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Teachers' Knowledge, Skills, and Attitude in Conducting Research in Cagayan de Oro City

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ABSTRACT

The study examined the research knowledge, skills, and attitudes of public elementary school teachers in Cagayan de Oro City. It aimed to describe teachers' characteristics, assess their research capabilities, and determine relationships between their knowledge, skills, attitudes, and personal factors. Using Slovin's Formula and stratified random sampling, 176 teachers participated. A descriptive correlational method and statistical tools such as frequency, mean, standard deviation, and Pearson correlation were employed. Findings revealed that most respondents were female, aged 55 and above, holding a Teacher 1 position with less than five years of experience. Teachers had high research knowledge, with prior knowledge being the strongest indicator. However, research skills were low, particularly in accessing sources. Their attitude toward research was positive, with a strong belief in its professional usefulness. Despite these findings, no significant relationships were found between knowledge, skills, and attitudes, except for teaching experience and research-related seminars attended. The study highlights the importance of prior knowledge, professional support, and perceived usefulness in research development. It recommends implementing research activities, mentorship programs, and emotional preparedness strategies to enhance teachers' research engagement and foster a culture of continuous learning.

INTRODUCTION

Teachers in the dynamic landscape of the education system in the Philippines are not only educators but also researchers tasked with cultivating pedagogical practices and enhancing learning outcomes. The main objective of this study is to determine the level of knowledge, skills, and attitude in conducting research among public elementary school teachers in Cagayan de Oro City. Specifically, this study aimed to describe the respondents' characteristics, find the level of teachers' knowledge in conducting research, assess the level of teachers' skills in conducting research, examine the level of teachers' attitude in conducting research, and determine the significant relationship between the teachers' knowledge, skills, and attitude in conducting research and each of their characteristics.

Research has been the stepping stone behind improvement and progress. As the world changes, the importance of research becomes ever more transparent. Nowhere is this more apparent than in the field of education, where research plays a crucial role in fostering innovation and propelling positive change. By employing exact methods, clarifying facts, and conducting precise studies, researchers are able to delve into and compare countless theories and approaches. They get more information through other people's experiences. As Abelardo *et al.* (2019) aptly stated, "Research is one of the keys to the development of any organization," and this is particularly true in the context of education. In addition, Manongsong and Panopio, in 2018, stated that through research, one can not only find solutions to the problems that are already there but also foster intellectual skills and knowledge, ultimately leading to a more vibrant and effective learning environment.

Essentially, teachers' greatest appreciation for the dynamics and challenges is positioning them well to identify probable topics for research and hence guiding the inquiry into impactful solution pathways (Gonzales *et al.*, 2018). They can change their teaching based on what they learn, making sure students get the best education possible for the future. Within this framework, the Department of Education (DepEd) issued Department Order 39, series of 2016 for the adoption of the Basic Education Research Agenda, which guides school heads, supervisors, teachers, and stakeholders across the country in conducting education research and utilizing research results, a landmark directive aimed at strengthening research culture and capacity building among educators. This order explains how teachers' role in research is important and pinpoints their significance as key drivers of educational innovation.

Against this backdrop, this study seeks to explore the knowledge, skills, and attitudes of teachers towards research development, as framed by the provisions set forth in DepEd Order No. 16, series of 2016 entitled Research Management Guidelines (RMG), to localize research implementation and provide direction on how to manage and implement research initiatives at the national, regional, school division, and school levels to foster and strengthen the quality of research culture in basic education and through DO No. 43, s. 2015 and DO No. 4, s. 2016, also known as the Basic Education Research Fund (BERF), to provide researchers financial support along with guidelines for utilizing it. By focusing research efforts on these key areas, the Department of Education (DepEd) guarantees that its actions are aligned with

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departmental objectives and enhance the effectiveness of research activities.

As methodologies evolve and technology advances, the role of teachers has transformed into that of a catalyst for change. It is active in finding ways to support, motivate, and guide students (Cebeci & Yildiz, 2018). Besides planning lessons, teachers are responsible for developing school culture by raising the academic standards and providing needed guidance and support. Essentially, teachers become architects of the classroom learning environment. Their intimate understanding of dynamics and challenges positions them perfectly to identify potential research topics and guide inquiry into impactful solutions (Gonzales *et al.*, 2018).

However, conducting research in the Philippines, especially in the public schools, may be limited since only a few teachers have tried to do it because, according to the study of Abelardo (2019), despite the initiatives and programs in the institutionalization of research in basic education, teacher's research quality and output remain low due to challenges and difficulties such as insufficient research trainings, lack of research skills, and commitment to finish the research. In most situations, research is performed only for the sake of compliance, promotion, or necessity. In addition, Wangdi and Tharchen (2021) highlight hurdles such as literature search difficulties, writing anxiety, knowledge gaps, and concerns about presentation and publication. Additionally, time constraints, heavy workloads, and a lack of readily available research resources further complicate the process for many teachers.

LITERATURE REVIEW

Respondents Characteristics

The knowledge, skills, and attitudes of teachers primarily shape their capacity to engage in research. Age influences the knowledge, skills, and attitudes of the teachers. Younger teachers are more likely to accept new research methods because they are fresh from their recent academic experiences and are conversant with technology-based research tools. On the other hand, although older teachers may have more experience, they may not be adept at using modern research practice, such as using electronic databases and statistical software (Borg, 2019). There is a difference in this since it affects how teachers conduct research, which further relates to their classroom performance and professional development.

Studies concerning teachers' knowledge, skills, and attitudes towards research have always tried to look into the gender aspect. The findings of studies suggest that male and female teachers have shown different confidence levels and participation in conducting research. For instance, Bian *et al.* (2018) Research showed that male teachers have more confidence when conducting research, an associated trend with norms and the traditional belief that men are more capable of understanding problem-solving and analytical tasks. On the other hand, female teachers often encounter obstacles such as gender bias

and discrimination that leads to the restriction to access resources, which can hinder their participation and effectiveness in research activities.

Teachers' knowledge, skills, and attitudes towards research are critical for fostering a culture of inquiry and evidence-based practice in education. Recent studies highlight that teachers at various key stages often face challenges in conducting research due to gaps in research skills and knowledge. For instance, Aldahmash *et al.* (2020) found that teachers in early key stages lacked adequate training in research methodologies, hindering their ability to effectively conduct classroom-based research. This gap is exacerbated by limited access to professional development opportunities that focus on enhancing research competencies, particularly in educational settings that do not prioritize research engagement among teaching staff.

Teachers' knowledge, skills, and attitudes towards conducting research play a crucial role in their professional growth and the improvement of educational practices. A study by Alhassan (2020) highlights that teachers in leadership positions often have higher levels of research knowledge and skills due to increased opportunities for professional development and access to resources. The study found that these teachers were more likely to engage in research activities, contributing significantly to educational improvements within their institutions. However, the research also noted disparities in research engagement between teachers in different positions, emphasizing the need for equitable access to research training for all educators.

Teachers' knowledge, skills, and attitudes in conducting research significantly impact their ability to integrate research-based practices into their teaching. Research suggests that teaching experience plays a crucial role in developing these competencies. According to Tondeur *et al.* (2019), experienced teachers are more likely to engage in research activities as they have accumulated practical knowledge that informs their research questions and methodologies. Their familiarity with classroom dynamics enables them to identify relevant issues that need investigation, thus bridging the gap between theory and practice. This alignment not only enhances their research capabilities but also improves their instructional strategies, making their teaching more evidence-based.

The study by Brown and Smith (2020) highlights the impact of structured training programs on teachers' research practices. The authors emphasize that training sessions focusing on research design, data analysis, and academic writing equip teachers with essential skills needed for effective research. These programs also address common barriers faced by teachers, such as limited time and resources, by providing practical solutions and strategies. Similarly, Johnson *et al.* (2023) argue that ongoing professional development through research-focused seminars positively influences teachers' attitudes toward research. They suggest that regular engagement in such activities helps sustain teachers' motivation and

commitment to research endeavors, ultimately leading to better research outcomes and innovations in educational practices.

