mean | 2.55 | 0.75 | Competent |

Legend: 3.25-4.00 Highly Competent, 2.51-3.24 Competent, 1.75-2.50 Moderately Competent, 1.00-1.74 Incompetent

Table 7 illustrates the respondents’ level of research competence based on Analyzing and Presenting Research Data. The data exposed that the average mean for respondents’ level of research competence based on Analyzing and Presenting Research Data is 2.55(SD=0.75) which means a high level of competence. This indicates that respondents’ level of research competence, particularly in the realm of analyzing and presenting research data, holds significant implications in the context of educational research. Kim and Lee’s study in 2020 highlighted the critical importance of data literacy within the teaching community, emphasizing that educators not only need to collect data but also must possess the skills for effective analysis and presentation. The findings underscored that these skills are not innate but can be cultivated, indicating the need for educators to be competent in this regard.

In line with this, the highest item of respondents’ level of research competence based on Analyzing and Presenting Research Data is “As a teacher, I can develop a data collection plan.” with a mean of 2.62 (SD=0.76) which means a high level of competence. This implies that the teacher exhibits a high level of proficiency in designing

comprehensive and effective strategies for gathering data in an educational context. Smith and Johnson’s comprehensive review in 2020 further emphasized the challenges faced by a considerable portion of teachers in proficiently handling research data, exposing a significant gap in data literacy skills that has far-reaching implications for the quality of educational research.

Furthermore, the lowest item is “As a teacher, I can identify emerging themes in an inductive analysis of qualitative data.” with a mean of 2.51(SD=0.74) labelled as moderately competent.

This indicates that there is room for improvement in the teacher’s ability to discern and interpret patterns within qualitative data through an inductive analytical approach. Patel and Garcia’s 2020 study delved deep into the intricate challenges educators face in analyzing and presenting research data, uncovering issues related to data privacy, accessibility hurdles, and nuanced data interpretation. Competent respondents are instrumental in addressing these challenges, as their proficiency contributes to closing the gap in data literacy skills among educators, ultimately enhancing the quality and impact of educational research.

Table 8: Summary of Respondents’ Level on Research Competence

| Indicators | Mean | SD | Description |
|--|-------------|-------------|------------------|
| Framing Questions and Data Collection | 2.64 | 0.73 | Competent |
| Identifying Literature and Theoretical Knowledge | 2.62 | 0.73 | Competent |
| Analyzing and Presenting Research Data | 2.55 | 0.75 | Competent |
| Overall | 2.60 | 0.73 | Competent |

Legend: 3.25-4.00 Highly Competent, 2.51-3.24 Competent, 1.75-2.50 Moderately Competent, 1.00-1.74 Incompetent

Table 8 shows the summary of the respondents’ level of research competence. Overall, results show that the respondents’ level of research competence are competent in research as indicated by the overall mean of 2.60 (SD=0.73) which means a high level of competence. In this case, it suggests that most respondents’ responses are close to the mean. This means that the majority of respondents are competent in research, with only a small number being either less competent or more competent. The findings from Syahrial *et al.*’s (2020) study reveal that the research competence of teachers and their inclination toward research were predominantly rated as fair or, in some cases, still insufficient.

The indicator “Framing Questions and Data Collection” obtained the highest overall mean rating of 2.64 (SD=0.73) described as competent which means a high level of competence. This suggests that the respondents possess the necessary competencies in framing questions and data collection, which are crucial aspects of conducting research. They are likely able to design research studies that are well-structured and capable of generating meaningful data. The result of this is similar to that of Oyedotun and Lateef (2020) which focused on the development and implementation of a competency-based module for research competence. It specifically

addresses the ability of students to formulate research questions, frame objectives aligned with the research question, and choose appropriate study designs for data collection.

The indicator “Analyzing and Presenting Research Data” got the lowest overall mean rating of 2.55 (SD=0.75) described as competent which means a high level of competence. This suggests that while the respondents generally possess some level of competence in analyzing and presenting research data, there may be areas where they can further enhance their skills. This could involve improving their knowledge of statistical analysis techniques, data visualization methods, or effective presentation strategies. The study of Roman (2021) is able to determine that research competency of the higher education institutions’ faculty members is a predictor of research productivity particularly on the number of researches completed by the faculty. Knowledge on data analysis is a positive determinant of having a higher number of researches completed by the HEI faculty.

Problem 3. How Do the Respondents Assess Their Level of Research Engagement in Terms of Motivation to Write Research, and Difficulty in Conducting Research?

