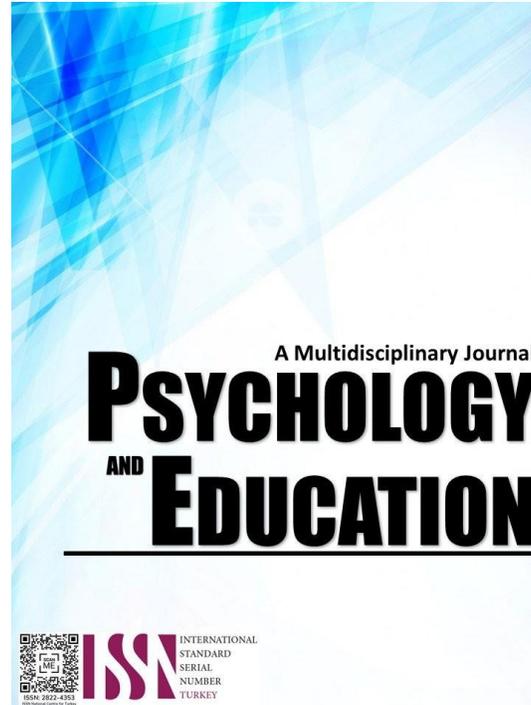


RESEARCH CAPABILITIES OF THIRD-YEAR PRE-SERVICE TEACHERS: MOTIVATIONS AND ADVERSITIES



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Research Capabilities of Third-Year Pre-Service Teachers: Motivations and Adversities

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Abstract

This qualitative research explores the research capabilities of Third-Year Pre-Service Teachers (PSTs) enrolled in the Bachelor of Elementary Education program at the College of Teacher Education in a Higher Educational Institution. Employing a phenomenological design, the study aims to discover commonalities from PSTs' collective research experiences, ensuring data authenticity and integrity. Data collection involved one-on-one, open-ended interviews with ten (10) Third-Year PSTs, who shared insights from their research endeavors. The study revealed that PSTs are intrinsically and extrinsically motivated by personal growth, mentorship, team support, and positive feedback. Research is seen as crucial for their academic and professional development, going beyond mere obligation. These motivations strongly influence their attitude and performance in research. The PSTs addressed about a variety of adversities encountered when carrying out the study, including title formulation, locating current, relevant literature, translating the contents word for word, and choosing relevant theories to provide the results' foundation. Yet, PSTs surmounted numerous adversities to do research; PSTs took calculated risks to surmount the difficult research uphill battle and initiated useful coping mechanisms to get beyond the difficulties. These strategies include efficient time management, group collaboration, effective communication, resourcefulness, task allocation, mentorship, self-care, optimism, and self-direction. Therefore, PSTs' research capabilities reflect a synthesis of motivations, challenges, and coping mechanisms encountered throughout the research journey.

Keywords: *research capabilities, pre-Service Teachers, motivations, adversities, coping mechanisms*

Introduction

Research foresees innovations; it is not just about gathering data or information; rather, it seeks solutions to problems, gives answers to questions, and widens the perception of society. The relevance of research extends across all disciplines of endeavor. In the Philippines, research is a core subject and required coursework for all students from senior high school to college. Nevertheless, behind this broad spectrum of significance comes the underlying difficulty of the research process, which most learners are grappling with.

According to Ciocon (2018), students often struggle with writing research papers due to the need to craft every element in each chapter. However, this rigorous process is valuable as it expands knowledge by generating new ideas, methods, and insights, making it essential to encourage and support.

Students frequently perform poorly in research courses because students find it difficult, and as a result of this complexity, research courses are frequently unpopular with students who feel that mastering research methodology is challenging and pointless (Dor, 2019). These challenges encompass the struggle to choose an area to study, insufficient technical expertise, trouble accessing up-to-date, specialized, and pertinent materials, not having enough enthusiasm for the study, ignorance of the field, deadlines, and inadequate supervision (Qasem & Zayid, 2019).

The study of Garancho and Marpa (2019) revealed that students' enthusiasm, research anxiety, application of findings to real-world issues, and teacher influence significantly affect the perception of students to research. It can be indicated that some students have a positive view of research while others may not. In the study of Ilagan (2021), it was found that most students struggle with technical aspects of writing, such as research paper format, grammar, sentence construction, and the research process.

Additionally, students have an unfavorable view of research; students are unable to determine if the institution encourages more scientific production or if the scientific education students receive as part of students' academic curriculum is sufficient (Saavedra-Lopez et al., 2022). Therefore, it could be said that low levels of institutional and teaching impact also affected students' research capability.

The aforementioned studies showed that students experienced difficulties in doing research, highlighting a range of reasons and circumstances affecting the students' research capability. In light of this, researchers have observed that students from the College of Teacher Education in a Higher Educational Institution exhibit noticeable challenges when conducting research. The complexity of the process made it difficult for Pre-Service Teachers to conduct research studies. Although much research had been done on students' research capabilities, the motivations and mechanisms that helped students, specifically Pre-Service Teachers, overcame adversities in doing research are not yet fully understood. The need to identify these motivations and adversities was crucial to understanding the students' capabilities in research.

