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Action Research Capabilities and Challenges: Basis for Research Enhancement Plan

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ABSTRACT

Engaging in research is vital for educators to enhance their teaching methodologies systematically. This study delves into teachers' action research capabilities and challenges, evaluating competence, and proposing a research enhancement plan. Conducted through descriptive research using a survey questionnaire adapted from Oestar and Marzo (2022), insights were gathered from 446 teachers in Bukidnon during the 2023-2024 school year. Statistical tools like means, frequency, standard deviation, and Pearson-r were utilized for analysis. The results indicate a moderate correlation between teachers' research capabilities and challenges, emphasizing that as capabilities improve, so do challenges. Variances in research capabilities were noted based on factors like educational attainment, underlining the significance of advanced education in nurturing research skills. Differences in research challenges were observed concerning age and educational attainment, underscoring the influence of these factors on research engagement. Recommendations include tailored support, increased research time, professional development emphasis, and collaborative efforts among educators to cultivate a research-centric culture in educational institutions, ultimately enhancing teaching practices.

INTRODUCTION

Research is a crucial instrument for educators in refining their teaching methodologies and guaranteeing optimal learning outcomes for all students. It provides teachers with a platform to explore novel concepts and methodologies, enabling them to discover innovative approaches tailored to their specific classroom needs. Engaging in research is essential for teachers because it empowers them to systematically examine, analyze, and refine their teaching practices. By conducting action research, educators can explore innovative approaches, evaluate the effectiveness of various strategies, and adapt various methods to meet the needs of diverse learners better. Research is one of the most essential functions in any institution.

Teachers in the Philippine basic education sector are encouraged to promote an evidence-based policymaking culture through research. They are expected to have basic or advanced skills in conducting investigations, surveys, or experiments, and data analysis, in their respective teaching fields. (Almonicar, 2023).

DepEd Order No. 16, s. 2017 provides research management guidelines. The policy mentions research as one of the critical performance indicators in the new Result-based Performance Management System, hence, it becomes a part of the teacher's tasks. The DO No. 39 s. 2016 promulgates the Basic Education Research Agenda, which sets different research priorities.

DepEd has taken significant steps to embed research-based decision-making and policy formulation within the department. DepEd's directive, as outlined in DO No. 65, s. 2003, mandates that departmental policies must have a foundation in research. This initiative has urged

the promotion of a research-oriented culture within the realm of basic education. Lastly, DepEd's issuance of Research Management Guidelines, detailed in DepEd Order No. 16, s. 2017, offers comprehensive guidance for managing national, regional, division, and school research initiatives. These concerted efforts and policies within DepEd are anticipated to lead to enhanced research productivity within the department.

Moreover, the Basic Education Research Fund (BERF) plays an important role in advancing educational research and development within the Philippines. Established to develop innovation and improvement in basic education, BERF provides essential resources and funding to support research initiatives that target critical aspects of the educational system. It serves facilitates educational innovation by enabling educators, researchers, and institutions to investigate and address pressing challenges in the field. Through BERF, educators have the opportunity to explore issues related to curriculum design, teaching methodologies, student performance, and policy recommendations.

The research capability among the faculty members may develop over time as it is a skill that needs constant practice (Manongsong & Panopio, 2018). By studying their research abilities, educational institutions can ensure that teachers are equipped with the skills necessary to design rigorous lesson plans, effectively analyze data, and implement research findings to improve their teaching practices. This, in turn, leads to enhanced student outcomes and a more productive learning environment.

This study is to shed light on the action research capabilities and challenges faced by teachers within Manolo Fortich Districts II and III. Exploring into the

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factors that hinder teachers from actively participating in action research, the study seeks to identify the challenges pertaining to knowledge, attitude, and resources that have contributed to this disparity. Ultimately, the research aims to provide valuable insights that can inform strategies and interventions to enhance teachers' action research capabilities and, in turn, promote a culture of research within the educational community of Manolo Fortich Districts II and III. Through this endeavor, the researcher aims to pave the way for a more research-oriented culture among educators, ultimately contributing to the advancement of education in the region.

LITERATURE REVIEW

Research Capability

Action research has been associated with enhancing classroom quality instruction (Oestar & Marzo, 2022). Consequently, the practice of crafting action research has gained momentum and now stands as a prominent concern in the professional development of teachers and administrators. As the practice of crafting action research gains momentum, educators are increasingly developing their capabilities to conduct rigorous research and translate findings into actionable strategies for improved student learning. This emphasis on action research capabilities underscores its important role in empowering educators to enact meaningful change and drive continuous improvement in the classroom. The researcher delves into the challenges and capabilities of teachers in Manolo Fortich District II and III; this study aims to forward an understanding of action research and its role in improving educational practices, ultimately benefiting both educators and students.

Manso (2020) emphasized that teachers involved in action research must embrace self-assessment and reflection to bolster their research capabilities. Through introspection, educators can critically evaluate their teaching methods, pinpoint strengths and weaknesses, and identify areas for enhancement. This process not only cultivates a deeper understanding of research methodologies but also fosters a culture of continuous improvement and professional growth among teachers. By actively engaging in self-reflection, educators hone their research skills, enabling them to conduct more rigorous and effective action research projects. Consequently, this commitment to self-assessment contributes to the development of research capabilities, ultimately enhancing the quality of teaching and learning in their classrooms.

Research Planning and Design

Research design is a critical topic that is central to research studies in science, social science, and many other disciplines. After identifying the research topic and formulating questions, selecting the appropriate design is the researcher's most important decision. Currently, there is a plethora of literature presenting multiple approaches to the formulation of research design. Although the existence of multiple approaches is a powerful source

in the development of a research design, new public administration researchers and students may see it as a source of confusion because there is a lack of clarity in the literature about the approaches to research design, research methods, and research methodology in the social sciences (Abutabenjeh & Jadarat, 2018).

Research design always determines the kinds of analysis that are to be done so as to get the desired results. It articulates what data is required, what methods are going to be used to collect and analyze the data, and how the research questions will be answered. The researcher collects data before thinking through the research design matters and what information is required to answer the research questions. The conclusions drawn will most likely be weak and unconvincing and hence, in the end, fail to obtain the research objective. The research design must contain a strategy for interpreting the analyzed data so as to provide adequate findings and conclusions from the research which will allow the researcher to make recommendations or implications based on the study.

Data Collection and Sampling

Data collection for a study relies on extensive fieldwork, much like case studies, where various types of sources such as participant observation, interviews, documents, artifacts, and immersion in the cultural setting are utilized. Given that a researcher is likely to be studying a culture other than their own, reflexive journals are essential for maintaining awareness of the research process (Creswell & Poth, 2018).

Sampling is the process of employing a portion of a population to represent the entire population in survey research. There are some instances where data sampling techniques help in clarifying (Afifah *et al.*, 2022). The sampling employs a smaller number of people with representative traits to represent the entire large scale with more realistic costs and timelines (Wahab *et al.*, 2023). The researcher must choose who will be included in the sample list and how to pick those who will best reflect the entire population.

Data collection in educational research serves as the foundation for generating insights and conclusions. The selection of appropriate data collection methods is a critical decision, as it directly affects the quality and reliability of the research outcomes. Researchers must carefully choose methods that align with their research questions and objectives to ensure the data collected are relevant and meaningful. The data collection process encompasses a diverse array of techniques and tools, ranging from surveys and interviews to observations and document analysis. Each of these methods offers unique advantages and insights, allowing researchers to explore various dimensions of their research topics (Gogia, 2020).

Data Analysis, Interpretation, and Reporting

Research Data Management (RDM) is a burgeoning field of research. Zhang and Eichmann-Kalwara, (2019) and RDM skills are increasingly required across all disciplines

(Borghetti *et al.*, 2018) as researchers take on more responsibilities to meet the demand for open and reusable data. Higman *et al.* (2019) defined data management as ‘the stewardship of data from the point of conception onwards’ reflecting the breadth of the topic. Indeed, such extensive stewardship is becoming ever more important as funding bodies and publishers are mandating data management and sharing requirements in their policies (Chawinga & Zinn, 2019).

Wilms *et al.* (2018) also cite an issue with the general provision of Research Data Management guidance where researchers have to refer to numerous links and websites for specific guidelines on sub-topics of RDM. Combined with the fact that adherence to such guidance also needs to be carried out by researchers, who have little time to learn the specific skills required further underlines the complexity of RDM practices more generally. Therefore, the researcher’s decisions made around RDM practices at the outset of a research project can be costly in the longer term and impact on the sharing and reusing of their research data. This complexity presents an institutional challenge to upskill researchers in RDM and to drive RDM best practices, according to Zin *et al.* (2021).