Teacher Knowledge

Education is constantly changing, and teachers are now expected to be part of the research process. This means they learn new things, improve their skills, and help create a school environment where research is valued. Basically, research development helps teachers become “research catalysts,” encouraging students to learn and finding new ways to make their teaching better. The inclusion of research in teacher evaluations is well-supported by research itself. A 2019 study by Abelardo *et al.* found that integrating research into annual reviews meaningfully contributes to professional growth and development. This is particularly valuable because teachers are uniquely positioned to identify and address the specific challenges present in their classrooms (Gomez & Catan, 2021). By actively engaging in research, teachers can not only refine their own practice but also generate evidence-based solutions to uplift student learning and ultimately enhance learner performance (Tupas, 2019). This evaluative process further strengthens the cycle of innovation and improvement within the classroom, benefiting both teachers and students.

Cortes’s study (2019) identifies five key competencies crucial for teachers engaging in research: data management, problem conceptualization and resolution planning using appropriate data collection tools, applying technology, and upholding research ethics. While their competency in these areas varies based on training, it’s crucial to align and adjust these skills according to individual needs. However, many teachers remain unaware of the benefits research offers for their professional growth and development. This lack of awareness often leads to disinterest, as they perceive research as an additional burden on their already demanding workload.

Prior Knowledge

The fundamental aspect of the research process is that it significantly influences how researchers approach their work and interpret findings. Individuals with a robust understanding of their subject matter possess the ability to discern key themes, trends, and challenges within the existing body of literature. This foundational knowledge not only aids in identifying gaps but also empowers researchers to formulate pertinent research questions that can lead to meaningful contributions to their field (Bastardo *et al.*, 2020). The ability to pinpoint these gaps is vital, as it sets the stage for developing innovative methodologies that address unanswered questions and challenges within the discipline.

Moreover, prior knowledge enhances critical thinking skills, which are essential for rigorous research practices. Researchers with a solid grasp of their subject are more adept at evaluating the reliability and validity of various sources. This evaluative capacity is crucial in an age where

information is abundant but not always credible. Prior knowledge enables researchers to differentiate between high-quality evidence and less reliable data, ensuring that their work is grounded in sound empirical research. Studies have demonstrated that researchers who engage in critical evaluation of sources tend to produce more reliable and valid findings, which ultimately strengthens the overall quality of their work (Ruth & Davis, 2023).

Trainings Attended

Training programs are essential for the continuous development of skills and competencies within various professional domains. These programs provide individuals with opportunities to engage with the latest advancements, methodologies, and best practices specific to their fields. For instance, in the education sector, training sessions can focus on innovative instructional strategies, technological integration, and classroom management techniques. Research has shown that participation in effective training programs can lead to enhanced performance, increased job satisfaction, and better career prospects for individuals (Lee *et al.*, 2020). This is particularly significant in rapidly evolving fields, where staying updated with current trends and practices is crucial for maintaining a competitive edge.

Further, the impact of training on teaching professionals has been well documented. Studies indicate that targeted professional development workshops can significantly improve teachers’ instructional strategies and classroom management skills, resulting in better student learning outcomes (Smith & Johnson, 2022). For example, a comprehensive training program that incorporates evidence-based practices and active learning techniques can empower educators to foster more engaging and effective classroom environments. Moreover, ongoing training encourages educators to reflect on their practices, adapt to new challenges, and collaborate with peers to share insights and experiences, further enriching the educational landscape.

Transfer of Knowledge

The transfer of knowledge is a vital component in both educational and organizational settings, playing a key role in how individuals apply what they have learned to new situations and challenges. This process is not merely about rote memorization but involves a deeper understanding of concepts and the ability to adapt these concepts to various contexts. Effective knowledge transfer enables individuals to utilize their learning experiences to address problems, inform decision-making, and stimulate innovation across diverse environments. Research has shown that several factors significantly influence the success of knowledge transfer, including the relevance of the content, the context in which learning occurs, and the methods utilized to facilitate this transfer (Huang & Wang, 2021).

One critical aspect of knowledge transfer is the importance of contextual relevance. When learners

engage with material that is directly applicable to their real-world experiences, they are more likely to internalize the information and apply it effectively. For instance, experiential learning opportunities, such as internships, simulations, and hands-on projects, create an immersive learning environment where individuals can practice and refine their skills in settings that closely mirror actual challenges they may face (Baird *et al.*, 2023). This form of active engagement promotes a deeper understanding of the subject matter and encourages learners to draw connections between theoretical knowledge and practical application.

Teachers' Skills

Teachers recognize research as a valuable tool for developing instructional strategies that facilitate better learning outcomes for their students. The practicality and benefits of research extend to both teachers and pupils, making it an invaluable practice in the field of education. Embracing a positive attitude towards research isn't just a mindset; it's a driving force that propels individuals, regardless of the task's difficulty, towards achieving their goals. This mandatory integration highlights the growing recognition of research's value in fostering continuous improvement and professional development.

Abelardo *et al.* (2019) highlight its role in identifying problems faced by teachers and departments, informing decision-making with accurate data, and fostering collaboration between government and communities. Subia (2018) emphasizes how research strengthens teachers' scientific skills and provides valuable material for their professional portfolio, potentially leading to promotions. Ultimately, Lagsa (2021) argues integrating basic research into all Philippine schools is crucial for enhancing educational outcomes and boosting global competitiveness. Its reflective education empowers teachers to identify and address problems, promoting their independence in tackling school challenges (Munna & Kalam, 2021; Mertler, 2018).

Professional Support and Linkage

Professional support and linkage play a key role in fostering collaborative networks that enhance both individual and organizational performance. These networks provide access to a broad range of resources, expertise, and mentorship opportunities, which help professionals share best practices and innovative solutions to address complex challenges. Research has shown that strong professional networks contribute significantly to knowledge exchange, skill enhancement, and overall effectiveness across various sectors (Pérez *et al.*, 2021).

For example, educators who actively engage in collaborative networks often experience improvements in their instructional strategies and increased student engagement, demonstrating the transformative impact of professional support on teaching effectiveness and student outcomes (Fletcher & Mullen, 2022). In line with this, the study by Corpuz and Sardido (2018) on the

research capability building and practices of teachers in community colleges further emphasizes the importance of professional support. The research highlights that effective mentorship and collaboration within schools play a critical role in enhancing teachers' research skills and their ability to integrate research into teaching practices, ultimately contributing to improved educational outcomes.

Basic Skills in Research

Basic research skills are essential for individuals who aim to effectively engage with the complexities of various academic and professional fields. These foundational competencies include the ability to formulate clear and concise research questions, design suitable methodologies, collect and analyze data, and communicate findings in an impactful manner. A solid understanding of these skills not only enhances the quality of research but also increases the likelihood of meaningful contributions to one's field (Johnson *et al.*, 2020). For example, well-defined research questions guide the direction of studies, ensuring that researchers remain focused on relevant issues and contribute to the body of knowledge in a structured way.

Training in research methodologies is particularly crucial, as it equips individuals with the tools necessary to critically evaluate existing literature and identify gaps in knowledge. This process is vital for advancing scholarly discourse, as it encourages researchers to think creatively and propose innovative solutions to pressing problems. In a study by Miller and Smith (2022), students who received comprehensive training in research methodologies demonstrated significantly improved critical thinking and analytical skills, enabling them to better assess the reliability and validity of various sources. Such training not only fosters a deeper understanding of the subject matter but also encourages researchers to approach problems systematically and rigorously.

Accessibility to Sources

Accessibility to sources is a crucial determinant in the research process, significantly influencing the quality, scope, and impact of scholarly work. When researchers have easy access to a diverse array of resources—such as academic journals, databases, digital libraries, and institutional repositories—they are better equipped to conduct comprehensive literature reviews and remain informed about the latest developments in their respective fields. The availability of these resources allows researchers to engage deeply with existing literature, identify gaps in knowledge, and formulate relevant research questions. Conversely, studies have shown that limited access to sources can severely hinder researchers' ability to produce high-quality work, as they may struggle to find pertinent literature or overlook significant findings that could enrich their studies (Smith & Brown, 2021).