Hence, the researchers conducted the study to identify Pre-Service Teachers' research capabilities, determine the motivations of Pre-Service Teachers in research, and unveil the adversities impacting the performance of Pre-Service Teachers in conducting a research study.

Research Questions

This study aimed to unveil the research capabilities of Pre-Service Teachers taking the Bachelor of Elementary Education at the College of Teacher Education in a Higher Educational Institution for the school year 2023-2024. Specifically, it sought to answer the following questions:

1. What were the motivations of Pre-Service Teachers to carry out a research study
2. What were the adversities encountered by Pre-Service Teachers in conducting a research study?
3. How did Pre-Service Teachers cope with these adversities in conducting a research study?

Literature Review

Research capability is described as the capacity of personnel in an institution to carry out the demands of successful, productive, and excellent research (Pilongo, 2022). It entails obtaining, assessing, and interpreting information to discover solutions or answers to dilemmas that are fundamental to career progress, providing wisdom, and spurring action in oneself and others (Birt, 2022). In addition, Perez et al. (2022) define research capability as an approach utilized to enhance excellent and research-based educational programs in management, engineering, and physical sciences, including education.

In recent decades, researchers and professionals have developed an intense fascination with research capabilities. Research capability is fundamentally the capacity to carry out high-caliber research in a specialized area (Caingcoy, 2020). Moreover, Manongsong et al. (2018) highlighted research capability as the culmination of research experiences that render it feasible to effectively complete the learning phase's inquiry objectives. To put it briefly, research capability is the capacity of individuals from various institutions to design high-caliber research studies, which serve as a real benefit and advantage for the modern workplace and world of today.

According to Wong (2019), a critical focus was placed on the imperative need to enhance the level of institutional support provided within academic and research institutions. The research findings of the study underscored the significance of creating an environment that fosters and sustains a culture of research excellence. Thus, central to this effort is the requirement to cultivate a more positive research attitude and augment the skill set of scholars and researchers. This holistic approach, emphasizing both institutional backing and individual development, is believed to be vital for attaining a notable increase in productivity over the course of research, which will inevitably foster expertise and innovation across a range of fields.

Research capability, which has unfathomable worth in today's society, can be outlined as the ability to produce exceptional research and the embodiment of study behavior. To do so, one needs societal backing along with individual cultivation. Nevertheless, research capability is necessary to be assessed in order to determine the best course of action to enhance it (Perez et al., 2022). Thus, the various definitions and studies covered above allowed for a wide range of comprehension among the researchers.

Additionally, it was essential to see diverse perspectives on how to comprehend research capabilities. Hence, to be able to obtain an in-depth knowledge of the research capacities of Pre-Service Teachers, two additional elements that relate to research capability—motivation and adversity—were also examined in this study.

Motivation is a vital element of human existence (Morris et al., 2022). Gribanova (2020) termed motivation as the offering of an incentive to urge a behavior. In the field of education, motivation is defined as an internal state that ignites, directs, and reinforces people's learning activities (Woolfolk, 2019). Learning experiences and motivation are important determinants of learning outcomes. Positive learning experiences, according to the findings, can boost optimism for a favorable outcome and the overall project's worth. These ultimately encourage students' enthusiastic involvement in class activities, fostering the growth of academic outcomes (Lo et al., 2022). Additionally, according to the study of Zhang et al. (2021), it was found that there is a favorable correlation between students' self-evaluated research skills and research motivation. Consequently, it was critical to acquire knowledge of students' perspectives on and motivation for research in order to comprehend the research capability of the students.

In understanding the motivation of students for research, it's critical to note that not every action is prompted by concrete exterior cues or results, referred to as "extrinsic" motivation, but rather by stronger internal drives termed "intrinsic" motivation (Ommering et al., 2020).

Intrinsic motivation is the desire to complete an assignment or pursuit because one is innately interested in it. One does not get inspired by external incentives or acknowledgment but is instead driven by enjoyment of the action, a fit among one's passion, sense of aptitude, and relevancy of the duties at the moment (Botempi, 2019). Research by Ommering et al. (2020) indicated that students opt to do research for a variety of reasons, including the pleasure of the process, the gratification of seeing the findings, and the opportunity to improve academically while digging deeply into a subject. Additionally, it was shown that students are driven to conduct research in order to satisfy individualized needs, including curiosity, a need for challenge, and a desire for variety.

Contrarily, extrinsic motivation refers to engaging in an action or obligation primarily to obtain external validation or avert a penalty (Botempi, 2019). People who are extrinsically motivated would work on a subject despite having no interest in it, as these individuals expect to be rewarded for the efforts made (Meadows-Fernandez, 2018). In light of this, students cited the importance of research producing external benefits like prominence and the possible advantage of research to the students' future career trajectories as extrinsic

motivators (Ommering et al., 2020).