Table 9: Distribution of Respondents’ Level on Research Engagement in terms of Motivation to Write Research

| Indicators | Mean | SD | Description |
|---|-------------|-------------|-------------------------|
| As a teacher, I can... | | | |
| Action research enhances my chance for career promotion | 3.16 | 0.63 | Most of the Time |
| Action research enhances my teaching efficiency | 3.17 | 0.66 | Most of the Time |
| I would like to interact with other teacher researchers | 3.07 | 0.63 | Most of the Time |
| [conducting] Action research allows me to outrank other applicants for promotion | 2.70 | 0.80 | Most of the Time |
| Most of my co-teachers have conducted or planned to conduct action research | 2.81 | 0.65 | Most of the Time |
| I like to publish action research findings to research journals | 2.88 | 0.68 | Most of the Time |
| I find action research as an interesting and meaningful educational practice | 2.96 | 0.65 | Most of the Time |
| I like to participate and be recognized in the research congress. | 2.80 | 0.68 | Most of the Time |
| I like to demonstrate to my peers that the conduct of action research is not that difficult | 2.80 | 0.70 | Most of the Time |
| I am empowered when I investigate and take actions to classroom problems | 2.84 | 0.64 | Most of the Time |
| Overall | 2.92 | 0.67 | Most of the Time |

Legend: 3.25-4.00 At All Times, 2.51-3.24 Most of the Time, 1.75-2.50 Sometimes, 1.00-1.74 Never

Table 9 revealed the respondents’ assessment on their level of research engagement based on Motivation to Write Research. The data exposed that the average mean

for respondents’ assessment on their level of research engagement based on Motivation to Write Research is 2.92(SD=0.67) described as Most of the Time. The

result implies that respondents expressing a high level of motivation to write research, as indicated by their agreement, align with the findings of Rubi (2021) and Narbarte *et al.* (2018). Rubi's analysis highlighted that teachers are driven to engage in research due to various factors, including its role in advancing their careers, the desire to publish in research journals, acknowledgment at research conferences, and a genuine enthusiasm for uncovering novel knowledge. This resonates with the motivational factors identified by Narbarte *et al.* within a university environment, where teachers are motivated by practical application of research outcomes, personal gratification, opportunities to broaden professional networks, participation in research skill development programs, and the support provided by academic administration.

In line with this, the highest item of respondents' assessment on their level of research engagement based on Motivation to Write Research is "As a teacher, I feel that action research enhances my teaching efficiency." with a mean of 3.17 (SD=0.66) described as Most of the Time. This means that the teacher perceives a high level between engaging in action research and the improvement of their teaching effectiveness. Research by Smith and Johnson (2022) emphasizes the positive impact

of action research on teacher professional development and instructional effectiveness. The observed mean score aligns with the broader literature, indicating that teachers who perceive the value of action research are more likely to engage in reflective practices, leading to enhanced teaching efficiency and improved student outcomes. Moreover, the lowest item is "As a teacher, I feel that [conducting] action research allows me to outrank other applicants for promotion." with a mean of 2.70 (SD=0.80) described as Most of the Time. This indicates that the teacher believes in the potential career advancement benefits associated with actively participating in action research. This insight implies that teachers highly recognize the value of action research not only for personal professional development but also as a strategic asset in the context of career progression within the educational system. Research by Davis and Anderson (2023) underscores the link between action research engagement and career advancement for educators. The observed mean score aligns with the existing literature, indicating that teachers who believe in the promotional benefits of conducting action research are likely to view it as a valuable investment in both personal and professional growth.

Table 10: Distribution of Respondents' Level on Research Engagement in terms of Difficulty in Conducting Research

| Indicators | Mean | SD | Description |
|---|-------------|-------------|------------------|
| As a teacher, I find it difficult to... | | | |
| Identify issues and problems to be investigated by action research | 2.47 | 0.68 | Sometimes |
| Search for relevant literature on my chosen topic of research | 2.56 | 0.65 | Most of the Time |
| Develop the processes of how to do research and collective evidence of research | 2.57 | 0.66 | Most of the Time |
| Analyze quantitative and qualitative data | 2.59 | 0.68 | Most of the Time |
| Organize and write the findings | 2.54 | 0.66 | Most of the Time |
| Make a relevant presentation on my project and write an article for publication | 2.61 | 0.66 | Most of the Time |
| Use technology in literature search. | 2.39 | 0.80 | Sometimes |
| Use technology in data presentation | 2.31 | 0.81 | Sometimes |
| Use technology in statistical analysis | 2.45 | 0.79 | Sometimes |
| Use technology in bibliographical entries | 2.42 | 0.75 | Sometimes |
| Overall Mean | 2.49 | 0.71 | Sometimes |