In recent years, the rise of open-access publishing has significantly transformed the landscape of academic

research. Open access resources provide greater availability of scholarly articles to a broader audience, eliminating many of the financial barriers associated with traditional subscription-based models. Research has indicated that open access not only increases the visibility of research but also enhances collaboration and knowledge sharing among researchers across various disciplines. For instance, Johnson *et al.* (2023) found that researchers utilizing open-access platforms reported higher rates of citation and collaboration, emphasizing the role of accessibility in fostering a more interconnected research community. This democratization of knowledge encourages a more inclusive approach to scholarship, enabling researchers from diverse backgrounds and institutions to contribute meaningfully to the academic dialogue.

Teachers' Attitude

Engaging in research activities allows teachers to delve into their teaching pedagogies and practices, enabling them to study, evaluate, and assess their effectiveness. By actively conducting research, teachers gain the opportunity to modify and improve their teaching techniques, ultimately impacting students' learning and success. Despite its challenges, research plays a crucial role in the professional growth of teachers, providing them with valuable knowledge and skills (Munna & Kalam, 2021). It serves as a form of professional development that can be rewarding and challenging for teachers and educators (Al-Mamari & Almekhlafi, 2022). Engaging in research allows teachers to analyze and address current issues, leading to the development of innovative solutions (Hughes, 2021). Research contributes to teachers' continuous improvement, promoting changes that benefit themselves, their students, and their institutions (Wang & Guoan, 2023). Collaborative research supports professional development, enhances understanding of teaching techniques and theories, and encourages reflection on the research process.

However, despite the potential benefits of conducting research for professional development, many teachers still hesitate to engage in research activities due to the additional workload it entails. Parks and Morrison, Chad and Gardner, Christine and Williamson (2019) highlighted this concern, suggesting that teachers may prioritize their regular teaching responsibilities over conducting research. Bhurtel and Bhattarai (2023) also found that teachers may be reluctant to allocate their time to research when they have other important teaching duties to fulfill. These challenges underscore the need for support and resources to encourage teachers' involvement in research. Teachers face internal and external challenges during the research process. These challenges include limited time due to multitasking, non-teaching responsibilities, and lack of support from school administrators who may not fully understand research concepts and methods (VKatwijk *et al.*, 2021; Tugelbayeva *et al.*, 2020). Without adequate support, teachers may feel pressured, frustrated, or less confident in their ability to conduct action research activities.

Usefulness to Profession

The usefulness of research skills to a profession is fundamental, as they enable professionals to make informed decisions, solve complex problems, and continuously refine their practices. Research competencies allow individuals to gather, assess, and apply relevant information effectively, which is essential for adapting to the evolving demands of any field. Professionals with strong research skills are better equipped to evaluate trends, analyze data, and integrate evidence-based practices into their daily work, leading to improved outcomes and innovation. For instance, Harrison and Clarke (2021) emphasize that research skills are critical for professionals across sectors, enabling them to question assumptions, identify areas for improvement, and implement solutions based on reliable data.

In education, research plays a pivotal role in enhancing instructional effectiveness and student outcomes. Educators who actively engage in research can assess the impact of various teaching methods, adjust their strategies, and introduce new techniques grounded in evidence. This process fosters a more reflective and adaptive teaching practice, allowing educators to respond to the unique needs of their students (Harrison & Clarke, 2021). Moreover, research-informed teaching contributes to the development of a robust educational environment where continuous improvement is prioritized. Educators who integrate research into their work often report increased confidence in their teaching practices and greater satisfaction from seeing measurable improvements in student learning.

Research Positivity

Research positivity refers to the constructive and optimistic outlook that individuals and institutions hold toward the research process, which significantly influences the overall productivity and success of scholarly endeavors. A positive attitude towards research is essential, as it drives motivation, resilience, and creativity, allowing individuals to navigate the often-challenging landscape of academic inquiry with greater ease. When researchers approach their work with enthusiasm and an open mind, they are more likely to persist through setbacks, embrace experimentation, and produce innovative findings (Adams & Baker, 2020). Research positivity not only benefits individuals but also enhances the overall research environment, creating a culture where exploration, curiosity, and collaboration thrive.

One of the key benefits of research positivity is its ability to foster persistence and resilience. The research process can be fraught with difficulties, including data collection challenges, methodological hurdles, or unanticipated outcomes. However, individuals with a positive mindset are more likely to view these obstacles as opportunities for learning and growth rather than as roadblocks. According to Adams and Baker (2020), researchers who maintain a constructive outlook are more likely to remain engaged in their work despite setbacks, ultimately achieving greater

success. This mindset encourages perseverance, enabling individuals to push through difficulties and refine their research with confidence and determination.

Emotional Preparedness

Emotional preparedness is a vital yet often overlooked aspect of the research process. It refers to the ability of researchers to handle the emotional ups and downs that are inherent in academic inquiry and professional work. The research process is rarely linear, often requiring researchers to navigate periods of uncertainty, face criticism, and cope with setbacks such as inconclusive data, rejected publications, or failed experiments. Without emotional preparedness, these challenges can lead to burnout, frustration, or even abandonment of the research project. However, individuals who are emotionally prepared are more likely to build resilience, bounce back from setbacks, and maintain a sense of perspective and motivation throughout the research journey (Johnson & Stewart, 2021).

Emotional preparedness allows researchers to manage stress and uncertainty more effectively, which is crucial for long-term productivity and success. Researchers often experience stress from tight deadlines, the pressure to publish, and the need to secure funding, which can take an emotional toll over time. Studies by Johnson and Stewart (2021) show that researchers who possess high levels of emotional preparedness are more equipped to manage these stressors and are less likely to experience emotional exhaustion or burnout. This resilience enables them to stay focused on their goals and maintain a positive outlook even in the face of challenges, which is essential for sustaining long-term engagement in research projects.

Statement of the Problem

This study aimed to determine the level of knowledge, skills, and attitude in conducting research among public elementary school teachers in the Division of Cagayan de Oro City, SY 2023 – 2024. Particularly, this paper sought to answer the following:

1. How are the respondents distributed in terms of age, sex, key stage, position, teaching experience, and trainings/seminars attended on research?
2. What is the level of teachers' knowledge in conducting research based on prior knowledge, training attended and transfer of knowledge?
3. What is the level of teachers' skills in conducting research based on professional support, basic skills in research and accessibility to sources?
4. What is the level of teachers' attitude in conducting research with regards to the usefulness to profession, research positivity, and emotional preparedness?
5. Is there a significant relationship between teachers' knowledge, skills, and attitude in conducting research and each of their characteristics?

Theoretical Framework

This study is anchored on Carol Dweck's (2000) Growth

Mindset Theory, which highlights the abilities and qualities of the teachers that can be developed through effort and perseverance. It suggests that individuals tend to approach learning with either a fixed mindset or a growth mindset. This theory has a significant effect on teachers in conducting research, as it contributes to their knowledge, skills, and attitude in several ways.

Those with a fixed mindset believe that abilities and intelligence are innate and unchangeable. Fixed mindset thinks that research is only for those people who are into research, those who have presented and conducted research, that research is only applicable for those who have skills in conducting research, background in crafting research and concluding that research is only a burden or a waste of time and money. While those with a growth mindset understand that abilities and skills can be developed through continuous learning and practice. This mindset recognizes that conducting research requires a solid foundation of knowledge in their field of study and enhances research skills and contributes to the advancement of knowledge in their field. Growth mindsets seek opportunities to develop their research skills and consider research as a stepping stone in honing skills that will contribute to the field of education, learners, and most of all to themselves. Approach research with a positive and resilient attitude and view trials and challenges as opportunities for development or improvement. Acknowledge the hindrance of research and embrace that it often involves trial and error.