Although intrinsic and extrinsic motivations equally have a beneficial influence on the learning efficacy of students, intrinsic motivations have a more profound effect than extrinsic motivations (Kum, 2022). All things considered, it could be said that students' performance in research were heavily impacted by motivation—both internal and external. In order to better understand its significance and relationship to Pre-Service Teachers' research capability, the motivation of Pre-Service Teachers to conduct research was covered in the current study.

Collins English Dictionary (2023) defines adversity as distress, affliction, or hardship. Students endure adversity at all stages of education (Common Issues, 2022). Yet, when students are fully devoted to reaching academic goals, students will make every attempt to overcome a number of roadblocks along the way. In light of this, it can be stated that adversities must be overcome in order to effectively carry out all obligations and responsibilities (Kapur, 2022). Thus, by recognizing and grasping research challenges, educators will be equipped with the information and skills required to conduct worthwhile investigations (Researcher Life, 2023). To make a long story short, recognizing the adversities of doing research is important, for it will equip students to aid oneself to overcome the different challenges of doing research.

According to Versoza's (2019) study, the parents' financial status is one of the main factors influencing students' research endeavors. Male students, in particular, sometimes face greater issues related to financial aid. The researchers' readiness and time supervision appear to be the primary problems that researchers ran into. Furthermore, Sitompul (2021) study revealed that student-researchers came across challenges with the following three areas of research: introduction, method selection, and data processing, whereas the study brought attention to the constraints with analyzing, categorizing, and drawing conclusions from the findings. Similarly, Leonares (2019) study revealed challenges faced by research students, including a lack of basic research background, topic generation, collaboration, data evaluation, and interest retention.

Conversely, the research conducted by Safitri et al. (2021) found two internal and external aspects influencing students' research methodological challenges: academic skill and self-confidence, as well as the availability of research references, supervisors, and respondents. Students additionally encountered challenges associated with a deficiency in motivation, difficulties managing time, the dispositions and characteristics of the students and the co-advisor's acquaintances, and most significantly, a poor command of the English language (Lestari, 2020). As the aforementioned studies have shown, most student researchers find the research process to be difficult. This clarified that the research method itself is not the only important factor; students are also challenged intellectually, financially, emotionally, and physically when doing research.

Nonetheless, the preceding studies demonstrated the significance of establishing an environment that encourages advanced and profitable research among researchers and educators, which would ultimately led to the advancement of wisdom and innovation in a variety of sectors. One method was to identify the students' research capability as well as the motivation and difficulties that students encountered through the research process. Thus, according to the studies mentioned above, among the motivations that the students had while undertaking research were personal development and professional practice. On the other hand, students confronted difficulties with time management, the research methodology itself, and a lack of personal, financial, and intellectual preparation for research.

The aforementioned research provided a solid framework for what to anticipate from the results of the present investigation. Similar to earlier studies, this one also aimed to identify the research skills of student researchers, in this case, Pre-Service Teachers. But in contrast to earlier studies, this one aimed to collectively unveil Pre-Service Teachers' capacity for research by identifying the motivation and challenges the Pre-Service Teachers encountered during the process. Hence, this study shed light on the methodology used by researchers in teacher education programs as well as the challenges that lie behind the Pre-Service Teachers' approached to research.

Methodology

Research Design

This study employed qualitative phenomenological research. It focused on unveiling the research capabilities of Pre-Service Teachers taking the Bachelor of Elementary Education at the College of Teacher Education in a Higher Educational Institution. This qualitative study employed semi-structured interviews to explore phenomenology, a method that aimed to understand people's experiences and interpretations (Mckoy, 2022) by examining beliefs, behaviors, and motives (Harappa Blogs, 2021). Furthermore, researchers using this approach are obligated to put stereotypes and inferences aside to be able to hone in entirely on the current situation (Delve, Ho & Limpaecher, 2022). By virtue of this, the researchers in this study employed a phenomenological design to thoroughly identify the themes that emerged from Pre-Service Teachers' shared experiences in conducting research. This was rendered without exhibiting prejudice or fusing the researchers' preconceived notions with the data gathered and interpreted, ensuring the authenticity and integrity of the data.

Participants

The study's participants were ten (10) Pre-Service Teachers from the Third-Year BEED program, five (5) students from BEED 3-A,



and another five (5) students from BEED 3-B. These participants were officially enrolled in the subject AS14 Research 1 of the Bachelor of Elementary Education program at a Higher Educational Institution for the school year 2023-2024.