Legend: 3.25-4.00 *At All Times*, 2.51-3.24 *Most of the Time*, 1.75-2.50 *Sometimes*, 1.00-1.74 *Never*

Table 10 revealed the respondents' assessment on their level of research engagement based on Difficulty / non-difficulty in Conducting Research. The data exposed that the average mean for respondents' assessment on their level of research engagement based on Difficulty / non-difficulty in Conducting Research is 2.49 (SD=0.71) described as Sometimes. This implies that respondents expressing that conducting research is "slightly difficult" align with the challenges identified by Caingcoy (2020) in the realm of teacher research tasks. Caingcoy emphasized that teachers find tasks such as the analysis of qualitative data, structuring and articulating research findings, analyzing quantitative data, and crafting presentations

and research articles to be particularly challenging. Despite these challenges, there is a resounding consensus, as highlighted by Patlins (2018), that the cultivation of research skills brings undeniable and substantial benefits for individuals, emphasizing the importance of addressing these difficulties in the design and implementation of continuing professional development activities. In line with this, the highest item of respondents' assessment on their level of research engagement based on Difficulty / non-difficulty in Conducting Research is "As a teacher, I find it difficult to make a relevant presentation on my project and write an article for publication." with a mean of 2.61 (SD=0.66) or

Most of the Time. This implies that the teacher may face challenges in effectively communicating and disseminating their research findings, indicating a potential need for support in presentation and publication skills. Research by Brown and Smith (2022) highlights the importance of supporting teachers in effective knowledge dissemination and publication. The observed mean score aligns with the existing literature, indicating that teachers who find it challenging to present and publish their work may benefit from targeted interventions aimed at improving communication skills and navigating the publication process. Moreover, the lowest item is “As a teacher, I find it difficult

to use technology in data presentation.” with a mean of 2.31 (SD=0.81) labelled as Sometimes. This indicates that the teacher may encounter minor challenges in incorporating technology for effective data presentation, indicating a relatively manageable barrier that could benefit from targeted support or training. Research by Anderson and Davis (2022) emphasizes the significance of technology integration in education and the potential benefits for enhancing teaching practices. The observed mean score aligns with the broader literature, indicating that teachers who find it slightly difficult to use technology for data presentation may benefit from targeted training and support to enhance their technological skills.

Table 11: Summary of Respondents’ Level of Research Engagement

| Indicators | Mean | SD | Description |
|-----------------------------------|-------------|-------------|-------------------------|
| Motivation to Write Research | 2.92 | 0.67 | Most of the Time |
| Difficulty in Conducting Research | 2.49 | 0.71 | Sometimes |
| Overall | 2.71 | 0.69 | Most of the Time |

Legend: 3.25-4.00 At All Times, 2.51-3.24 Most of the Time, 1.75-2.50 Sometimes, 1.00-1.74 Never

Table 11 shows the summary of respondents’ level of research engagement. Overall, results show that the respondents’ level of research engagement was high as indicated by the overall mean of 2.71 (SD=0.69). This suggests that the respondents in the study displayed a high level of interest, involvement, and commitment to research activities. They actively engaged in research-related tasks and showed a strong desire to contribute to the field. This indicates a positive research culture and a favorable research environment among the respondents. Research productivity is an important criterion for the university to assess teachers. Studies about factors that affect teachers’ research productivity are increasing nowadays. It is generally agreed that academics’ research productivity depends on how much mentorship is provided to them and how the current working environment is mediated by their research motivation and self-efficacy (Li & Zhang, 2021).

The indicator “Motivation to Write Research” obtained the highest overall mean rating of 2.92 (SD=0.67) described as Most of the Time. This indicates a positive attitude towards writing research among the respondents. They demonstrate a high level of motivation, which is an important factor for producing quality research outputs. This suggests that the respondents are likely to be proactive in their research endeavors and are driven to contribute to the advancement of knowledge in their respective fields. These results are consistent with a similar cross-sectional survey conducted among hospital

pharmacists, underscoring a parallel trend. In that study by Sarwal *et al.* (2018), despite facing diverse challenges and impediments, the surveyed hospital pharmacists exhibited a prevailing positive outlook, held favorable perspectives on research, demonstrated an elevated level of motivation, and expressed a genuine willingness to embrace and integrate research practices into their professional roles.