Action Research Challenges

Understanding the intricate dynamics of action research challenges is imperative for fostering research efficiency and promoting continuous improvement in educational practices. The reluctance of a significant portion of teachers to engage in action research poses a considerable barrier to the advancement of educational research within the Philippine basic education sector. As educators grapple with the complexities of conducting research amidst the demands of teaching responsibilities, addressing these challenges requires a multifaceted approach that encompasses capacity-building initiatives, enhanced institutional support, and the cultivation of a research-oriented culture within educational settings. By identifying and addressing these obstacles, stakeholders can work towards creating an environment conducive to meaningful educational research that drives positive change in teaching and learning practices (Cortes & Reyes, 2021).

Several challenges hinder their ability to conduct it effectively. Chief among these challenges are time constraints and a lack of knowledge about research methods, compounded by anxieties related to writing. Specifically, teachers struggle with tasks such as literature searching, data collection, and presenting and communicating research findings. Additionally, a study examining the experiences of public school teachers in the Philippines highlighted both the benefits and challenges of conducting classroom-based research. While such research can yield desirable outcomes for teaching-learning practices and professional development, teachers face stress in executing action research projects. Furthermore, challenges include a lack of financial support from schools, limited access to professional development

programs, and heavy teaching and service responsibilities. These difficulties are worsened by inadequate access to internet services and reference materials, contributing to the overall complexity of engaging in AR for many teachers (Ulla, 2018).

Knowledge

According to Bleijenbergh *et al.* (2021), knowledge in action research is essential for understanding its transformative potential. Action research plays a crucial role in theory development and generating contextually relevant knowledge. Despite its relatively limited presence in scholarly literature, action research emerges as a powerful tool for understanding dynamic contexts and demonstrating the efficacy of interventions. Practical guidelines provided for conducting action research projects underscore the importance of stakeholder engagement, meticulous documentation, and reflexivity in shaping knowledge outcomes. This discussion advocates for a broader recognition and adoption of action research methodologies across academic disciplines, emphasizing their pivotal role in enriching the knowledge landscape.

According to Alfaro-Tanco *et al.* (2023), teacher educators involved in research studies have a distinct opportunity to share vital best practices essential for student learning within the realm of action research. Through this process, they bolster their teaching confidence and deepen their comprehension of their students, fostering heightened accountability in their classroom practices. Undertaking school or classroom-based research is positioned as a form of professional development, offering both rewards and challenges for educators. While research endeavors contribute significantly to their professional growth by refining skills and enriching experiences, teachers’ reluctance often arises from perceived additional workloads. Numerous studies have probed this issue, shedding light on factors hindering teachers’ engagement in research activities within the context of action research.

Attitude

If respondents have a positive attitude about research. They like to take part in research activities. They applied research approaches in their professional life, and they like to conduct research. These findings are similar to the results of past studies. According to Kakupa (2019), positive attitudes might be the product of study knowledge. Addressing negative attitudes towards research among teachers often involves providing support, resources, and professional development opportunities. Creating a research-friendly environment, offering research training, and demonstrating the practical benefits of research can help shift attitudes towards a more positive perspective. A negative attitude of teachers towards research is closely intertwined with several key factors, including financial support, heavy workloads, and inadequate training. Many teachers express reluctance to engage in research due to the perception that it demands a substantial time commitment—an already scarce resource given their

heavy teaching loads. The lack of financial support and resources for research further exacerbates this issue, as teachers may struggle to access necessary tools, materials, or funding to carry out meaningful research projects. Additionally, the absence of formal research training contributes to their negative attitude, as teachers may lack the confidence and skills needed to embark on research endeavors. To foster a more positive attitude towards research, it is crucial for educational institutions to address these interconnected challenges by providing adequate training, allocating resources, and acknowledging the demands placed on teachers, thus facilitating their engagement in research activities (Ruedas & Ruedas, 2020).

Resources

Tamban and Maningas (2020) provided substantial findings about the technical writing skills as reference for capability management plan. The challenges and barriers faced by researchers within the academic sphere are multifaceted and often intersect, making it essential to delve deeper into their various aspects to gain a comprehensive understanding. One of the most prevalent and overarching challenges that researchers contend with is the perpetual lack of time to dedicate to their research endeavors. The demanding nature of academic responsibilities, which typically involve teaching, administrative tasks, and committee work, leaves limited time and energy for in-depth research. This time constraint can hinder researchers from conducting thorough investigations, collecting extensive data, and engaging in rigorous analysis.

Like in the study of Jameel and Ahmad (2020), it became evident that while research funding played a pivotal role in boosting research productivity, it was not the sole determinant. Collaborative efforts among researchers were highlighted as a crucial factor contributing to enhanced productivity. Additionally, the presence of robust Information and Communication Technology infrastructure was identified as another catalyst, facilitating efficient data collection, analysis, and dissemination of research findings. Furthermore, the researchers noted that work satisfaction among faculty and staff also played a vital role in shaping research productivity, emphasizing the importance of a positive and motivating work environment in fostering research endeavors.

Statement of the Problem

The study aimed to determine the teachers' action research capabilities and challenges in Manolo Fortich District II and III for the School Year 2023-2024. The result of the study would serve as the basis for a research enhancement plan. It specifically answered the following questions:

1. How are the respondents distributed in terms of age, position, highest educational attainment, and related trainings and seminars attended?
2. What is the respondents' level of action research capabilities based on research planning and design, data

collection and sampling, and data analysis, interpretation and reporting?

3. How do the respondents assess their level of action research challenges considering knowledge, attitude, and resources?

4. Is there a significant relationship between the respondents' action research challenges and the level of action research capabilities with respect to research planning and design, data collection and sampling, and data analysis, interpretation and reporting?

5. Is there a significant difference between the level of action research capabilities, action research challenges when respondents are grouped according age, position, highest educational attainment, and related trainings/seminars attended?

6. Based on the findings of the study, what Research Enhancement Plan on Action Research Capability can be formulated

Theoretical Framework

In the context of the research study on Teachers' Action Research Capabilities and Challenges in Manolo Fortich District II and III, the theoretical framework serves as the intellectual foundation upon which the investigation is built. This study is anchored on Bandura's Self Efficacy Theory. Albert Bandura's concept of perceived self-efficacy boils down to the beliefs and ideas of an individual about the level of capability to execute certain kind of action. The amount of perceived efficacy interacts to the behavior of an individual at a certain level. The higher perception of one's efficiency, the more a person is motivated alongside with the positive outlook and behavior.

Bandura elaborated that manifesting a strong sense of efficiency to oneself can positively impact the lives of every individual in varied ways. One highlighted notion is focused on developing intrinsic motivation to carry out challenging deliverables set by the organization or institution because they manage to create certain mindset that these tasks are not a threat but an opportunity to grow. With this, it can be gleaned that the higher perception of ones self efficacy, the more productive, positive, and well-groomed an individual can be.

The preservation of research integrity within educational institutions is an uncompromisable imperative (Natasya, 2020). These guidelines establish ethical standards and robust methodologies to guide researchers in their pursuit of knowledge, providing a structured framework for ethical conduct while promoting transparency and research ethics (Brink, 2019). Upholding research integrity assumes paramount significance in the Philippines as educational research significantly influences national policies and practices, underlining its pivotal role in making informed decisions.

Scope and Limitations

This study covers elementary and secondary public school teachers within Manolo Fortich District II and III in the

Division of Bukidnon. It seeks to investigate Teachers' Capabilities and Challenges towards Action Research comprehensively. Elementary teachers, responsible for primary education that covers Grades 1-6, and secondary teachers, guiding students through secondary education from Grades 7-12, were included. The study aims to capture the unique dynamics and experiences at both educational levels, shedding light on the difficulties and challenges in research capabilities. The inclusion of public school teachers ensures a representative sample from the district's educational system.

However, it is important to acknowledge certain limitations. The research may be constrained by factors such as Manolo Fortich District II and III's geographical area and the available data collection resources. Additionally, the study focuses solely on public school teachers, potentially excluding valuable insights from teachers in private institutions or other educational contexts. Furthermore, the study's findings may be influenced by the participants' willingness to engage in research activities and respond to survey questions. Despite these limitations, the research aims to provide valuable insights into teacher-researcher roles within this specific district, contributing to a deeper understanding of their capabilities and challenges towards research.