Purposive sampling, a non-probability design, was used in this study to select participants based on the study's goal and population characteristics. This sampling design employed non-random procedures to select participants for in-depth information or small, focused populations (Crossman, 2022), commonly used in resource-limited situations to quickly elicit reactions (Langford & Boyd, 2022). Consequently, this study selected the study's participants purposively in order to guarantee that each participant fit the study's criteria. For the inclusion of the study's criteria: firstly, the participant had to be a Third-Year Pre-Service Teacher. Second, the participant had to be enrolled in the Bachelor of Elementary Education program in the university's College of Teacher Education for the school year 2023-2024. Most importantly, the participant must be enrolled in the subject AS14 Research 1. Considering that not all Pre-Service Teachers at the College of Teacher Education were participating in research studies, as some may be irregular students, the best sample design for this inquiry was hence purposive sampling.

Instrument

In this study, a semi-structured questionnaire was employed to allow for dialogue with the respondents in place of a conventional question-and-answer format. One kind of research instrument is a questionnaire, which was used to gather data by asking participants a series of questions. The need to be able to read the questions and respond significantly limited it. The instrument contained the interview's basic information and introduction. It was then followed by a semi-structured questionnaire with four (4) preparatory questions and nine (9) content questions covering the challenges and motivations of conducting research, for a total of thirteen (13) questions.

Procedure

In order to obtain qualitative data, the researchers followed a well-planned protocol. The data collection was scheduled to take place in the first semester of the 2023–2024 academic years. To actually get the data, researchers employed the subsequent methodology. The researchers first formatted the questionnaire as a limited question. After that, the researchers created a checklist for the questionnaire and a semi-structured interview guide question, and then proceeded to the consultation with the appropriate validators. When the questionnaires were validated and revised, the researchers then submitted a letter to the dean of the College of Teacher Education, requesting permission to perform the study on campus.

Purposively, the researchers selected Third-Year BEED students as participants in this study. The researchers created a letter obtaining informed consent and requesting permission from the Pre-Service Teachers to participate. A thorough explanation of the entire investigation was provided by the researchers, informing the participants about the goals and objectives of the study while also upholding the Pre-Service Teachers' rights. Then the semi-structured interview was conducted.

After the participants completed all of the questions, the researchers kept the completed ones in a folder to secure them. Then, the collected data was analyzed thematically. It underwent a process of coding, analyzing, interpreting, and verifying data. The next step involved interpreting the data by finding any recurring themes and emphasizing any similarities and differences in the data. Thus, the processed of coding qualitative data facilitated the interpretation of participants' comments. Additionally, by coding terms and phrases in each response, it becomes easier to understand the content of the response and to effectively analyze and compile the survey's overall results (Medelyan, 2019).

The final stage involved data verification. The process included verifying that the data entered or saved in a database or system was correct, full, and consistent with the source data. Thus, to avoid mistakes that will produce inaccurate outcomes or judgments, data verification is frequently utilized in database administration and data entry (Hassan, 2023).

Data Analysis

In order to ease the process of conveying, encoding, and presenting meaning, coding systems employ thematic alignment to recognize and classify data themes (Williams, 2022). Open coding, theme generation, and interpreting data were included. In doing the open coding, the data was sorted and synthesized to analyze the patterns and themes in each response. Interpreting data came after themes were generated from the coding process, where patterns were identified and sorted. Interpretation and discussion of the data were the last steps to answer the study's problem.

Ethical Considerations

A few ethical considerations were taken into account during the research process. Firstly, the paper was submitted to the university's Ethics Review Board for ethical review.

Secondly, all participant personal information was kept private and confidential in order to preserve participants' privacy and sense of security. For example, pseudonyms and anonymity were used in place of participant names.

Thirdly, all data was professionally recorded and tabulated. Fourthly, all data, results, methods, and procedures were collected and conducted in order to produce authentic research results. Fifthly, as a way of showing respect to the rights of Pre-service Teachers,

consent was cordially given to the students to take part in the study; a letter of permission was given to the aforementioned participants, outlining the research's objectives and goals. The researchers also ensured that the Pre-service Teachers were aware of these goals and were not coerced or threatened into taking part in the study; instead, participants were provided with the freedom to participate and contribute to the research at their discretion.

Results and Discussion

This study aimed to determine the Research Capabilities of the Third-Year Pre- Service Teachers: Motivations and Adversities. This section showcases information on the respondents' demographics as well as data gathering and analysis procedures, including managing data proof of obtained findings, data analysis, and melding themes and sections highlighting how findings related to the research objectives.