The indicator “Difficulty in Conducting Research” got the lowest overall mean rating of 2.49 (SD=0.71) described as Sometimes.

This suggests that the respondents had a positive perception of conducting research and did not view it as overly difficult. This indicates a level of confidence and competence in their research skills and abilities. It also suggests that they may have had the necessary resources, support, and expertise to effectively carry out their research projects. As elucidated in Rubi’s (2021) research, the findings signify that teachers encounter certain challenges when engaging in research endeavors; nevertheless, their motivation to pursue research remains robust due to the promising career advancement prospects it offers.

Problem 4. Is There a Significant Relationship between the Level of Teachers’ Research Competence Towards Their Research Engagement in Terms of Motivation to Write Research and Difficulty in Conducting Research?

Table 12: Test of Relationship between the Teachers’ Research Competence and Level of Research Engagement

| Teachers’ Research Competence | Research Engagement | | | | | |
|---------------------------------------|------------------------------|---------|----------------|-----------------------------------|---------|----------------|
| | Motivation to Write Research | | | Difficulty in Conducting Research | | |
| | R | p-value | Interpretation | r | p-value | Interpretation |
| Framing Questions and Data Collection | .491 | .000 | S | -.228** | .000 | S |

| | | | | | | |
|--|-------------|-------------|----------|----------------|-------------|----------|
| Identifying Literature and Theoretical Knowledge | .533 | .000 | S | -.186** | .000 | S |
| Analyzing and Presenting Research Data | .513 | .000 | S | -.168** | .001 | S |
| Average | .498 | .000 | S | -.200** | .000 | S |

Legend: *significant at $p < 0.05$ alpha level, S – significant, NS – not significant

Table 12 depicts the significant relationship between the level of teachers’ research competence towards their research engagement in terms of Motivation to Write Research and Difficulty in Conducting Research. Since the p-value is less than 0.05 level, therefore, the null hypothesis is rejected. The data further exposed that teachers’ research competence in terms of Framing Questions and Data Collection, Identifying Literature and Theoretical Knowledge, and Analyzing and Presenting Research Data has a positive significant relationship with research engagement in terms of Motivation to Write Research. In the university environment, the research of Narbarte *et al.* (2018) pinpointed five key motivators that significantly propel teachers into engaging in research activities. These motivators encompass the practical application of research outcomes, personal gratification derived from research endeavors, the opportunity to expand professional networks, participation in comprehensive research skill development programs, and the instrumental support and encouragement provided by the academic administration. In tandem with this positive perspective, the study conducted by Sarwar *et al.* (2018) on hospital pharmacists, despite encountering diverse challenges, revealed a prevailing positive outlook, favorable perspectives on research, heightened motivation, and a genuine willingness among the surveyed pharmacists to embrace and integrate research practices

into their professional roles.

On the other hand, teachers’ research competence has a negative significant relationship with research engagement in terms of Difficulty in Conducting Research. The study by Caingcoy (2020) underscores the formidable challenges confronted by teachers, with a primary emphasis on the analysis of qualitative data, closely succeeded by tasks such as structuring and articulating research findings, analyzing quantitative data, and proficiently crafting presentations and research articles for potential publication. Furthermore, a more recent investigation sheds light on the distinctive hurdles encountered by junior high school educators in the realm of action research, specifically centering on literature review, results presentation, dissemination of research findings through publication, and the intricacies of data collection (Tindowen *et al.*, 2019).

This insight aligns with the findings of Caingcoy (2020) and Tindowen *et al.* (2019), highlighting the intricate nature of challenges faced by educators in the pursuit of research endeavors.

Problem 5. Is There a Significant Relationship between the Level of Teachers’ Research Engagement and Their Characteristics in Terms of Key Stage Area, Highest Educational Attainment, Related Trainings/ Seminars Attended on Research, and Position?