METHODOLOGY

Research Design

The researcher used the descriptive method of research. Descriptive research was used since the action research capabilities of the elementary teachers in Manolo Fortich District II and III is to be studied in order to describe the characteristics of a population or phenomenon being studied. Descriptive studies is to describe individuals, events or conditions by studying them as they are in nature (Siedlecki, 2020). Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions (McCombes 2022). A descriptive research design is the most appropriate design to be used to depict the capabilities of the public school teachers in Manolo Fortich District II.

Study Setting

This study was conducted in Manolo Fortich. It is situated in the northern part of the Province of Bukidnon. It is about 40 minutes away from the bustling commercial center of Cagayan de Oro City. It is bounded in the north by Cagayan de Oro City, Misamis Oriental, and the Municipality of Malitbog. In the east, it is by the Municipality of Sumilao, in the west, it is by the Municipality of Libona and Baungon, and in the south, it is by the rugged ranges of Mount Kitanglad.

Manolo Fortich comprises thirty elementary public schools and five secondary public schools distributed among four districts. District II and III which is the setting of the study is composed of nineteen public schools, thirteen of which are elementary schools, namely:

Alae Central ES, Awol ES, San Isidro ES, Kitam-is ES, Lunocan ES, Mambatangan ES, Camp 1 ES, Plantation Central ES, Sankanan ES, Kalugmanan ES, Bagalangit ES, Lindaban ES and Mampayag ES, four integrated schools which are Damilag IS, Minsuro IS, Dahilayan IS and Mantibugao IS and two secondary public schools which are Alae National High School and Mambatangan National High School.

Study Population and Sampling Technique

The study participants comprised the elementary and secondary teachers in Manolo Fortich Districts II and III. These dedicated educators form the backbone of the local educational system, playing an important role in shaping students' academic experiences. By including both elementary and secondary teachers, this study ensures a comprehensive exploration of the unique challenges and opportunities faced by educators at different levels of the education system. Their experiences, perspectives, and insights are invaluable in understanding how challenges intersect within the context of capabilities in action research in Manolo Fortich District II and III.

A purposive sampling technique was employed, encompassing all elementary and secondary teachers, totaling four hundred forty-six(446) respondents, who constituted the entire population of interest. Covering all educators within the district ensures a comprehensive and

Table A: Distribution of Respondents

Name of School	Number of Teachers
Manolo Fortich II	
Alae Central Elementary School	65
Awol Elementary School	7
Damilag Integrated school	68
Kitam-is Elementary School	17
Lunocan Elementary School	19
Mambatangan Elementary School	34
Mantibugao Integrated School	18
Minsuro Integrated School	5
San Isidro Elementary School	10
Alae National High School	65
Mambatangan National High School	1
Manolo Fortich III	
Camp 1 Elementary School	14
Plantation Central Elementary School	49
Sankanan Elementary School	19
Kalugmanan Elementary School	18
Dahilayan Integrated School	11
Bagalangit Elementary School	2
Lindaban Elementary School	16
Mampayag Elementary School	8
Total	446

representative sample that can provide insights into the variables under examination. In the case of Mambatangan National High School, during the time of the survey, the school had only one permanent teacher. This was because the school had just opened in the previous school year. The determination to include four hundred forty-six respondents was driven by the goal to capture a holistic understanding of the research phenomena, affording the opportunity for an in-depth exploration of the complex interplay between action research capabilities and the challenges confronted by educators within the unique educational landscape of Manolo Fortich II and III District.

Research Instruments

The research questionnaire aimed to gather insights into the action research capabilities and challenges of teachers in Manolo Fortich District II and III within the Division of Bukidnon. It comprised four sections. The first section gathered background information about the respondents, including age, position, educational achievement, and participation in relevant training and seminars. The second section, based on Oestar and Marzo's (2022) study, assessed teachers' research competencies using a rating scale. It covered topics such as research planning, data collection, analysis, and reporting. The third section focused on the challenges faced by teachers in conducting research, addressing difficulties related to knowledge, attitude, and resources. This section aimed to identify barriers to research engagement. The final section consisted of interview questions for the focused-group discussion with teachers who had conducted research in the past three school years. These open-ended questions aimed to gather qualitative insights into the nature, scope, and impact of their research projects.

Statistical Treatment of Data

In the data analysis phase of this study, a combination of descriptive statistics, correlation analysis, and analysis of variance (ANOVA) was employed to derive meaningful insights from the collected data. Descriptive statistics, including simple frequency and percentage analysis, provided an overview of the responses to various questionnaire items, offering insights into the distribution and prevalence of different factors. The Pearson Correlation Coefficient was utilized to assess the significance of the association between teachers' research capabilities and their research challenges, elucidating potential relationships between these variables. Additionally, ANOVA was employed to determine significant differences among groups, further elucidating the varying levels of research capabilities and challenges faced by teachers across different demographics or contexts.

Ethical Consideration

Ethical considerations hold utmost importance in the research study focused on Teacher-Researchers' Action

Capabilities and Challenges. To safeguard the well-being and rights of the participants, strict ethical protocols have been followed throughout the research process. Informed consent was diligently obtained, ensuring that all participants willingly volunteered to partake in the study with full awareness of its objectives. Anonymity and confidentiality measures were implemented to protect the identity and privacy of the participants, and no personal information was disclosed without explicit consent.

The research design followed the ethical principles of beneficence, non-maleficence, and justice, striving to maximize the benefits of the study while minimizing any potential harm or discomfort to the participants. The study underwent rigorous ethical review processes and received necessary institutional approvals, demonstrating a steadfast commitment to upholding ethical standards. These ethical considerations stress the integrity and responsibility with which the research is conducted, reflecting a deep respect for the dignity and rights of all those involved in the study.

RESULTS AND DISCUSSIONS

Problem 1: How are the Respondents Distributed in Terms of Age, Position, Highest Educational Attainment, and Related Training and Seminars Attended?

Table 1: Distribution of Respondents' Profile in terms of Age

Age	Frequency	Percentage
50 years old and above	98	21.97
41 to 50 years old	96	21.52
31 to 40 years old	202	45.29
21 to 30 years old	50	11.21
Total	446	100.00

Table 1 shows the respondents' profile in terms of age. Results show that out of 446 respondents, 202 (45.29%) belonged to the age range of 31-40 years old. This indicates that a significant portion of the respondents are 31-40 years old. Many teachers in their 30s to 40s have transitioned to education from various professional backgrounds, initially pursuing careers in different fields before discovering their passion for teaching. By their thirties, they have often gained enough experience and qualifications to enter the teaching profession, transitioning from other industries later in life. This shift may occur after establishing themselves in their previous careers or deciding to pursue their passion for education at a later stage. According to the study of Uy (2021), in the context of why most teachers fall within the 30 to 40 age range. Among individuals aged 30 to 40, career changes are prevalent, often driven by a desire for greater fulfillment, personal growth, and a reassessment of priorities.

On the other hand, data revealed that out of 446 respondents, 50 (11.21%) are 21 to 30 years old, obtained the lowest frequency. This indicates that the least number of the respondents are in the age range of 21 to 30 years old. This is the age range of most entry-level teachers or newly hired teachers belong. Teachers in their 20s to 30s today have a declining interest in pursuing careers in education during this age range. The study conducted by Baines and Stanley (2020) explores the perceptions and preparedness of Millennials and Generation Z individuals regarding the teaching profession. By examining the attitudes and career aspirations of the youth, this research offered valuable insights into why there may be relatively few teachers in their 20s to 30s today.

Table 2: Distribution of Respondents' Profile in terms of Teacher's Position

Position	Frequency	Percentage
Master Teacher II	6	1.34
Master Teacher I	12	2.69
Teacher III	42	9.42
Teacher II	36	8.09
Teacher I	350	78.46
Total	446	100.00

Table 2 provides an overview of the respondents categorized by their teaching position. The data reveals that the majority of participants hold the position of Teacher I, comprising 350 (78.46%) of the respondents. This highlights the prevalence of entry-level teaching positions among the respondents. The prominence of Teacher I roles underscores the composition of the teaching workforce, indicating a significant presence of educators in the early stages of their careers. The study by Ingersoll *et al.* (2021) on teacher workforce trends offers valuable insights into why there are many Teacher I positions' today. Their research likely delves into the composition of the teaching workforce, specifically focusing on the prevalence of entry-level positions such as Teacher I.