Table 1. Demographic Data of the Respondents

Respondents	Course/ Program	Sex	Section
Pre-Service Teacher 1	Bachelor of Elementary Education	Female	BEED 3A
Pre-Service Teacher 2	Bachelor of Elementary Education	Female	BEED 3A
Pre-Service Teacher 3	Bachelor of Elementary Education	Female	BEED 3A
Pre-Service Teacher 4	Bachelor of Elementary Education	Female	BEED 3A
Pre-Service Teacher 5	Bachelor of Elementary Education	Male	BEED 3A
Pre-Service Teacher 6	Bachelor of Elementary Education	Female	BEED 3B
Pre-Service Teacher 7	Bachelor of Elementary Education	Female	BEED 3B
Pre-Service Teacher 8	Bachelor of Elementary Education	Female	BEED 3B
Pre-Service Teacher 9	Bachelor of Elementary Education	Female	BEED 3B
Pre-Service Teacher 10	Bachelor of Elementary Education	Male	BEED 3B

Table 1 shows a summary of the respondents' demographic data. The chosen respondents were all Pre-Service Teachers at the College of Teacher Education in a Higher Educational Institution taking the Bachelor of Elementary Education. Among the ten (10), five (5) students were from BEED 3-A, and another five (5) students were from BEED 3-B.

Analysis and Emerging Inference

Interview Findings

This study aimed to unveil the Research Capabilities of the Third-Year Pre-Service Teachers: Motivations and Adversities. After all ten (10) interviews were transcribed, themes were generated that answers the research questions. The Pre-Service Teachers were asked nine (9) interview questions to determine the Research Capabilities including motivations, adversities, and coping mechanisms.

This study has three (3) research questions to answer, of which three were subdivided and arranged into categories. The following interview questions were arranged along with the extracted answers of respondents in the transcript.

For research question 1 (RQ1), the following interview questions were arranged sequentially: Interview Question 1.1 (IQ1.1) asked about whether the Pre-Service Teachers were eager to do research. Question 1.2 (IQ1.2) conveyed the motivation of the Pre-Service Teachers in conducting research, and Interview Question 1.3 (IQ1.3) determined how motivations facilitated the Pre-Service Teachers in conducting research.

For research question 2 (RQ2), the following questions were arranged sequentially: interview question 2.1 (IQ2.1), determined whether Pre-Service Teachers experienced adversity in conducting research. Interview Question 2.2 (IQ2.2) delved into the adversities faced by the Pre-Service teachers in carrying out a research study, and Interview Question 2.3 (IQ2.3) asked the Pre-Service Teachers which part of research was the most difficult to do.

For research question 3 (RQ3), the following questions were arranged sequentially: interview question 3.1 (IQ3.1) asked about the

coping mechanisms of the Pre-Service Teachers in conducting research. Interview Question 3.2 (IQ3.2) asked the respondents about the effective and ineffective strategies used in coping with adversities in conducting research, and Interview Question 3.3 (IQ3.3) delved into the things that will be done differently the next time the Pre-Service Teachers undertake research.

Research Question 1. What are the motivations of Pre-Service Teachers to carry out a research study?

PST's Response: Out of ten (10) respondents, six (6) mentioned passing the subject or having good grades as their motivations to conduct a research study, as research was one of the requirements for the students to pass the subject and to graduate. Four (4) respondents stated that their group members also motivated them to continue doing research because they did not want to be a burden in their group, and seeing their group mates eagerly doing research gives them motivation too. Nine (9) respondents emphasized the value of mentorship in research because it gave them a sense of direction and confidence, which inspired them to succeed as researchers.

According to eight (8) out of ten (10) respondents, research aided in laying the groundwork for one's future profession by providing necessary knowledge to direct one's future endeavors. Out of ten (10) respondents, nine (9) stated that their motivation for conducting research sprang from personal cultivation or curiosity.

This was supported by the fact that researchers were motivated to do research because they were curious about the results of their work and the solution to the issue. Of the ten (10) respondents, two (2) stated that the significance of their research study drove them to carry it out since it had the ability to bring about changes in society and personal growth for each individual. One (1) researcher even stated that he could start a variety of strategies to become a more effective educator in the future with the help of research.

"The thing that motivates me to do research is, first, because I want to learn. Second are my members, because they are the main source of my motivation to still continue the research that we are doing right now... our study is new, not just to us, as researchers, but also to the entire field of education since it is a new implementation in DepEd. So we wanted to unveil the impact of this policy in the field of education." (PST1)

"Firstly, to graduate... to enhance my ability to do research... our mentors motivated us in such a way that when we presented our research to them, they told us it was a good one... research can help me, of course, innovate lessons, which will help me be a more effective and efficient teacher." (PST6)

"...it is really the grades that motivate me... gives you self-fulfillment... Our mentor would say that research is not that hard because it is ours and that we do not have to be scared... conducting research helps enhance the way we teach..." (PST7)

"...what really motivates me is that I like to learn... Even if they are busy, they are always there... if I see my students struggling, I will conduct or find strategies." (PST9)

"I want to have a good grade.... our Research Adviser sits with us, he explains and tells us about how beautiful it is to conduct research and how fulfilling it is..." (PST10)

Researchers' Reflection: The respondents listed the following as some of their motivations: passing the course or earning excellent grades; their fellow group members; mentorship; the advantage of research to their future profession; personal development and curiosity; and the significance of their research study. The aforementioned remarks showed different reasons for carrying out research studies.