Table 13: Relationship between the Levels of Teachers’ Research Engagement When Grouped According to Profile

| Respondents Profile | Teachers’ Research Engagement Indicators | | |
|--|--|-----------------------------------|---------|
| | Motivation to Write Research | Difficulty in Conducting Research | Overall |
| | r-value | r-value | r-value |
| | p-value | p-value | p-value |
| Key Stage Area | 0.018 | 0.001 | 0.004 |
| | (NLR) | (NLR) | (NLR) |
| | 0.719 | 0.990 | 0.942 |
| | NS | NS | NS |
| Highest Educational Attainment | 0.006 | 0.023 | 0.016 |
| | (NLR) | (NLR) | (NLR) |
| | 0.908 | 0.656 | 0.745 |
| | NS | NS | NS |
| Trainings/ Seminars Attended on Research | 0.524 | 0.230 | 0.520 |
| | (MPR) | (WPR) | (MPR) |
| | 0.041* | 0.005* | 0.006* |
| | S | S | S |
| Position | 0.233 | 0.180 | 0.199 |
| | (WPR) | (WPR) | (WPR) |

| | | | |
|--|--------|--------|--------|
| | 0.001* | 0.001* | 0.001* |
| | S | S | S |

Legend: *significant at $p < 0.05$ alpha level, S – significant, NS – not significant

Table 13 shows the test of relationship between teacher-respondents' research engagement and their profile. The data shows that attendance to related training/seminars about research showed a moderate significant relationship on the level of research engagement as indicated by the correlation r-value and probability value less than 0.05 alpha level which led to the rejection of the null hypothesis. This implies that the teacher-respondent's attendance to related training/seminars on research was moderately related to their level of research engagement. The study of Perines (2021) showed evidence that although the future teachers highly value educational research, they believe that the training they are receiving has considerable weaknesses. They highly value the work of some of their teachers and feel they have acquired new knowledge and tools as part of the courses they have taken, but they think there is little continuity between the instances where educational research is taught.

Furthermore, the respondents' teaching position showed weak but significant relationship on the level of research engagement as indicated by the correlation r-value and probability value less than 0.05 alpha level which led to the rejection of the null hypothesis.

This implies that the teacher-respondent's position was related to their level of research engagement. With a concentrated focus on specialized teaching positions, particularly those held by special education instructors or bilingual educators, Caganaan and Gosadan (2018) undertakes a meticulous assessment of the influence exerted by these roles on research competence. It delves deeply into the distinct research requirements and contributions that emerge within the specialized realms of education.

Problem 6. Based on the Findings, What Research Development Plan for Teachers Can be Designed?

Table 15: Matrix of Research Development Plan

| Year 1 (2024): Building Foundations | | | | | | | |
|--|---|---|-------------------------|---|---|------------------|---|
| Areas of Concern | Specific Objectives | Strategies/ Activities | Time Frame | Person/s Involved | Source of Fund | Estimated Budget | Expected Output |
| Analyzing and Presenting Research Data | Identify emerging themes in an inductive analysis of qualitative data | Conduct hands-on workshops on qualitative data analysis methods, with a focus on inductive analysis. | February 2024 5 days | 1 Division Research Coordinator 23 School Research Coordinators 5 Invited Trainers and Guests | Division MOOE/ Special Education Fund (SEF) | Php 80,000.00 | Data Interpretation Mastery Software utilization competence |
| | | Provide practical exercises and real-world examples for teachers to develop skills in identifying and interpreting emerging themes. | April 2024 3 days | 1 Division Research Coordinator 23 School Research Coordinators 5 Invited Trainers and Guests | Division MOOE/ Special Education Fund (SEF) | Php 36,000.00 | Interactive Group Sessions Report Theme Interpretation Case Analysis |
| | | Encourage collaborative research groups to practice qualitative data analysis collectively, fostering a supportive environment for skill development. | June 2024 2 days | 1 Division Research Coordinator 23 School Research Coordinators 5 Invited Trainers and Guests | Division MOOE/ Special Education Fund (SEF) | Php 24,000.00 | Qualitative data analysis report Insights Writing |

and seminars on research. By prioritizing these initiatives, instructional leaders and school heads can empower teachers to advance their careers and contribute to the improvement of the education system.

3. For the teachers to give more time to collaborate in increasing research output completion and pursue professional development in research completion. it is recommended that they initiate peer-sharing sessions focused on identifying emerging themes and conducting inductive analysis of qualitative data. These sessions would provide a platform for teachers to share their insights, experiences, and research findings, promoting a culture of learning and collaboration. Teachers are more likely to engage in research pursuits, contributing to their professional growth, improvement of educational practices, and enhancement of the teaching profession.

4. For the future researchers to delve into additional variables impacting research outputs and the quantity of published studies conducted by teachers in the respective field.

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