However, the data reveal that participants' positions as Master Teacher II are the least represented in terms of teaching positions, with only six respondents (1.34%) holding this position. This inequality can be attributed to the fact that, at the elementary level, there is an average ratio of 10 regular teachers for every one master teacher. Similarly, at the secondary level, the average ratio is five regular teachers for every one master teacher. Consequently, there are fewer master teachers compared to regular teachers in both elementary and secondary levels. The scarcity of Master Teacher II positions, as indicated by the data, underscores the challenges and unique characteristics of advancing to this level within the teaching profession (Comon & Corpuz, 2024).

Table 3 illustrates the respondents' highest educational attainment. Data show that participants with Bachelors'

Table 3: Distribution of Respondents' Profile in terms of Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage
PhD Degree	4	0.90
Units in PhD Degree	31	6.95
Masters' Degree	18	4.04
Units in Masters' Degree	171	38.34
Bachelors' Degree	222	49.78
Total	446	100.00

Degree are the highest in terms of highest educational attainment, with a frequency of 222 (49.78%). The data emphasizes the frequency and significance of advanced academic achievements. Most participants in the study have obtained a Bachelor's degree, which aligns with the minimum requirement for becoming a public school teacher, where a Bachelor's degree is often a fundamental prerequisite. According to the study by Sumarni (2020), the research points out the struggle teachers face in attempting to enhance their professional development, including the pursuit of higher degrees. The study reflects the notion that time constraints and financial limitations are significant factors that deter teachers from engaging in continuous professional development activities.

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 4 (0.90%). This could be attributed to several factors. Firstly, many older teachers may have entered the profession prioritizing practical experience over pursuing advanced academic degrees. Moreover, before pursuing a doctoral degree, a master's degree is often a prerequisite, adding another layer of time and financial commitment. Even though many teachers might want a doctorate, the challenges, both physical and mental, and the financial burden make it difficult for most of them to pursue (Comon & Corpuz, 2024).

Table 4: Distribution of Respondents' Profile in terms of Related Trainings/Seminars Attended

Number of Related Trainings Attended	Frequency	Percentage
4 and above Trainings	160	35.87
1 to 3 Trainings	238	53.36
None	48	10.76
Total	446	100.00

Table 4 shows the respondents' profile in terms of related trainings attended. Results show that out of 446 respondents, 238 (53.36%) attended 1 to 3 related trainings. This suggests that many of the teachers surveyed have taken part in professional development or additional training related to conducting action research. Attending these trainings shows a commitment

to learning and improving skills among the respondents. It also indicates the importance placed on staying up-to-date with current practices and advancements in their fields. According to Brown and Davis (2019), the impact of professional development on teacher effectiveness and the prevalence of teachers having undergone training can be attributed to the significant benefits associated with such engagements.

On the other hand, 48 (10.76%) have no attendance to related trainings. This indicates that a few teachers have not engaged in trainings specifically related to action research. This suggests that the overwhelming majority of teachers have eagerly engaged in trainings specifically

tailored to action research, displaying their strong dedication to professional growth and development. The study conducted by Smith and Johnson (2020) on barriers to teacher participation in professional development offers valuable insights into why only a small group of teachers may not have undergone training related to research. This study identifies various obstacles that educators encounter when accessing professional development opportunities.

Problem 2: What is the Respondents’ Level of Action Research Capabilities Based on Research Planning and Design, Data Collection and Sampling, and Data Analysis, Interpretation and Reporting?

Table 5: Distribution of Respondents’ Level of Action Research Capabilities in terms of Research Planning and Design

Indicators	Mean	SD	Description
As a teacher, I can...			
Identify the problems or issues to be addressed.	2.97	0.572	Capable
Write the introduction effectively.	2.83	0.540	Capable
Formulate research questions.	2.77	0.525	Capable
Write the context and rationale effectively.	2.69	0.505	Capable
Cite of related literature comprehensively.	2.76	0.521	Capable
Organize related literature systematically.	2.76	0.521	Capable
Draft theoretical framework.	2.73	0.515	Capable
Draft conceptual framework with clarity.	2.75	0.519	Capable
Make intervention, output of the action research	2.80	0.531	Capable
Make a budget plan and timeline.	2.89	0.553	Capable
Overall	2.79	0.530	Capable

Legend:

3.25 – 4.00

Highly Capable/ Very High

2.51 – 3.24

Capable/ High

1.75 – 2.50

Moderately Capable/ Low

1.00 – 1.74

Not Capable/ Very Low

Table 5 shows the respondents’ level of action research capabilities in terms of research planning and design. Overall, results show that the respondents’ level of action research capabilities in terms of research planning and design obtained an overall mean of 2.79 (SD=0.530) described as Capable. This suggests that, on average, the respondents exhibit competence in research planning and designing action research projects. Henderson and Choi’s (2020) review of strategies for enhancing action research capabilities among educators provides valuable insights into why most teachers demonstrate capability in research planning and design.

In line with this, the indicator As a teacher, I can identify the problems or issues to be addressed obtained the highest mean rating of 2.97(SD=0.572), described as Capable. This signifies that the respondents demonstrate a strong ability to recognize and identify relevant problems

or issues within their educational contexts. This indicates that there is relatively little variability in the ratings among the respondents, suggesting a consistent perception of their ability to identify problems or issues. The study conducted by Furlong and Oancea (2019) explores the importance of educators’ reflexivity and critical thinking skills in the context of identifying problems or issues within educational settings. It emphasizes the role of self-awareness and introspection in understanding the complexities inherent in classroom and school dynamics. On the other hand, the indicator As a teacher, I can write the context and rationale effectively got the lowest mean of 2.69 (SD=0.505) described as capable. The findings suggest that respondents may face difficulties in articulating the context and rationale effectively in their action research. The low standard deviation indicates minimal variability in the ratings among respondents for this indicator, implying some consistency in their perceptions of their inability to write context and rationale effectively. The study conducted by Williams and Thompson (2020) sheds light on the challenges faced by teacher-researchers in written communication. Through their research, they highlight the difficulties educators encounter in articulating context and rationale effectively.

Table 6: Distribution of Respondents' Level of Action Research Capabilities in terms of Data Collection and Sampling

Indicators	Mean	SD	Description
As a teacher, I can...			
Select Research Designs.	2.72	0.532	Capable
Describe The Research Locale.	2.90	0.556	Capable
Describe The Research Population.	2.86	0.551	Capable
Use Appropriate Sampling Technique.	2.83	0.538	Capable
Reduce The Research Population To Sample Size.	2.78	0.527	Capable
Prepare The Data-Gathering Instrument.	2.81	0.533	Capable
Validate The Data-Gathering Instrument.	2.68	0.503	Capable
Administer A Paper-Based Research Instrument.	2.76	0.523	Capable
Make And Administer A Computerized Online Research Instrument.	2.72	0.512	Capable
Make Ethical Considerations In The Conduct Of Action Research.	2.73	0.518	Capable
Overall	2.78	0.529	Capable

Legend:

3.25 – 4.00

Highly Capable/ Very High

2.51 – 3.24

Capable/ High

1.75 – 2.50

Moderately Capable/ Low

1.00 – 1.74

Not Capable/ Very Low

Table 6 shows the respondents' level of action research capabilities in terms of data collection and sampling. Overall, it obtained a mean of 2.79 (SD=0.529), described as Capable. This suggests that there is a consensus that respondents possess some proficiency in gathering data and selecting appropriate sampling methods for their action research projects. The study conducted by Ofsted (2022) emphasizes the importance of teachers and school leaders having essential knowledge of evidence-based research, particularly in the context of data collection and gathering. In the same table, the indicator As a teacher, I can describe the research locale obtained the highest mean rating of 2.90 (SD=0.556), described as Capable. The standard

deviation suggests a moderate level of variability in the ratings among the respondents for this indicator. This indicates that there is a general consensus that educators possess a strong ability to provide detailed descriptions of the research locale within their action research. Martinez (2020) explored the significance of considering contextual factors in educational research and practice. On the other hand, the indicator As a teacher, I can validate the data gathering instrument got the lowest mean rating of 2.68 (SD=0.503), described as Capable. This indicates that there is a consensus regarding their responses that they have a low capability in validating the instruments they use to collect data. It suggests that respondents may face challenges in validating the instruments they use to collect data for their action research projects. Many educators find it more convenient to enlist the help of experts who specialize in instrument validation. The study by Sürücü and Maslakçı (2020) emphasizes the fundamental importance of validity and reliability in research, particularly concerning the instruments used to measure concepts.