Hence, Pre-Service Teachers' motivations were not limited to academic objectives; they were also shaped by their own interests, the encouragement of their peers, and the guidance of mentors. This showed that research was an opportunity to learn and grow rather than merely a subject to be completed.

Research Question 2: What are the adversities encountered by Pre-Service Teachers in conducting a research study?

PSTs' Response: Of the ten (10) respondents, ten (10) identified one of the challenges they faced as not being able to acquire pertinent literature and studies. Among the challenges they faced in the early planning stages of their research process, seven (7) out of ten (10) respondents named title formulation. Furthermore, four (4) respondents emphasized that they had run into psychological and emotional issues when doing research. Two (2) respondents mentioned that they struggled to balance their time between research and other subjects.

Furthermore, two (2) respondents said they had trouble getting along with other members of their group, and two (2) respondents mentioned research technicalities as their adversities. Lastly, one (1) respondent mentioned that generating the background of the study and choosing the appropriate theory to anchor on the study were additional adversities of research.

"One of the factors is that there is a lack of literature. It is really hard to find literature to support our study, mainly because literature serves as the backbone or the brain of our study; hence, we really need to provide accurate and valid literature..." (PST1)

"...There were psychological problems... for example, mental breakdowns... you're just stuck in one position or one place or one chapter in your research, and you don't know what to start next or where do I begin." (PST3)

"Yes, especially in the title of the study. It's very difficult to look for a hook that will capture the audience and also amuse them..."

(PST4)

“The usual thing is the paper itself... I’m having a question like how am I going to start, as well as the technicality in writing... we faced in the initial planning stage is the lack of resources. There are times it’s not about the paper but within the members...” (PST5)

“...the background of the study and also the theoretical framework, because the theories that are found are not directly connected to our research, so we had a hard time there... we were stressed, especially when the deadline was near and we hadn’t made it...” (PST9)

Researchers’ Reflection: The above-stated comments emphasized that Pre-Service Teachers faced a number of challenges when completing their research, the most frequent of which was finding pertinent literature and studies to support their study. This was especially true given that the majority of Internet literature is out of date.

Research skills were therefore essential for research. It’s true that conducting research was a difficult endeavor. Yet, difficulties faced by researchers included those that depleted them socially, psychologically, and emotionally, in addition to the task of writing the paper itself. Therefore, the results above illustrated how one’s life would look when they undertook research. Certainly, all student researchers would agree with this. Therefore, doing research might be concerning, especially if one lacks the strength to get beyond challenges like the ones listed above.

However, this difficult path should be taken because it had the power to improve and transform not just the life of the researcher but also the lives of the community where the study would have an impact.

Research Question 3: How do Pre-Service Teachers cope with these adversities in conducting a research study?

PSTs’ Response: When doing research, three (3) out of ten (10) respondents cited cooperation, teamwork, and collaboration as their coping mechanisms. Having effective time management skills is one strategy used by six (6) out of ten (10) respondents to deal with the challenges of conducting research.

Additionally, three (3) respondents stressed the importance of group communication, and five (5) respondents mentioned mentorship as extra coping mechanisms for research difficulties. One (1) respondent mentioned having “me” time by eating and resting as necessary, and another one (1) respondent highlighted that being resourceful helped their group to cope with the adversities of research. As an additional coping mechanism for their research study, three (3) respondents brought up the distribution of tasks among the members.

“In coping with these adversities, we really need to cooperate. There should be teamwork in doing this because it is not effective for us to sit as a group every day... we distribute the tasks, and then after that, that’s the time that we are going to sit together as a group at school... we do what we can when we have some free time to make the tasks easier. So we need to manage time and work together at the same time. I do not sleep. There are times that you need to sacrifice your sleep or you have to sacrifice other subjects just to finish what you are doing in research... There just have to be sacrifices, a bit.” (PST1)

“...we communicate with each other since one of our members is an irregular student, and we really adjust our time since our group mates is also a working student. Also, the distribution of work should be equal.” (PST2)

“...it’s important to stop, but never quit. I manage my time by having my own time, sleeping, and socializing with others to get more information. And also, eating... If I have extra time, then I will use it for research. And I will first do the priority... it’s very helpful if you have peers or friends that support you. Family that motivates you and, at the same time, the teacher that really motivates you and helps you make research much easier.” (PST4)

“We really seek help from our adviser when we can’t bear things anymore. We go to our adviser to make the task easier because we know that he has more experience, so we turn to him.” (PST8)

“We were having a hard time looking for online resources. What we did is we visited libraries and we looked for related studies... We coordinated with our adviser for us to be guided, and one of our members has background knowledge about language so it made it easy somehow for us.” (PST10)

Researchers’ Reflection: The respondents utilized the aforementioned coping mechanisms to get through the challenges of doing research. Research was already hard in terms of the technicality, or the overall process of research itself. Therefore, coping mechanisms like the ones listed above must be carried out or utilized by every researcher in order to overcome difficulties and become an efficient and effective researcher for the successful completion of a study.