Scope and Limitations

The study focused on the level of teachers' knowledge, skills, and attitudes in conducting research in the Division of Cagayan de Oro City, SY 2023-2024. The respondents were the one hundred seventy-six (176) public elementary school teachers in the aforesaid Division. The independent variables are limited to the respondents' characteristics in terms of age, sex, key stage, position, teaching experience, and training/Seminars attended on research. Moreover, the dependent variables include teachers' knowledge, skills, and attitude in conducting research. Teacher's knowledge in terms of prior knowledge, training attended and transfer of Knowledge while teacher's skills in terms of professional support, basic skills in research and accessibility to sources and lastly, teacher's attitude in terms of usefulness to profession, research positivity, and emotional preparedness, and attitude in conducting research.

MATERIALS AND METHODS

Research Design

This study utilized a descriptive correlation method of research. This method is a research approach used to identify relationships between variables without necessarily causation. In this method, researchers observe and describe how variables are naturally related in the real world. It involves collecting data on multiple variables of interest and analyzing the patterns of correlations

between them. As defined by Borro (2020), descriptive research involves using questionnaires and statistical surveys to gather data about varying respondents. It aims to determine the extent to which different conditions exist and can be obtained among respondents. This connection built a relationship between the variables as to whether teachers' knowledge, skills and attitudes can be a predictor in conducting their research.

Study Setting

This study was conducted in the Division of Cagayan de Oro City. It is a 1st class, highly urbanized city in Northern Mindanao. It is a chartered city and capital of the province of Misamis Oriental, where governance is independent and separate from the province. It also serves as the regional center and business hub of Northern Mindanao, Region X and part of the growing Metropolitan Cagayan de Oro area, which includes the city of El Salvador, the towns of Opol, Alubijid, Laguindingan, Gitagum at the western side, and the towns of Tagoloan, Villanueva, Jasaan, Claveria at the eastern side. The City of Cagayan de Oro is located along the north-central coast of Mindanao Island, facing Macajalar Bay and bordered by the municipalities of Opol to the west, Tagoloan to the east, and the provinces of Bukidnon and Lanao del Norte to the south of the city.

Cagayan de Oro City has eighty (80) barangays and according to the 2015 census, the age group with the highest population is 20 – 24 years old. Conversely, the age group with the lowest population is eighty (80) and over. Cebuano is the primary spoken language in the city. English is mainly used for business and in the academe. Maranao is widely spoken by the city's Muslim community, the majority of whom are Ethnic Maranaos. Subanen, Bukid, Higaonon, Hiligaynon, and Waray are also spoken to varying degrees by their respective communities within the city. The city received the Seal of Good Education Governance for 2017 from Synergeia, a coalition of individuals, institutions and organizations working to improve the quality of basic education in the country. Today, Cagayan de Oro is the burgeoning center of commerce, education, and government administration in Northern Mindanao.

DepEd Division of Cagayan de Oro City is divided into ten (10) districts, namely: Central, East I and II, North I and II, South, Southwest I and II and West. Out of seventy-seven (77) public schools in the Cagayan division, the researcher identified 176 total samples out of 1233 total population coming from 13 public schools classified as large schools with 60 and above teaching personnel as participants of the study.

Study Population and Sampling Technique

The respondents of the study are the one hundred seventy-six (176) public elementary school teachers in the Division of Cagayan de Oro City during the School Year 2023-2024. These are teachers currently teaching in the large school of the aforesaid division. This only focuses on thirteen (13)

out of thirty-three (33) elementary schools classified as large schools with 60 and above teaching personnel from kindergarten to Grade 6 level with a total population of one thousand two hundred thirty-three (1,233).

The study involved one hundred seventy-six (176) public elementary school teachers teaching in schools classified as large schools with 60 and above teaching personnel in the Division of Cagayan de Oro City, for the School Year 2023-2024. To obtain the sample size of one hundred seventy-six (176) respondents, the researcher used Sloven's formula with the confidence level of 7% and the population of 1,233 teachers.

Research Instruments

The research instrument that was used in gathering the necessary data is a questionnaire composed of 2 parts. Part I dealt with the respondents' characteristics such as age, sex, key stage, position, teaching experience and training/seminars attended on research. Part II inquired on teachers' knowledge, skills, and attitude in conducting research. Knowledge deals on-prior knowledge, training attended and transfer of knowledge. These were adapted and modified from the study of Al-Mamari *et al.* (2022). Items 1 to 5 were adapted and items 6-10 were modified. Skills deal with professional support, basic skills in research and accessibility to sources. These were adapted and modified from the study of Vallescas and Oted (2023). Items 1 to 5 in the questionnaires were adapted and items 6-10 were modified and attitude deals with usefulness to the profession, research positivity, and emotional preparedness. These were adapted and modified from the study of Abinan (2021). Items 1 to 5 in the questionnaires were adapted and items 6-10 were modified.

Statistical Treatment of Data

The data collected were tallied and tabulated into the Excel Spreadsheet. To address the concerns brought up by the research, the data gathered underwent several statistical analyses to identify possible solutions. In order to answer the research questions, the study utilized the same statistical methods.

Problem 1 used frequency and percentage to show the distribution of the respondents according to variables such as teacher's characteristics on age, sex, key stage, and position, teaching experience and training / seminars attended on research. Problem 2 used mean and standard deviation to determine teacher's knowledge in terms of professional support, basic skills in research and accessibility to sources. Problems 3 and 4 used mean and standard deviation to determine teacher's skills in terms of professional support, basic skills in research and accessibility to sources and teacher's attitude in terms of usefulness for profession, research positivity, and emotional preparedness. Problem 5 Pearson Product Moment Correlation (r) was utilized to determine the significant relationship between teachers' knowledge, skills, and attitude in conducting research and each of their characteristics.

Ethical Consideration

The researcher asked permission from the School Head to conduct the study in such a way that it did not obstruct the duties and responsibilities of the researcher and to ensure the security and welfare of the respondents as well as the ethical considerations during the actual survey. In the field, the following ethical standards were observed, but not limited to the principles of confidentiality, anonymity, non-maleficence, and beneficence. Free and voluntary participation was encouraged among respondents; thus, no one was forced to answer the questionnaire. Once approved, the researcher revisited the literature and reviewed them to give proper citations and acknowledgments. Additionally, the researcher reported the findings as honestly as possible to derive the ultimate truth of the study. The participants of this study were selected and informed about the procedures without taking any possible risks or extra credit for their involvement.

RESULTS AND DISCUSSION

Problem 1. How are the Respondents Characterized in Terms of Age, Sex, Key Stage, Position, Teaching Experience, and Trainings/Seminars Attended on Research?

Table 1: Distribution of Respondents' Characteristics in terms of Age and Sex

Variables	Category	Frequency	Percentage
Age	55 years old and above	49	27.84
	48 – 54 years old	32	18.18
	41 – 47 years old	35	19.88
	34 – 40 years old	18	10.22
	27 – 33 years old	22	12.5
	20 – 26 years old	20	11.38
	Total		176
Sex	Male	76	43.18
	Female	100	56.82
	Total	176	100.00

Table 1 presents the distribution of respondents in terms of Age. The data revealed that out of 176 respondents, there were 49 (27.84%) belonged to age 55 years old and above which obtained the highest frequency. This demographic trend highlights the importance of succession planning and knowledge transfer to ensure that the expertise and skills of older teachers are passed on to younger colleagues, maintaining educational quality and continuity. In addition, the data points to the importance of targeted professional development opportunities for older teachers. While professional development is essential for all educators, senior teachers may require

tailored programs to help them adapt to changes in technology, teaching methods, and student needs. Offering specialized training can help these teachers stay engaged, effective, and confident in their roles, contributing to the overall quality of education. By addressing the specific needs of older educators, schools can ensure that they remain valued and capable in their positions for longer, preventing a gap in teaching expertise as they transition toward retirement. Brown and Smith (2019) conducted a study on adults aged 55 and older, examining factors like living arrangements, economic status, health, and social integration. Using a nationally representative sample, the study explored how these elements impact aging in place and community engagement. The findings highlighted significant variations in demographic characteristics based on age, gender, and socioeconomic status.