Table 7: Distribution of Respondents' Level of Action Research Capabilities in terms of Data Analysis, Interpretation and Reporting

Indicators	Mean	SD	Description
As a teacher, I can...			
Choose the tools for data analysis and Interpretation.	2.65	0.494	Capable
Present data in a tabular and graphical manner.	2.72	0.511	Capable
Make the textual interpretation of data.	2.64	0.492	Capable
Summarize findings of the study.	2.73	0.514	Capable
Draft the conclusion of the study.	2.82	0.535	Capable
Make recommendations derived from the findings.	2.66	0.498	Capable
Formulate an action plan.	2.68	0.503	Capable
Make a comprehensive financial report	2.65	0.496	Capable
Share the findings of the action research with a proper forum.	2.68	0.503	Capable
Publish the completed action research.	2.55	0.470	Capable
Overall	2.68	0.502	Capable

Legend:

- 3.25 – 4.00
Highly Capable/ Very High
- 2.51 – 3.24
Capable/ High
- 1.75 – 2.50
Moderately Capable/ Low
- 1.00 – 1.74
Not Capable/ Very Low

Table 7 shows the respondents' level of action research capabilities in terms of data analysis, interpretation and reporting. Overall, it obtained an overall mean of 2.68 (SD=0.502) described as Capable. This suggests that there is relatively minimal variability in the ratings among the respondents. This indicates a consistent perception of their capabilities in data analysis, interpretation, and reporting. The low variability could suggest that there is a general consensus among respondents regarding their proficiency in these areas. The overall mean suggests that respondents have a moderate proficiency in these key aspects of action research. The study conducted by Nguyen *et al.* (2019) clarifies educators' competencies in data analysis, interpretation, and reporting within the context of action research. Their research aligns closely with the observations from Table 7, indicating that educators generally demonstrate a moderate level of proficiency in these essential aspects.

The indicator As a teacher I can draft the conclusion of the study obtained the highest mean rating of 2.82(SD=0.535), described as Capable. The relatively small standard deviation indicates that most respondents provided ratings that were relatively close to the mean score indicating a consistent perception of their capability in drafting study conclusions. It suggests that respondents demonstrate strong proficiency in constructing the conclusions of their research endeavors within the context of action research projects. According to Caulfield (2023), the high proficiency demonstrated by teachers in drafting conclusions for their studies is supported by a multitude of factors. Their extensive experience in structuring lessons and effectively communicating complex ideas to diverse audiences promotes a strong ability to synthesize and articulate key findings.

On the contrary, the indicator As a teacher, I can publish the completed action research got the lowest mean rating of 2.55 (SD=0.470), described as Capable. This suggests that there is a relatively low level of variability in the ratings among respondents regarding their ability to publish completed action research. This indicates that there is a consistency in the perceptions of respondents regarding their proficiency in their capability to publish completed action research. Vecaldo (2019) stressed that teachers often face challenges that hinder their capabilities in publishing their studies.

Table 8: Summary of the Respondents' Level of Action Research Capabilities

Variables	Mean	SD	Interpretation
Research Planning and Design	2.79	0.530	Capable
Data Collection and Sampling	2.78	0.529	Capable
Data Analysis, Interpretation and Reporting	2.68	0.502	Capable
Overall	2.75	0.520	Capable

Legend:

- 3.25 – 4.00
Highly Capable/ Very High
- 2.51 – 3.24
Capable/ High
- 1.75 – 2.50
Moderately Capable/ Low
- 1.00 – 1.74
Not Capable/ Very Low

Table 8 shows the summary of the respondents' level of action research capabilities. Overall, results show that the respondents' level of action research capabilities obtained an overall mean of 2.75 (SD=0.520), interpreted as Capable. This suggests that most respondents provided ratings indicating a consistent perception of their capability in action research. This signifies that the respondents have a moderate level of action research capabilities, indicating a solid grasp of key research aspects. Caingcoy (2020) emphasizes the moderate capabilities of teachers in conducting action research, highlighting the significance of further development and enhancement in this area.

The variable Research Planning and Design obtained the

highest overall mean rating of 2.79 (SD=0.530), which is interpreted as Capable. The relatively small standard deviation implies that the differences are not very distinct. Most respondents provided ratings that were relatively close to the mean score of 2.79, indicating a consistent perception of their capability in research planning and design, suggesting a moderate level of agreement among respondents regarding their proficiency in this area.

On the contrary, the indicator Data Analysis, Interpretation and Reporting got the lowest mean rating of 2.68 (SD=0.502), interpreted as Capable. The relatively low standard deviation suggests that the ratings for this indicator are clustered relatively close to the mean rating of 2.68. This implies that there is less variability or spread in the ratings provided by respondents for this particular indicator. In other words, there is a higher level of agreement or consistency among respondents regarding the capability level of data analysis, interpretation and reporting. Peel (2020) defines several factors contributing to the perceived ease of research planning compared to data analysis.

Problem 3: How do the Respondents Assess Their Level of Action Research Challenges Considering Knowledge, Attitude, and Resources?

Table 9 shows the respondents' level of assessment of action research challenges considering knowledge. Results show that the respondents' level of assessment of action research challenges considering knowledge described as Agree, as indicated by the overall mean of 2.67 (SD=0.499). The relatively low standard deviation suggests that the ratings for this assessment are clustered relatively close to the mean rating of 2.67. In other words, there is a higher level of agreement or consistency among respondents regarding their assessment of action research challenges in terms of knowledge. The study by McNiff

and Whitehead (2021) sheds light on a critical problem encountered by teachers in engaging with action research. Moreover, the indicator Inadequate proficiency in creating graphical and tabular representations hinders me in conducting action research, obtained the highest mean rating of 2.80 (SD=0.531) described as Agree. The standard deviation implies that there is moderate diversity in the perceptions of respondents regarding the hindrance caused by inadequate proficiency in creating graphical and tabular representations when conducting action research. According to Mason-Bish (2019), the recognition of the important role played by well-crafted graphical and tabular presentations in research data is evident in the positive steps researchers have taken in this area.

Table 9: Mean Distribution of Respondents' Level of Assessment of Action Research Challenges Considering Knowledge

Indicators	Mean	SD	Description
This research challenge in knowledge hinders me in conducting research.			
Misunderstanding of classroom-based Action Research.	2.71	0.509	Agree
Misunderstanding of the procedures followed in conducting classroom-based Action Research.	2.61	0.485	Agree
Misunderstanding of research ethics.	2.63	0.491	Agree
Limited understanding in data interpretation.	2.63	0.489	Agree
Insufficient knowledge in data collection techniques.	2.59	0.480	Agree
Lack of exposure to diverse research methodologies.	2.61	0.485	Agree
Inadequate training in data analysis techniques.	2.66	0.498	Agree
Limited understanding of how to formulate a strategy and innovation for testing.	2.72	0.511	Agree
Lack of clarity regarding the scope and objectives of action research.	2.72	0.513	Agree
Inadequate proficiency in creating graphical and tabular representations.	2.80	0.531	Agree
Overall	2.67	0.499	Agree

Legend:

3.25 – 4.00

Strongly Agree/ Many Challenges

2.51 – 3.24

Agree/ Several Challenges

1.75 – 2.50

Disagree/ Few Challenges

1.00 – 1.74

Strongly Disagree/ No Challenge

However, the indicator Insufficient knowledge in data collection techniques hinders me in conducting research got the lowest mean rating of 2.59 (SD=0.480) described as Agree.

The relatively low standard deviation suggests that the

ratings for this indicator are clustered relatively close to the mean. It implies that there is less variability or spread in the ratings provided by respondents for this particular indicator which means there is a higher level of agreement or consistency among respondents regarding the hindrance caused by insufficient knowledge in data collection techniques when conducting research. The study conducted by Giri *et al.* (2019) brings to light a significant challenge contributing to the limited proficiency of teachers in data collection techniques. It stresses the struggles encountered by researchers who lack expertise in this area, shedding light on a fundamental obstacle faced by teacher-researchers.