Emergent Themes

Thematic analysis was employed in the coding process, which entails scanning over a data collection and searching for patterns to identify themes (Dovetail Editorial Team, 2023). While the researchers were recording information gleaned from the interview, researchers also made notes as a backup alternative if the responses were lost on audio. The researchers transcribed the interviews, which were then manually translated and coded. Researchers categorized and interpreted the data. The studied interview transcripts revealed the following emerging themes:

Table 2. *Generated Themes of Research Question 1*

SUPERORDINATE THEMES	SUBSUBORDINATE THEMES	CODES
Intrinsic Motivations	Personal Drive	<ul style="list-style-type: none"> • Personal Cultivation • Curiosity • Self-fulfillment • Relevance of the topic being studied
Extrinsic Motivations	Academic Goals Mentorship Peer Factor Relevance to Future Endeavor	<ul style="list-style-type: none"> • To pass the subject and earn a good grade • Guides and compliments from the mentors and other subject teachers • To not be a burden to the group • Serves as a pre-requisite knowledge • To become an effective teacher

Relationship of Interviews to Research Question 1

Statement of the problem 1: What are the motivations of Pre-Service Teachers to carry out a research study? (Refer to figure 1)

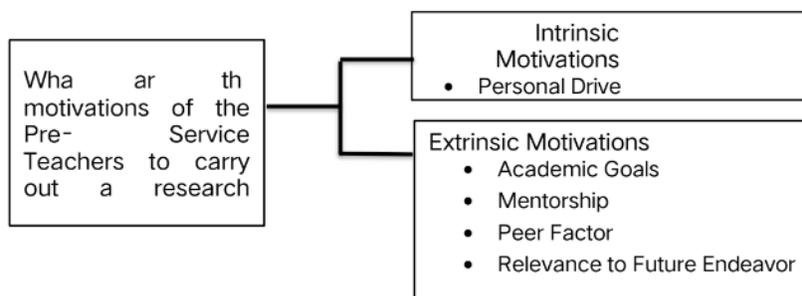


Figure 1. *Diagram of Research Question 1*

Relationship of Superordinate Theme 1: Intrinsic Motivations

Intrinsic motivations such as self-cultivation and curiosity propelled Pre-Service Teachers' effectiveness in doing research studies. Indeed, when the respondents were asked about their eagerness to conduct research, most students responded positively, although others disagreed. However, motivation was a major factor in determining students' study interests. The majority of respondents who replied positively turned out to have an innate desire to conduct Pre-Service Teachers to investigate societal issues and find answers to study objectives; personal development, which reflected the desire to improve research capabilities; and field of study.

In addition, research enabled students to have a sense of self-fulfillment when witnessing the results of their efforts and perseverance. This was also consistent with how one views the significance of the study, which further served to enhance students' innate curiosity for conducting research.

According to the responses of the Pre-Service Teachers, curiosity drove the eagerness of the respondents towards research; in addition, accomplishing a research study gave new discovery, a feeling of self-fulfillment, and an improvement in one's capability. Thus, these served as motivations for the Pre- Service Teachers to conduct research;

"...it is my wants to discover something new and explore new things..."(PST3) "...it gives you self-fulfilment..."(PST7)

"...to enhance my ability to do research..."(PST6)

Similar to the research study of Ommering et al. (2020), students opt to do research for a variety of reasons, including the pleasure of the process, the gratification of seeing the findings, and the opportunity to improve academically while digging deeply into a subject. Additionally, it was shown that students were driven to conduct research in order to satisfy individualized needs, including curiosity, a need for challenge, and a desire for variety.

This finding was also corresponding to Decy and Ryan's self-determination theory, which asserted that individuals were vigorously directed toward growth and contends that people appeared more driven into action when they sensed that their conduct would produce

an impact on the results (Cherry, 2022). This notion was analogous to PSTs' belief that their studies would be advantageous to a particular field or community when they pursued them. As PST1 conveyed:

"...our study is new... to the entire field of education since it is a new implementation in DepEd. So we wanted to unveil the impact of this policy in the field of education. This serves as my motivation even though it's challenging..."

Liu et al.'s (2019) study looked into the prospective and lasting impact of intrinsic motivation on proficiency in school. The results verified that confidence in one's abilities, individuality, and educational commitment were all ultimately heightened by intrinsic drive in a deliberate and enduring way. A person's volition, willingness, pleasure, and satisfaction are examples of intrinsic motivation, which was traditionally independent of one's sense of self. Academics were driven to constantly pursue scientific discovery because of the traditional notion that curiosity and puzzle-solving were important innate motives.