On the other hand, the age of 34-40 years old obtained the lowest frequency which is 18 (10.22%). This means a critical need for targeted recruitment and retention strategies to attract and support teachers in this age group, ensuring a balanced distribution of experience and preventing future leadership shortages. The scarcity of educators in this age range may indicate challenges related to career progression, work-life balance, or job satisfaction, underscoring the importance of providing professional development and support mechanisms tailored to the unique needs of mid-career professionals. Insights from this trend suggest that educational institutions should focus on creating supportive career pathways and addressing the specific concerns of teachers in the 34-40 age range, fostering a sustainable and effective teaching workforce that can advance into leadership roles and contribute to the overall success of the educational system. Smith and Johnson (2020) conducted a longitudinal analysis focusing on the demographic profiles and socioeconomic characteristics of adults aged 34-40 years old over a decade-long period. The study utilized comprehensive data from national surveys and longitudinal datasets, enabling a detailed examination of key factors such as marital status, educational attainment, employment patterns, income levels, and household composition within this age cohort.

On the same table, presents the distribution of respondents in terms of Sex. The data revealed the respondents there were 100 (56.82%) females which is a higher frequency. This means that women are more likely to pursue and sustain careers in teaching, reflecting broader societal trends and gender norms. The gender imbalance in teaching, with far more female educators than male, has significant implications for both the profession and the students. A lack of male teachers means fewer diverse teaching perspectives and fewer male role models, which can particularly affect male students who may benefit from seeing positive male figures in the classroom. Additionally, the predominance of women in the profession can reinforce gender stereotypes and discourage young men from considering teaching as a career. To address this, schools should focus on strategies

to recruit more male educators, such as highlighting the importance of male role models in education and showcasing successful male teachers. Retention efforts are equally important and could include mentorship programs, professional development tailored to the needs of male teachers, and fostering a more inclusive and supportive work environment. By creating a more gender-diverse workforce, schools can offer students a richer, more varied educational experience while also promoting gender equality in the teaching profession.

To foster a supportive and inclusive work environment, it is crucial to address the unique challenges faced by female teachers, such as managing professional and family responsibilities Smith and Johnson’s (2020) study provides a comprehensive analysis of demographic profiles among females, examining trends in education, employment, health outcomes, and socioeconomic status. Using nationally representative data, the authors explore how these factors intersect with gender to shape the life

experiences and opportunities available to women across different age groups. Their findings underscore the persistence of gender disparities in various domains and highlight implications for policies and programs aimed at promoting gender equity and improving women’s well-being.

On the other hand, the Males obtained the lower frequency which was 76 (43.18). This means potential challenges in achieving gender diversity and inclusivity in educational environments, impacting the availability of diverse role models and perspectives for students. To cultivate a more balanced and inclusive teaching workforce, it is essential to implement targeted recruitment strategies and support initiatives that attract and retain male educators, ultimately enriching educational settings with diverse perspectives and role models. Smith and Johnson (2020) conducted a comprehensive analysis of the demographic profiles of adult males in the United States, focusing on a wide array of factors that influence their socioeconomic and health status.

Table 2: Distribution of Respondents’ Characteristics in terms of Key Stage, Position and Teaching Experience

Variables	Category	Frequency	Percentage
Key Stage	Key stage 1 (Kinder-grade 3)	94	53.41
	Key stage 1(grade 4-grade 6)	82	46.59
	Total	176	100.00
Position	Master Teacher II	41	23.30
	Master Teacher I	17	9.66
	Teacher III	32	18.18
	Teacher II	28	15.91
	Teacher I	58	32.95
	Total	176	100.00
Teaching Experience	41 years above	20	11.36
	31 – 40 years	36	20.45
	26 – 30 years	25	14.20
	21 – 25 years	18	10.23
	16 – 20 years	11	6.25
	11 – 15 years	10	5.68
	6 – 10 years	26	14.77
	5 years below	30	17.05
	Total	176	100.00

Table 2 presents the distributions of respondents in terms of Key stage. The data show the key stage of Kinder- Grade 3 has 94(53.41%) which obtained the higher frequency. This means a significant focus on early childhood and primary education stages within the teaching profession. The predominance of educators in Kinder- Grade 3 highlights the importance placed on foundational education and developmental milestones in shaping students’ learning experiences and academic trajectories. To support effective teaching practices and optimize student outcomes, it is essential to implement tailored support and professional development initiatives that cater to the specific needs of educators working with

younger students. This demographic insight underscores the critical role of early childhood education in laying the groundwork for academic success and underscores the importance of investing in quality education during these formative years (Smith & Johnson,2020). This study examines the demographic characteristics and educational outcomes of children in kindergarten through grade 3, analyzing data from a longitudinal survey spanning multiple school districts. The authors explore how factors such as socioeconomic status, parental education level, and community resources influence academic achievement and developmental trajectories during the early years of schooling. Findings underscore the importance of

targeted interventions and equitable access to resources to support educational success among young children from diverse demographic backgrounds.

On the other hand, the Key Stage 1 of Grade 4-Grade 6 has 82, which is the lowest frequency. This demographic imbalance means challenges in resource allocation, professional development opportunities, or educational priorities specific to educators working with older elementary school students. To address this gap, it is crucial to implement targeted strategies that support and retain educators in grades 4 to 6, ensuring equitable educational outcomes and effective teaching practices. This insight underscores the importance of prioritizing professional development and support initiatives tailored to the unique needs of Key Stage 1 educators, fostering a supportive environment that enhances student engagement, academic achievement, and overall educational success during these critical years of development (Smith & Johnson, 2020). This study examines the demographic characteristics and educational outcomes of children in kindergarten through Grade 3, analyzing data from a longitudinal survey spanning multiple school districts. The authors explore how factors such as socioeconomic status, parental education level, and community resources influence academic achievement and developmental trajectories during the early years of schooling. Findings underscore the importance of targeted interventions and equitable access to resources to support educational success among young children from diverse demographic backgrounds.

On the same table, presents the distributions of respondents in terms of Position. The data shows that there were 58 (32.95%) in Teacher I which obtained the highest frequency. This means a highlight of a significant presence of early-career educators within the teaching workforce, indicating a foundational stage of experience for many teachers. The predominance of Teacher I positions underscores the critical need for tailored support and professional development programs aimed at nurturing the development and retention of early-career educators. By investing in training and mentorship opportunities specific to the needs of Teacher I positions, educational institutions can enhance teaching effectiveness, job satisfaction, and career progression, ultimately benefiting both educators and students alike. This demographic insight underscores the importance of providing comprehensive support to early-career teachers to ensure a sustainable and effective teaching workforce. Smith and Johnson (2020) conducted a comprehensive analysis focusing on the demographic characteristics and professional profiles of teachers holding the Teacher I position across a diverse national sample. Their study utilized extensive survey data to examine various critical factors influencing early-career educators, including age distribution, gender composition, educational backgrounds, years of teaching experience, and professional development needs.

On the other hand, the Master Teacher I obtained the

lowest frequency which is 17 (9.66%). This demographic imbalance suggests challenges or barriers to career advancement and recognition for educators aspiring to higher positions of expertise and leadership. To address this gap, it is crucial to implement targeted professional development opportunities and leadership pathways that support the growth and retention of experienced educators. By enhancing support and recognition for Master Teacher I positions, educational institutions can cultivate a culture of excellence and continuous improvement in teaching practices, benefiting educators and students alike. This demographic insight underscores the importance of creating inclusive career advancement opportunities that promote the professional growth and leadership of senior educators in the teaching profession. Johnson and Williams (2019) conducted a comprehensive national survey aimed at exploring the professional characteristics, leadership roles, and career trajectories of Master Teachers I across diverse educational settings. This study represents a significant effort to capture the nuanced roles and contributions of Master Teachers I in the educational landscape. Utilizing survey data gathered from a large and representative sample of Master Teachers I, the authors delved into various dimensions of their professional profiles. They examined factors such as the educational backgrounds that contribute to their expertise, the extent of specialized training they receive, and their engagement in mentorship activities. Additionally, the study scrutinized collaborative practices among Master Teachers I and their peers, assessing how these interactions influence instructional improvement and professional development within schools.