Table 10: Mean Distribution of Respondents' Level of Assessment of Action Research Challenges Considering Attitude

Indicators	Mean	SD	Description
This research challenge in attitude hinders me in conducting research ...			
Less appreciation of the usefulness of action research in enhancing instruction.	2.69	0.504	Agree
Less recognition of the usefulness of action research for my professional growth as a teacher.	2.66	0.498	Agree
Unwillingness to write action research for intensified instruction.	2.65	0.496	Agree
Unwillingness to write action research for effective intervention.	2.53	0.466	Agree

Unwillingness to write action research for my promotion	2.51	0.462	Agree
Limited enthusiasm for collaboration with peers on action research projects.	2.58	0.477	Agree
Reluctance to allocate time and effort to action research due to heavy workloads	2.67	0.501	Agree
Resistance to change and innovation in teaching Methods	2.55	0.470	Agree
Lack of confidence in one's ability to successfully conduct action research	2.65	0.496	Agree
Perceives action research as an additional burden rather than a valuable professional development opportunity	2.59	0.481	Agree
Overall	2.61	0.485	Agree

Legend:

3.25 – 4.00

Strongly Agree/ Many Challenges

2.51 – 3.24

Agree/ Several Challenges

1.75 – 2.50

Disagree/ Few Challenges

1.00 – 1.74

Strongly Disagree/ No Challenge

Table 10 shows the respondents' level of assessment of action research challenges considering attitude. Overall, results show that the respondents' level of assessment of action research challenges considering attitude was described as Agree, interpreted as having several challenges indicated by the overall mean of 2.61 (SD=0.485). The relatively low standard deviation suggests that the ratings for this assessment are clustered relatively close to the mean. The insights from the study conducted by Leuverink (2021) shed light on the challenges that teachers face in developing a strong research attitude, particularly in the context of educational research. The indicator Less appreciation of the usefulness of action research in enhancing instruction hinders me in

conducting research obtained the highest mean rating of 2.69 (SD=0.504), described as Agree, interpreted as having several challenges pertaining to this indicator. This suggests that respondents generally had a consensus in how they rated the indicator "Less appreciation of the usefulness of action research in enhancing instruction. Moreover, Clark (2019) expounds on the notion that teachers may harbor a diminished appreciation for the efficacy of action research in supporting instruction due to several obvious factors.

On the other side, the indicator Unwillingness to write action research for my promotion hinders me in conducting research got the lowest mean rating of 2.51 (SD=0.462), described as Agree and interpreted as having several challenges. The low standard deviation suggests that responses were clustered closely around the mean, indicating a strong consensus that there are challenges related to the willingness to write action research for promotion. Weng and Zhu (2020) emphasize the importance of continuous professional development in research, highlighting the significance of staying updated with industry trends and building networks for career advancement.

Table 11: Mean Distribution of Respondents' Level of Assessment of Action Research Challenges Considering Resources

Indicators	Mean	SD	Description
Lack of budget	3.45	0.689	Strongly Agree
No computer or laptop	1.87	0.302	Disagree
No printer	1.90	0.309	Disagree
Insufficient reference materials (journals, books, reports, etc.)	2.59	0.480	Agree
Lack of training or seminar-workshop on research activities	2.78	0.526	Agree
Lack of moral support from the principal.	2.14	0.370	Disagree
Inadequate knowledge of research funding opportunities	2.53	0.466	Agree
Limited access to relevant research software and tools	2.52	0.463	Agree
Inadequate internet connectivity for online research Resources	2.46	0.448	Disagree
Insufficient availability of research mentors or advisors.	2.56	0.472	Agree
Overall	2.48	0.452	Disagree

Legend:

3.25 – 4.00

Strongly Agree/ Many Challenges

2.51 – 3.24

Agree/ Several Challenges

1.75 – 2.50

Disagree/ Few Challenges

1.00 – 1.74

Strongly Disagree/ No Challenge

Table 11 shows the respondents' level of assessment of action research challenges considering resources, described as Disagree which is interpreted as having only few challenges indicated by the overall mean of 2.48 (SD=0.452). The low standard deviation suggests that responses were clustered closely around the mean, indicating a high level of agreement among respondents. This suggests that there was relatively little variability,

indicating a strong consensus that there are only a few challenges related to resources in conducting action research. Despite the resource-related challenges identified in the study of Ulla (2018), teacher-researchers maintain an optimistic perspective on research, recognizing its manifold professional and personal benefits.

The indicator Lack of budget in conducting research hinders me in conducting research obtained the highest mean rating of 3.45 (SD=0.689) described as Strongly Agree and interpreted as having many challenges. The higher standard deviation suggests that responses varied more widely from the mean compared to other indicators, but still indicating a strong agreement among respondents. This indicates a strong consensus among respondents that budgetary constraints significantly impede their ability to conduct research. In the study conducted by Neema and Chandrashekar (2021), the significance of research funding in supporting various aspects of research

endeavors is highlighted. The availability of funding allows researchers to cover critical expenses related to manpower, materials, and infrastructure necessary for effective research.

The indicator No computer or laptop to use in conducting research got the lowest mean rating of 1.87 (SD=0.302), described as Disagree and interpreted as having few challenges. The low standard deviation suggests that responses were clustered closely around the mean, indicating a high level of agreement among respondents. This indicates a strong consensus that there are few challenges related to the lack of a computer or laptop for conducting research. This suggests that the majority of respondents do not perceive the lack of a computer or laptop as a significant hindrance to their research activities. Guillén *et al.* (2020) emphasize the role of computers in modern research, enabling researchers to conduct intricate analyses and simulations with precision and efficiency.

Table 12: Summary of the Level of Teacher-Respondents' Level of Assessment of Action Research Challenges

Variables	Mean	SD	Interpretation
Knowledge	2.67	0.499	Several Challenges
Attitude	2.61	0.485	Several Challenges
Resources	2.48	0.452	Few Challenges
Overall	2.59	0.479	Several Challenges

Legend:

3.25 – 4.00

Many Challenges

2.51 – 3.24

Several Challenges

1.75 – 2.50

Few Challenges

1.00 – 1.74

No Challenge

Table 12 shows the summary of the teacher-respondents' level of assessment of action research challenges. Overall, results show that the teacher respondents' level of assessment of action research challenges was described as Agree and interpreted as having several challenges as indicated by the overall mean of 2.59 (SD=0.479). The low standard deviation suggests that responses were concentrated around the mean, indicating agreement that there are several challenges related to action research.

The variable Knowledge obtained the highest overall mean rating of 2.67 (SD=0.499), which is interpreted as Several Challenges. The low standard deviation suggests that responses were concentrated around the mean, indicating a high level of agreement among respondents. This signifies that teachers perceive a significant challenge related to knowledge in conducting research. This suggests that many teachers acknowledge a deficiency in the necessary expertise, skills, or understanding required to effectively engage in research activities. The discussion

presented stems from a study conducted by Ertembo and Tsedeke (2023), which delves into the challenges faced by teachers when conducting action research projects. The findings highlight the significant problem posed by a lack of basic knowledge and skills among teachers, particularly in areas crucial for research, such as data analysis and problem-solving.

Furthermore, the variable Resources got the lowest overall mean rating of 2.48 (SD=0.452), interpreted as Few Challenges. A low standard deviation suggests that responses were concentrated around the mean, indicating a high level of agreement among respondents. This suggests that teachers perceive resource-related challenges as less significant than challenges related to knowledge and attitude. Isidro *et al.* (2019) emphasized the significant impact of technology in motivating graduate students to conduct research, with respondents highlighting its role in simplifying and facilitating research processes when coupled with various technological tools and support from advisors and institutions.

Problem 4: Is there a Significant Relationship Between the Respondents' Action Research Challenges and the Level of Action Research Capabilities with Respect to Research Planning and Design, Data Collection and Sampling, and Data Analysis, Interpretation and Reporting?

Table 13: Test Result of Relationship between the Respondents’ Action Research Capabilities and Research Challenges

Action Research Capabilities	Action Research Challenges			Overall
	Knowledge	Attitude	Resources	
	r-value	r-value	r-value	
	p-value	p-value	p-value	p-value
Research Planning and Design	0.523	0.521	0.458	0.570
	(MPR)	(MPR)	(WPR)	(MPR)
	0.012*	0.022*	0.048*	0.006*
	S	S	S	S
Data Collection and Sampling	0.534	0.513	0.438	0.581
	(MPR)	(MPR)	(WPR)	(MPR)
	0.011*	0.037*	0.025*	0.015*
	S	S	S	S
Data Analysis, Interpretation and Reporting	0.567	0.571	0.543	0.506
	(MPR)	(MPR)	(MPR)	(MPR)
	0.010*	0.029*	0.009*	0.007*
	S	S	S	S

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

Table 13 presents the correlation between research capabilities, encompassing research planning and design, data collection and sampling, and data analysis, interpretation, and reporting, and research challenges across knowledge, attitude, and resources. In terms of research planning and design, it was found that there is an overall moderate significant relationship between research planning and design and action research challenges, as indicated by a p-value of 0.006. This relationship is consistent among the variables of knowledge (p-value = 0.012), attitude (p-value = 0.022), and resources (p-value = 0.048). This suggests that higher levels of capabilities in research planning and design are associated with higher challenges in terms of knowledge, attitude, and resources. The significant relationship between research planning and design and action research challenges can be attributed to several factors. Firstly, as researchers gain expertise in planning and designing research, they may set more ambitious goals for their studies, leading to increased complexity and potential challenges in implementation. For data collecting and sampling, the analysis reveals an overall moderate significant relationship with action research challenges, with a p-value of 0.015. This relationship remains consistent across knowledge (p-value = 0.011), attitude (p-value = 0.037), and resources (p-value = 0.025). These findings suggest that higher levels of capabilities in data collecting and sampling are associated with higher challenges in knowledge, attitude, and resources. This could be because as researchers become more skilled in data collection and sampling techniques, they may set higher standards for the quality and depth of their research, leading to a greater awareness of challenges related to knowledge, attitude, and resources. Additionally, more sophisticated data collection methods may require greater resources and a more critical attitude towards research design and implementation.

Moreover, in terms of data analysis, interpretation and reporting, the analysis demonstrates an overall moderate significant relationship with action research challenges, with a p-value of 0.007. This relationship is also consistent across knowledge (p-value = 0.010), attitude (p-value = 0.029), and resources (p-value = 0.009). These results suggest that higher levels of capabilities in data analysis, interpretation, and reporting are associated with higher challenges in knowledge, attitude, and resources. According to Mills (2018), researchers can use their knowledge and skills to address challenges related to knowledge, attitude, and resources by effectively planning and designing their research projects. A researcher with advanced skills in research planning and design may choose a more complex research design that requires sophisticated methods. This could lead to challenges in terms of knowledge, as the researcher may need to acquire new skills or knowledge to effectively implement the chosen research design. Furthermore, a more ambitious research plan may require a higher level of resource allocation, leading to challenges in securing adequate resources for the project. The insights provided by Ulla (2018) underscored the critical importance of teachers possessing the necessary skills to effectively carry out their duties. Particularly in the context of research activities, teachers require adequate knowledge and skills to address classroom challenges and engage in meaningful problem-solving. However, if teachers lack proficiency in research skills, they may struggle to perform their duties successfully.

Problem 5: Is There a Significant Difference between the Level of Action Research Capabilities and Action Research Challenges When Respondents are Grouped According Age, Position, Highest Educational Qualification, and Related Trainings/ Seminars Attended?

Table 14: Test Result of Differences of the Respondents’ Action Research Capabilities When Grouped According to their Profile

Profile of Respondents	Action Research Challenges			Overall
	Research Planning and Design	Data Collection and Sampling	Data Analysis, Interpretation and Reporting	
	F-value	F-value	F-value	F-value
	p-value	p-value	p-value	p-value
Age	0.83	1.39	0.80	0.23
	0.507	0.265	0.089	0.260
	NS	NS	NS	NS
Position	0.49	0.59	0.95	0.78
	0.453	0.832	0.161	0.441
	NS	NS	NS	NS
Highest Educational Attainment	3.89	4.46	3.37	4.22
	0.012*	0.016*	0.005*	0.009*
	S	S	S	S
Related Trainings/ Seminars Attended	3.35	3.12	4.29	4.15
	0.044*	0.007*	0.007*	0.018*
	S	S	S	S

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

Table 14 shows the test of differences in the respondents’ action research capabilities when grouped according to their profiles. The respondents’ action research capabilities were significantly different when grouped according to their highest educational attainment and related trainings/seminars attended, as indicated by the F-value and probability value less than 0.05 alpha level, which led to the rejection of the null hypothesis. This indicates that teachers’ capability in action research methodologies and skills is influenced by their educational background. Those with higher educational achievements tend to vary in capabilities in action research compared to their counterparts. This is likely because higher education provides a more in-depth understanding of research methodologies and techniques. Additionally, individuals with higher educational achievements may have had more exposure to research experiences during their academic

studies, allowing them to develop practical research skills. The results mirror those documented in Pilongo’s (2020) research, indicating a significant correlation between respondents’ characteristics and their research capabilities. Specifically, factors such as the highest educational qualification attained and the attendance of relevant training seminars emerge as influential determinants of individuals’ research aptitude. This highlights the notion that educational background and continuous professional development play important roles in shaping one’s ability to engage effectively in research activities. In essence, the findings highlight the importance of considering these aspects of individuals’ profiles when assessing their research capabilities. By recognizing the impact of educational attainment and ongoing training on research proficiency, stakeholders can devise targeted interventions aimed at enhancing researchers’ skills and competencies.

Table 15: Test of Differences of the Respondents’ Action Research Challenges When Grouped According to their Profile

Profile of Respondents	Action Research Challenges			Overall
	Knowledge	Attitude	Resources	
	F-value	F-value	F-value	F-value
	p-value	p-value	p-value	p-value
Age	0.15	3.52	3.81	3.13
	0.152	0.003*	0.024*	0.019*
	NS	S	S	S
Position	0.60	0.22	0.98	2.35
	0.843	0.593	0.272	0.171
	NS	NS	NS	NS

Highest Educational Attainment	2.83	3.39	4.81	4.23
	0.040*	0.016*	0.037*	0.027*
	S	S	S	S
Related Trainings/ Seminars Attended	0.49	0.88	0.78	0.99
	0.553	0.236	0.546	0.338
	NS	NS	NS	NS

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

Table 15 shows the test of differences of the respondents' action research challenges when grouped according to their profile. Overall, the respondents' action research challenges were significantly different when grouped according to their age, with a p-value of 0.019. This suggests that age plays a role in shaping individuals' experiences of challenges in conducting action research. Younger respondents may encounter distinct obstacles or difficulties when engaging in action research activities, whereas older respondents may have accumulated more experience and skills in the research field over time. This implies that older respondents might encounter fewer challenges or possess better strategies for overcoming obstacles compared to younger respondents. It stresses the importance of experience in building research capabilities and navigating research challenges effectively. Moreover, the respondents' action research challenges were significantly different when grouped according to their highest educational attainment, with overall p-value of 0.027. This suggests that the level of action research challenges varies with individuals' educational backgrounds. Those with higher educational achievements may face different challenges compared to those with lower educational attainment. Higher levels of education are often accompanied by increased access to resources and networks. This accumulated experience can better equip them to navigate challenges in action research

compared to teachers with lower educational attainment. Oliveri *et al.* (2021) emphasize the importance of considering age and highest educational attainment as significant factors influencing the challenges encountered in action research. While age-related effects are often disregarded in educational contexts, they play a substantial role in shaping the research process. The researchers suggest that age and educational background can impact individuals' abilities to navigate obstacles in action research, highlighting the diverse experiences of educators and researchers.

Younger individuals and those with lower educational attainment may face distinct challenges due to their relative lack of experience and skills in research methodologies. In contrast, older individuals and those with higher educational achievements, who may have accumulated more experience over time, might have developed better strategies for overcoming obstacles. This stresses the importance of acknowledging the influence of age and educational background on research capabilities and challenges, as it can lead to a more nuanced understanding of how different individuals approach and engage in action research.

Problem 6: Based on the Findings of the Study, What Research Enhancement Plan on Action Research Capability Can be Formulated?

Table 16: Matrix of Research Enhancement Plan

Areas of Concern	Specific Objectives	Strategies / Activities	Persons Involved	Time Frame	Source of Fund	Budget	Expected Outcome
Data Analysis, Interpretation and Reporting	Enhance educators' proficiency in data analysis, interpretation, and reporting by employing descriptive statistics, t-tests, and F-tests to ensure the accurate and meaningful presentation of research findings.	Organize workshops and training sessions focused on teaching educators how to effectively utilize descriptive statistics, t-tests, and F-tests in data analysis.	July 2024 1 day	1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers	MOOE	Php 2,000	Mastery descriptive statistics, t-tests, and F-tests in data analysis.