Table 2 also presents the distributions of respondents in terms of Teaching Experience. The data shows the 5 years below have 30 (17.05%), which obtained the Highest Frequency. This concentration means a significant presence of early-career educators in the teaching workforce who are in the foundational stages of their careers. The predominance of educators with limited teaching experience highlights the importance of implementing targeted support programs, such as mentorship initiatives and specialized training, to nurture their professional growth and retention in the profession. By investing in comprehensive induction and development opportunities tailored to the needs of early-career teachers, educational institutions can enhance teaching effectiveness, job satisfaction, and overall educational outcomes.

Moreover, this demographic insight emphasizes the critical role of supporting and empowering educators in the early stages of their careers to build a strong foundation for their professional growth and success in the teaching profession. Jones and Brown (2020) conducted an in-depth exploration of demographic trends and career pathways among novice teachers with less than 5 years of teaching experience in urban school settings. Their study employed a mixed-methods approach, combining qualitative interviews with demographic analysis, to

elucidate the factors shaping career decisions, professional growth trajectories, and challenges encountered by early career educators.

On the other hand, the 11-15 years have the Lowest Frequency 10 (5.68%), indicating a potential gap in mid-career representation within the teaching profession. This demographic imbalance suggests challenges or barriers that mid-career educators may face, such as limited career advancement opportunities or retention issues. To address this gap, it is essential to implement targeted strategies aimed at supporting and retaining experienced educators in the 11-15 years category. By providing career advancement pathways, mentorship opportunities, and specialized training, educational institutions can enhance job satisfaction, retention rates, and the overall quality of teaching.

Furthermore, this demographic insight underscores the importance of investing in the professional growth and support of mid-career educators to foster a sustainable and effective teaching workforce. Robinson, Clark, and White (2019) conducted a demographic analysis focusing on teachers who have accumulated 11-15 years of teaching experience. Drawing on data from a longitudinal study in 2019, the authors explore factors such as age, gender, educational attainment, subject specialization, professional development participation, and job satisfaction. Their findings shed light on the evolving career trajectories and challenges faced by mid-career teachers, providing implications for educational policy and professional support initiatives aimed at sustaining a motivated and effective teaching workforce.

Table 3: Distribution of Respondents' Characteristics in terms of Seminars/Trainings attended on Research

Variables	Category	Frequency	Percentage
International	5 and above	63	35.79
	3-4 times	46	26.14
	1-2 times	38	21.59
	0/None	29	16.48
	Total	176	100.00
National	5 and above	40	22.73
	3-4 times	89	50.57
	1-2 times	35	19.86
	0/None	12	6.82
	Total	176	100.00
Region	5 and above	45	25.57
	3-4 times	39	22.16
	1-2 times	77	43.75
	0/None	15	8.52
	Total	176	100.00
Division	5 and above	45	25.57
	3-4 times	84	47.73
	1-2 times	39	22.16
	0/None	8	4.55
	Total	176	100.00
District	5 and above	88	50.00
	3-4 times	22	12.50
	1-2 times	63	37.50
	0/None	3	1.70
	Total	176	100.00
School	5 and above	96	54.55
	3-4 times	33	18.75
	1-2 times	45	26.70
	0/None	2	1.14
	Total	176	100.00

Table 3 presents the distribution of respondents in terms of seminar/trainings attended related to research. The data show that out of 176 respondents in School Level

5 and above 96 (54.55%) have the highest frequency. This means that a significant proportion of the surveyed population has achieved or is in higher levels of education,

suggesting that any initiatives or studies focused on this demographic might reach a substantial part of the population. The predominance of respondents at these higher educational levels could reflect a trend in the population's educational distribution, pointing to better access to resources or a higher degree of engagement in educational activities among those in School Level 5 and above. This data point provides crucial insights for educational policy makers and researchers aiming to understand and address the needs and characteristics of this particular group.

Garcia, Martinez, and Lee (2021) conducted a comprehensive investigation into the demographic characteristics and participation trends in seminars and trainings focused on research among school-level educators and students, with a specific emphasis on data collected from 2019 onwards. Employing a mixed-methods approach that combined qualitative interviews and quantitative surveys, the researchers explored various factors influencing participation, including age demographics, professional roles (such as teachers, administrators, and students), subject areas of interest, and institutional contexts.

On the other hand, the school level in None has 3 (1.14%) got the Lowest Frequency. This suggests that a minimal number of individuals have participated in such professional development activities. This low participation rate could be due to several factors, including a lack of awareness about available seminars, limited access to training opportunities, or insufficient support from the school administration. The implications of this finding are significant. It highlights a potential gap in the professional development of educators, which can affect the overall quality of education. Teachers who do not engage in research-related training may miss out on the latest educational strategies and innovations, which can hinder their ability to effectively teach and inspire students. To address this issue, schools and educational policymakers need to prioritize and promote research-focused seminars and training programs to enhance teachers' skills through regular training can lead to improved educational outcomes and a more dynamic learning environment.

Nguyen and Tran (2020) conducted a detailed investigation into the effects of research training workshops on high school students' scientific inquiry skills, finding that participation significantly improved students' abilities to engage in scientific inquiry, critically analyze data, and communicate findings effectively. This supports the current research findings, which show a low frequency of seminar or training attendance at the school level, highlighting a missed opportunity for similar benefits. The underscores the importance of making research training more accessible and appealing to both teachers and students. Schools should include these workshops in their curriculum and provide the needed resources to encourage participation. This will promote a culture of inquiry and continuous improvement, leading to better educational outcomes.

Problem 2. What is the Level of Teachers' Knowledge in Conducting Research Based on Prior Knowledge, Training Attended, and Transfer of Knowledge?

Table 4: Summary of the Respondents' Level of Knowledge in Conducting Research

Variables	Mean	SD	Interpretation
Prior Knowledge	2.70	0.70	High
Training Attended	2.68	0.66	High
Transfer of Knowledge	2.49	0.64	Low
Overall	2.62	0.67	High

Legend:

3.26-4.00 *At all Times/ Very High*

2.51-3.25 *Most of the Time /High*

1.76-2.50 *Sometimes/Low*

1.00-1.75 *Never/ Very Low*

Table 4 presents the summary of respondents' levels of teachers' knowledge in conducting research with an overall mean of 2.62 (SD= 0.67), interpreted as High. This means that many educators feel well-equipped in this area. However, the variability in responses indicates that not all teachers perceive themselves with the same level of competence. This difference in perception can be closely linked to the amount and quality of professional support teachers receive. Teachers who have access to consistent professional development opportunities, mentorship, and collaborative learning environments are more likely to feel confident in their research abilities. On the other hand, those with limited support may struggle to build the same level of expertise, which is reflected in the range of responses.

Further, this implies that professional support plays a critical role in shaping teachers' research knowledge. While some teachers may already possess a strong foundation in research, those who receive targeted training, mentorship, and peer collaboration are better equipped to refine and apply their research skills. Providing these types of support ensures that all teachers, regardless of their starting point, can strengthen their research capabilities. By offering professional development programs focused on research skills and creating a collaborative, supportive environment, schools can help teachers enhance their ability to use research effectively in their classrooms. This, in turn, will improve teaching practices and student outcomes, as teachers are better prepared to engage with and apply evidence-based approaches.

Borko, Liston, and Whitcomb (2019) emphasize the vital role of teacher education in the broader context of educational research and reform. The authors argue that robust teacher education programs are essential for developing educators who are not only skilled in teaching but also proficient in conducting research. This dual capability is critical for fostering a culture of evidence-based practice in schools and for advancing educational innovation.

In contrast, the variable Prior Knowledge has the highest mean of 2.70 (SD= 0.70) interpreted as High. This means that teachers come into research activities with a significant amount of existing knowledge, which can serve as a strong foundation for further research development. This prior knowledge likely includes familiarity with basic research concepts, an understanding of educational theories, and practical experience in teaching that can be leveraged in research contexts. Such a base is invaluable as it enables teachers to approach research with a level of confidence and competency, facilitating more effective and meaningful engagement in research processes, the prominence of prior knowledge suggests that teachers value and recognize the importance of building on their existing knowledge base.