<p>Creating Graphical and Tabular Representations</p>	<p>Enhance educators' capacity to create visually compelling and informative graphical and tabular representations of research data using Excel for data visualization and Word for report presentation.</p>	<p>Conduct a hands-on workshop guiding educators in creating visually engaging graphical and tabular representations of research data in Excel and Word to enhance their data visualization skills.</p>	<p>Enhance teachers' abilities to discern when to utilize descriptive statistics, t-tests, and F-tests for analyzing various types of educational data and research questions.</p>	<p>Organize workshops and training sessions focused on teaching educators on when to use descriptive statistics, t-tests, and F-tests in data analysis.</p>	<p>Provide training workshops on statistical analysis software such as SPSS or Excel to enhance educators' proficiency in quantitative data analysis.</p>	<p>Offer hands-on practice sessions where educators work with real research data sets, guiding them through the process of data cleaning, and analysis.</p>
<p>August 2024 1 day</p>	<p>July 2024 1 day</p>	<p>July 2024 1 day</p>	<p>July 2024 1 day</p>	<p>July 2024 1 day</p>	<p>July 2024 1 day</p>	<p>July 2024 1 day</p>
<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 5 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 5 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 5 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 5 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>
<p>MOOE</p>	<p>MOOE</p>	<p>MOOE</p>	<p>MOOE</p>	<p>MOOE</p>	<p>MOOE</p>	<p>MOOE</p>
<p>Php 2,000</p>	<p>Php 2,000</p>	<p>Php 2,000</p>	<p>Php 2,000</p>	<p>Php 2,000</p>	<p>Php 2,000</p>	<p>Php 2,000</p>
<p>Educators will demonstrate improved skills in creating visually appealing graphs and tables, as evidenced by the quality and clarity of the graphical and tabular representations produced during the workshops and training sessions</p>	<p>The output for the activity above is a Research Question-Statistical Tool Match-Up Chart, providing a clear visual representation of the correspondence between different research questions/scenarios and the appropriate statistical tools.</p>	<p>Educators will demonstrate enhanced skills in utilizing statistical analysis software such as SPSS or Excel to analyze quantitative data effectively.</p>	<p>Educators will demonstrate enhanced skills in utilizing statistical analysis software such as SPSS or Excel to analyze quantitative data effectively.</p>	<p>Fully interpreted set of data.</p>	<p>Fully interpreted set of data.</p>	<p>Demonstrate improved proficiency in data interpreting, and analysis techniques through hands-on practice sessions.</p>

<p>Limited access to relevant research materials and software</p>	<p>Developing a comprehensive resource support system to provide educators with access to relevant research materials and software thereby addressing the barrier of limited accessibility.</p>	<p>Organize seminars or webinars featuring demonstrations and tutorials on the practical application of commonly used research sites and software such as google scholar, citation generator, jennic.ai, etc.</p>	<p>Facilitate hands-on practice sessions where educators can apply their newly acquired knowledge and skills to create graphical and tabular representations using real-world data sets.</p>
<p>Utilize GC Messenger for hosting online forums or discussion groups, providing a platform for educators to seek advice, ask questions, and collaborate on issues related to research software and tools. Additionally, implement Google Drive or Microsoft OneDrive for storing relevant local research materials, ensuring easy access to research resources.</p>	<p>September 2024 1 days</p>	<p>September 2024 1 days</p>	<p>August 2024 1 day</p>
<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>	<p>1 Division Research Coordinator 19 School Research Coordinators 3 Invited Trainers</p>
<p>MOOE Php 2,000</p>	<p>MOOE Php 2,000</p>	<p>MOOE Php 2,000</p>	<p>MOOE Php 2,000</p>
<p>Educators actively participate in discussions, share insights, and collaborate with peers, leading to increased proficiency in utilizing research software and tools. Created an online medium where educators can ask or share ideas (Group Chat Account) and store/access local research papers/ materials</p>	<p>Educators will demonstrate enhanced competence in utilizing research software and tools such google scholar, citation generator, jennie.ai, etc.</p>	<p>Educators will demonstrate their ability to effectively apply their newly acquired knowledge and skills by creating accurate, visually appealing graphical and tabular representations using real-world data sets. This proficiency will be evident through the quality and clarity of the graphical and tabular outputs produced during the practice sessions.</p>	<p>Educators will demonstrate their ability to effectively apply their newly acquired knowledge and skills by creating accurate, visually appealing graphical and tabular representations using real-world data sets. This proficiency will be evident through the quality and clarity of the graphical and tabular outputs produced during the practice sessions.</p>

CONCLUSION

Based on the results and discussions that have been presented, the following conclusions were made:

The respondents possess a moderate level of action research capabilities. Respondents exhibit a notable proficiency in “Research Planning and Design.”. This capability implies that educators are adept at conceptualizing and structuring their research endeavors, including defining research objectives, formulating research questions, and designing appropriate methodologies to address these inquiries.

Challenges among respondents regarding action research, with an overall assessment indicating a high level of difficulty. Respondents’ perceptions reveals a pronounced challenge in terms of research knowledge. This high level of difficulty suggests that educators may face significant barriers when attempting to engage in action research initiatives. The challenges related to research knowledge emphasize potential gaps in educators’ training and preparation for conducting research in educational contexts.

Further, the correlation observed between respondents’ proficiency in action research and the difficulties they face suggests a significant association. It indicates that individuals with greater competence in action research are likely to confront more challenges during their research endeavors. This connection implies that heightened research capabilities coincide with increased complexities related to knowledge, attitude, and resource management. Thus, there are significant differences in respondents’ action research capabilities on their highest educational attainment and participation in related trainings/ seminars, indicating that educational background and trainings influence teachers’ proficiency in action research. Moreover, significant variations in action research challenges were noted from differences in educational attainment and age. These findings highlight the impact of both educational background and experiential learning opportunities on teachers’ capabilities and experiences in conducting action research.

RECOMMENDATIONS

In accordance with the findings and conclusion of the study, the following recommendations are hereby presented:

1. The Department of Education Officials should create avenues and incentives to encourage teachers to pursue career advancement. They can achieve this by customizing professional development programs in collaboration with research partners, a step that can be formalized through a DepEd Order or Memorandum. Moreover, it is recommended that the Department of Education reassess the workload of teachers, particularly the number of coordinatorships and administrative duties assigned to them. Streamlining these responsibilities would afford teachers more flexibility to engage in research endeavors, fostering an environment conducive to active participation and knowledge advancement in the field of education.

2. The Division Office of Bukidnon may establish platforms for showcasing research findings at the national level, recognizing and celebrating teachers’ significant contributions. By offering resources, mentorship, and support, the Division Office can help address the challenges teachers encounter in data analysis and reporting. Embracing the proposed research development plan would serve as a catalyst, inspiring and motivating teacher-researchers to actively engage in research activities and generate research papers for publication.

3. Instructional leaders and school heads may develop mentoring and support strategies tailored to address the specific challenges teachers encounter when seeking higher teaching positions. Furthermore, allocating resources from the schools’ maintenance and other operating expenses to facilitate national-level training and seminars on research is recommended. This approach would expand teachers’ exposure and expertise, providing them with the essential skills and knowledge needed to actively participate in research activities. By prioritizing these efforts, instructional leaders and school heads can empower teachers to advance professionally and contribute to enhancing the overall education system.

4. It is essential for teachers to cultivate knowledge exchange and collaboration within their community. They can achieve this by initiating peer-sharing sessions that focus on identifying emerging themes and conducting qualitative data analysis collaboratively. These sessions offer a platform for sharing insights, experiences, and research findings, fostering a culture of mutual learning and collaboration among educators. Advocating for a balanced workload that allows dedicated time for research activities is crucial. Recognizing research as a valuable contribution to professional development encourages teachers to actively engage in research and underscores the significance of their contributions. Through these efforts, teachers can enhance their research skills, broaden their knowledge base, and collectively contribute to the advancement of the teaching profession.

5. It is crucial for aspiring researchers to establish mentorship programs that connect seasoned researchers with those eager to delve into research endeavors. These programs will provide invaluable guidance and inspiration to the next generation of researchers. It is advisable to establish a robust research support system within educational institutions to offer ongoing guidance and support to budding researchers.

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