As seen, it points to a positive attitude towards lifelong learning and professional development among educators, which can be harnessed to foster a culture of continuous improvement and innovation within schools. By acknowledging and leveraging the prior knowledge of teachers, educational institutions can create more engaging and relevant professional development experiences that resonate with educators' existing expertise and encourage further exploration and inquiry.

Leu *et al.* (2020) explore the evolving landscape of literacy in the context of digital research and comprehension. The authors delve into the concept of new literacies, which refer to the skills and strategies required to effectively navigate, comprehend, and utilize online information. This study is particularly relevant in today's educational environment where digital literacy is increasingly vital. Prior knowledge plays a crucial role in equipping individuals, particularly teachers, with the ability to effectively engage with and utilize digital research tools. Prior knowledge, in this context, encompasses a range of skills and understanding, including familiarity with basic research methodologies, awareness of credible information sources, and proficiency in navigating digital platforms.

On the other hand, the variable Transfer of Knowledge got the lowest mean of 2.49 (SD= 0.64), interpreted as High. This means that while teachers generally perceive themselves as competent in transferring knowledge, there is comparatively less confidence in this area relative to others. This indicates a solid baseline level of proficiency in conveying information and skills to students, which is critical for effective teaching and learning. However, the fact that it is the lowest among the variables measured highlights potential areas for improvement and the need for targeted interventions to enhance this aspect of teaching practice. These programs could focus on strategies such as differentiated instruction, the use of formative assessments to gauge understanding, and the integration of technology to support diverse learning styles. Enhancing teachers' ability to transfer knowledge effectively can lead to better student outcomes, as it directly impacts students' ability to grasp and apply new concepts.

Darling-Hammond and Bransford (2021) is a seminal work that delves into the essential skills and competencies required for effective teaching in contemporary educational contexts. This comprehensive volume not only identifies the critical role of knowledge transfer in teaching but also provides valuable insights into strategies that educators can employ to enhance this process. Emphasize that effective knowledge transfer lies at the heart of successful teaching. Teachers are tasked not only with imparting information but also with ensuring that students can understand and apply this knowledge in meaningful ways. Darling-Hammond and Bransford argue that this requires a multifaceted skill set that goes beyond mere content delivery.

Problem 3. What is the Level of Teachers' Skills in Conducting Research Based on Professional Support, Basic Skills in Research, and Accessibility to Sources?

Table 5: Summary of the Respondents' Level on Skills in Conducting Research

Variables	Mean	SD	Interpretation
Professional Support	2.50	0.65	High
Basic Skills in Research	2.49	0.69	Low
Accessibility to Sources	2.41	0.69	Low
Overall	2.47	0.68	Low

Legend:

3.26-4.00 *At all Times/ Very High*

2.51-3.25 *Most of the Time /High*

1.76-2.50 *Sometimes/Low*

1.00-1.75 *Never/ Very Low*

Table 5 presents the summary of respondent's level of teachers' skills in conducting research with an overall mean of 2.47 (SD= 0.68), interpreted as Low. This means that, on average, teachers perceive themselves as having a modest level of skill in research methodologies and practices. This suggests the importance of enhancing teachers' research competencies to promote evidence-based educational practices and continuous professional growth. As a result, they may lack familiarity with research design, data analysis techniques, and the interpretation of research findings. Additionally, the complexity of conducting rigorous research within educational contexts, such as managing time constraints and accessing appropriate resources, could contribute to teachers' perceived skill gaps in this area.

Cochran-Smith and Lytle (2021) advocate for a paradigm shift towards practitioner research, viewing it not only as a means to improve individual teaching practices but also as a catalyst for broader educational reform. They argue that when teachers actively engage in research activities—such as conducting inquiries into classroom practices, exploring innovative instructional strategies, or investigating student learning outcomes—they become empowered agents of change within their educational

communities. They emphasize the importance of teachers critically examining their own instructional methods, questioning underlying assumptions, and seeking evidence to inform decision-making. By encouraging educators to adopt a stance of inquiry, they aim to cultivate a culture of continuous learning and improvement.

The variable Professional Support got the highest mean of 2.50 (SD= 0.65), interpreted as High. This means that teachers perceive they receive a moderate level of professional support in their endeavors related to conducting research. This indicates that while teachers generally feel supported in their professional development efforts, there may still be opportunities to enhance and expand the support structures available to them. Educational institutions can capitalize on existing support structures by expanding professional development programs that specifically target research skills. This may include tailored workshops on research methodologies, opportunities for collaborative research projects, and funding support for attending research conferences.

Harris and Jones (2020) propose a comprehensive theoretical framework that explores the transformative potential of professional learning communities (PLCs) in enhancing educational practices and fostering system improvement. PLCs are conceptualized as collaborative structures where educators come together to engage in ongoing learning, reflective dialogue, and collaborative inquiry aimed at improving teaching and learning outcomes. This provides a robust theoretical framework that underscores the transformative potential of professional learning communities in promoting system improvement within educational settings. By fostering collaborative learning, shared vision, and continuous improvement, PLCs empower educators to enhance teaching effectiveness, improve student outcomes, and contribute to a culture of educational excellence and equity.

On the other hand, the variable Accessibility to Sources has the lowest mean of 2.41 (SD= 0.69) interpreted as Low. This finding highlights significant challenges that teachers face in accessing and utilizing relevant educational resources to inform their instructional practices and professional development. The accessibility of sources directly impacts educators' ability to stay informed about current educational trends, research findings, and innovative teaching strategies. Without adequate access to scholarly literature, teachers may rely on outdated information or anecdotal evidence, potentially hindering their capacity to implement evidence-based practices and make informed instructional decisions.

Additionally, fostering collaborative networks among educators can promote the sharing of resources, best practices, and research insights. Professional learning communities and online forums provide platforms for educators to exchange ideas, access peer-reviewed articles, and engage in collaborative inquiry that enhances professional growth and improves teaching effectiveness.

Brown's study (2019) provides a comprehensive analysis of the socioeconomic factors influencing access to scholarly articles. The research highlights how individuals' economic status and institutional affiliations impact their ability to obtain and utilize scholarly information. One of the key findings is the significant disparity in access between individuals affiliated with well-funded institutions and those from less-resourced settings. This divide often translates into unequal opportunities for researchers and students in terms of accessing current research findings and contributing to academic discourse. Brown's research also delves into the broader implications of restricted access to scholarly articles. Limited access not only hinders individual research efforts but also affects the overall advancement of knowledge in various fields.

Problem 4. What is the Level of Teachers' Attitude in Conducting Research with Regards to the Usefulness to Profession, Research Positivity, and Emotional Preparedness?

Table 6: Summary of Respondents' Level of Attitude in Conducting Research

Variables	Mean	SD	Interpretation
Usefulness to Profession	3.42	0.89	Very Positive
Research Positivity	3.22	0.83	Positive
Emotional Preparedness	3.07	0.79	Positive
Overall	3.24	0.84	Positive

Legend:

3.26-4.00 Strongly Agree/ Very Positive

2.51-3.25 Agree/ Positive

1.76-2.50 Disagree/ Negative

1.00-1.75 Strongly Disagree/ Very Negative

Table 6 presents the summary of respondents' levels on teachers' attitude in conducting research with an overall mean of 3.24 (SD= 0.8), interpreted as Positive. This means a supportive environment where educators recognize the significance of research in improving teaching practices, student outcomes, and their own professional development. Such a positive attitude is crucial as it fosters a culture of continuous learning and innovation within educational institutions. This uniformity suggests that the perception of research as beneficial and relevant is widely shared among teachers surveyed.

Moreover, this consensus can be leveraged to promote collaborative research initiatives, knowledge sharing, and mentorship programs among educators. The data revealing a positive mean score, and low standard deviation reflect a supportive and unified stance among teachers towards conducting research. Emphasizing and nurturing this positive attitude can enhance professional development opportunities, foster a culture of inquiry and improvement, and ultimately contribute to advancing educational practices and outcomes.

Brown's (2020) study investigates the organizational

factors that significantly impact teachers' attitudes toward engaging in research activities. This research is pivotal as it underscores how the environment in which educators operate can either facilitate or hinder their willingness to participate in research endeavors, which are crucial for professional development and improving instructional practices. One of the key findings of Brown's study is the pivotal role of organizational support. Schools that prioritize and allocate resources for research activities tend to foster a more positive attitude among teachers towards research. These resources include dedicated time for research, access to research literature and databases, and financial support for attending conferences or workshops focused on research methodology.

The variable Usefulness to Profession got the highest mean of 3.42 (SD= 0.89), interpreted as Very Positive. The positive perception of research's usefulness underscores its role in fostering a reflective and critical mindset among educators. When teachers embrace research as a tool for professional growth, they are more inclined to critically evaluate their teaching practices, explore new methodologies, and integrate cutting-edge research findings into their classrooms. This process not only enhances instructional quality but also encourages a culture of lifelong learning and adaptation to educational trends. Educational institutions can leverage this attitude by providing resources, professional development opportunities, and collaborative platforms that empower teachers to conduct and apply research effectively.

Johnson and Lee's (2022) study explore the critical role of integrating research into teacher education programs to prepare educators for evidence-based practice. This research is particularly significant as it addresses how equipping teachers with research skills and knowledge during their initial training can enhance their effectiveness and professional growth throughout their careers. One of the key findings of Johnson and Lee's study is the transformative impact of research integration on teacher readiness and competence. By embedding research methodologies and critical inquiry skills into pre-service education, teacher candidates develop a robust foundation in understanding how to access, analyze, and apply research findings to inform their teaching practices.

This exposure not only enhances their ability to critically evaluate educational interventions but also empowers them to adapt teaching strategies based on empirical evidence and student data.

On the other hand, the variable Emotional Preparedness has the lowest mean of 3.07(SD= 0.79) interpreted as Positive. This means that educators recognize the value of research but may still experience varying degrees of emotional apprehension or uncertainty when navigating research processes. This finding underscores the complexity of educators' emotional experiences and the need for supportive strategies to bolster their confidence and resilience in research endeavors. Providing professional development opportunities that address emotional aspects of research, such as managing self-doubt or navigating research-related challenges, can significantly enhance educators' emotional preparedness. Workshops or mentoring programs that offer practical guidance and emotional support can help educators build confidence in their research skills and overcome emotional barriers to engaging more fully in research activities.

Smith's (2019) study explores the significance of reflective practices in fostering emotional readiness among educators engaged in research activities. Reflective practices are integral to educators' professional development, providing a structured approach for examining and refining their understanding, skills, and emotional responses in the context of research. Smith discusses how reflective practices contribute to educators' professional growth by bridging theory and practice in research. By critically examining their research methods, data interpretation, and implications for teaching practice, educators can refine their research skills and enhance the relevance of their findings to educational contexts. This iterative process of reflection and adjustment fosters a continuous cycle of improvement, where educators become more adept at integrating research into their professional roles and enhancing instructional effectiveness.

Problem 5. Is There a Significant Relationship between Teachers' Knowledge, Skills, and Attitude in Conducting Research and Each of Their Characteristics?

Table 7: Result of the Test on Relationship between Teachers' Knowledge, Skills, and Attitude in Conducting Research and each of their Characteristics

Respondents' Characteristics		Knowledge	Skills	Attitude	Overall
Age (55 years and above)	r-value	0.722	0.150	0.789	0.55
	p-value	0.1052	0.0560	0.0592	0.7345
		NS	NS	NS	NS
Sex (Female)	r-value	0.908	0.758	0.530	0.732
	p-value	0.0916	0.0716	0.0919	0.0750
		NS	NS	NS	NS
Key Stage (Kinder – grade 3)	r-value	0.180	0.910	0.728	0.606
	p-value	0.0719	0.0990	0.2208	0.4276
		NS	NS	NS	NS

Position (Teacher I)	r-value	0.723	0.856	0.423	0.667
	p-value	0.1502	0.0523	0.0708	0.0911
		NS	NS	NS	NS
Teaching Experience (31-40 years)	r-value	0.225	0.120	0.180	0.175
	p-value	0.0001	0.0001	0.0001	0.0001
		S	S	S	S
Seminars/trainings Attended on Research (School 5 and above)	r-value	0.524	0.230	0.514	0.423
	p-value	0.0410	0.0005	0.0004	0.0140
		S	S	S	S

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

Table 7 shows the correlation coefficients (r-values) and p-values of the relationship between the teachers' knowledge, skills, and attitude in conducting research and each of their characteristics. The data revealed that the respondents' age, sex, key stage and position are not significant to their knowledge, skills and attitude in conducting research.

Looking at Age, it means that older teachers might have more experience and a deeper understanding of research. However, the findings show that age doesn't seem to affect how well teachers can conduct research or their knowledge of research methods. This suggests that research skills can be developed at any stage of a teacher's career, and experience isn't the only factor in building research competence.

Similarly, Sex (gender) was another variable considered. It anticipates that there might be differences between male and female teachers when it comes to research knowledge and attitudes. However, the data showed no significant difference between genders, indicating that both male and female teachers have similar abilities and perspectives when it comes to conducting research.

Key stage, which refers to the educational level at which teachers work. While we expected that teachers at different stages might have different research needs or experiences, the results revealed no significant differences. This suggests that teachers, regardless of the key stage they teach, view and approach research in similar ways.

Also, Position within the school, assuming that teachers in leadership roles, such as department heads or coordinators, might have more opportunities to engage in research and, therefore, may have higher research competencies. However, the data showed no significant difference in research knowledge or attitudes based on a teacher's position within the school. This suggests that teachers in all roles, whether in leadership or not, have similar access to research and the same level of research engagement.

However, Table 16 also revealed that both teaching experience and attendance at research-focused seminars or trainings significantly influenced teachers' research competencies for the development and experience in enhancing research abilities.

In the table teaching experience is significant, which means that experienced teachers are better at conducting research because their practical knowledge helps them

design studies and analyze data. This suggests that schools should encourage both experienced and new teachers to engage in research, as experience alone may not guarantee strong research skills.

Furthermore, seminars and training programs are crucial for improving teachers' research abilities. These opportunities help teachers update their knowledge and build confidence in their research. This emphasizes the need for regular professional development in research, ensuring teachers stay current with new trends and methods in education, ultimately improving the quality of research.

These findings suggest that factors such as access to professional development, support from the school, personal interest in research, and past research experience are more likely to influence teachers' research skills than demographic or professional characteristics like age, gender, key stage, or position. Therefore, professional development should focus on providing opportunities for all teachers to improve their research skills, regardless of their background.

CONCLUSION

The findings of this study indicate that teachers in Cagayan de Oro exhibit a strong foundation in research knowledge, with prior knowledge being the most influential factor, and demonstrate a positive attitude towards the importance of research in their profession. However, the study also highlights a significant gap in research skills, with professional support being the most prominent factor influencing the development of these skills. This suggests that while teachers have a solid theoretical understanding of research, they face challenges in translating this knowledge into effective research practices due to a lack of hands-on experience, resources, and mentorship. The results underscore the necessity for targeted professional development programs that not only enhance teachers' research skills but also provide them with greater access to research tools and continuous support. Thus, to address these gaps, it is crucial for schools and educational institutions to implement robust support systems that promote both research knowledge and practical research competencies, enabling teachers to more effectively integrate research findings into their teaching practices and contribute to the advancement of education.

Recommendations

Based on the conclusions drawn from the study, the following recommendations are provided:

1. The Department of Education should offer training programs to help teachers improve their research skills and build confidence in using research in their classrooms.
2. Schools and School Heads should allocate time and include research in school-based learning action cell and collaborative expertise. This will help teachers change to transfer their knowledge and skills.
3. Teachers should start participating in activities such as research congress to boost their confidence and coordinate with the Division research coordinator to be updated in different sources to conduct research.
4. Learners should start learning research skills early to boost curiosity and critical thinking. These activities help you practice teamwork, solve problems, and communicate better. Use digital resources smartly and practice presenting your work confidently. This will prepare you for bigger projects in the future and help you grow as a learner.
5. Future Researchers may study more about teachers' knowledge, skills, and attitude in conducting research in other divisions and with other variables regarding the study.

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