Hence, curiosity, the desire for creativity, and the satisfying puzzle-solving process were the main sources of passion for research among certain academics. This intrinsic motivation was centered on having fun and being happy. Thus, the two most important factors in achieving an academic's goal of conducting research are passion and curiosity (Zhou et al., 2022).

Some respondents who responded negatively when the eagerness in conducting research was asked laid different motivations why, in spite of the negative perception in research, these respondents still pursue it. PST 9 responded; *"...what really motivates me is that I like to learn...if I see my students struggling, I will conduct or find strategies."* In spite of having low eagerness in conducting research, PST 9 still pursues the process of it, mentioning the desire for knowledge as well as the relevance of having research studies as a solution to problems as a motivation.

In relation to this, Oclaret (2019) suggests that students still enjoy learning, want to participate in academic activities for the sake of doing so, and strive for higher knowledge to demonstrate one's own competence despite the socioeconomic status or other circumstances that the researcher was unaware of. When study goals are realized, one feels a sense of accomplishment that arises from internal assessment and positive self-talk, as well as from the act of researching or participating in an academic inquiry. Despite the fact that everyone's definition of achievement is highly subjective, it can be viewed as a type of long-term internal drive that results in joy and fulfillment (Zhou et al., 2022).

Relationship of Superordinate Theme 2: Extrinsic Motivations

Extrinsic impulses propelled students' research endeavors. Academic goals, such as passing a course and earning good grades, were among these motivations. Since completing the subject requirements was one of the conditions for passing, this was the extrinsic motivation that half of the respondents directly answered. This occurred because students could not proceed to an internship from the College of Teacher Education if their record as Pre-Service Teachers included a failing subject. Members were another external motivator for students to perform research studies because some had prior research knowledge that helped the group stay on pace.

Furthermore, students' involvement in research was increased, and the general motivation or interest was influenced when one observed that other members possessed the necessary expertise and determination to complete the task at hand. Students found mentor's guidance and support to be gratifying and encouraging; hence, mentoring also acted as a model for conducting research because it motivated students to put in more effort while conducting studies.

In addition, the information that the students learned through research would be the basis for the subsequent endeavor. Therefore, understanding the research process and the challenges involved in conducting research would help one to generate an excellent research study. Extrinsic motivations were a crucial factor in inspiring academics to conduct research with enthusiasm, according to Zhou (2022). Furthermore, Lhou's (2020) study found that extrinsic variables could still support learning even in cases where students had little interest in the subject.

Academic Goals

One of the motivations that were mentioned by the Pre-Service teachers was the grades. In fact, when PSTs were asked what drove them to undertake research, approximately half of the respondents explicitly stated that passing the subject and getting good grades were primary motivations.

Students must complete "ready-to-defend" or "ready-to-publish" observations within time frames and standards while focusing on research projects to submit and defend their paper at the end of the semester, as per Tabuena (2020). In addition, acknowledgement, respect, recognition, and awards were crucial motivators that validate an academic's work and inspire students to push the boundaries. Furthermore, receiving an honor or recognition is a mark of achievement; thus, it can be seen as meeting the needs of relatedness and competence (Zhou et al., 2019).

Mentorship

There were nine (9) Pre-Service Teachers who emphasized the importance of mentorship in the process of conducting research studies. PST 7 stated that the advice from the mentors helps in easing the complexity of research and lifts anxiety that one feels.

In addition, extracted from the response of PST 10, how mentors approach Pre-Service Teachers make a difference in the process of

research. Thus, mentorship played a vital role in facilitating the Pre-Service Teachers performance and behavior towards research.

“Our mentor relieves our stress... which helps us go through it.” (PST7)

“... and we rarely face a problem in terms of research because our teacher is always there to guide us...” (PST8)

“I have mentors, so I know I can come to them when I need something.” (PST9)

“... our Research Adviser sits with us, he explains and tells us about how beautiful it is to conduct research and how fulfilling it is...” (PST10)

Furthermore, PST6 suggested that receiving praise from their mentors motivates them to work harder on their research:

“Our mentors motivated us in such a way that when we presented our research to them, they told us it was a good one and that it was needed and relevant today, so with those words, we were motivated to conduct research.”

“Every time we hear beautiful words (compliments), we are motivated to do more and exert more effort in our research study.”

The relevance of "social persuasions" as a motive is highlighted by Bandura's self-efficacy theory, which lends support to these results. Hence, while PSTs are doing difficult work, they are encouraged to feel that they have the ability to succeed when they receive positive verbal feedback, like being complimented by their research mentors (Lopez-Garido, 2023).

In addition, according to Decy's self-determination theory, giving people unexpectedly good feedback on their work performance can increase intrinsic motivation and foster personal development by elevating their sense of competence (Cherry, 2022).

In an article by Diggs-Andrew (2021), it was stated that mentorship is a significant predictor of trainee researchers' performance and has been associated with increased mentee productivity, self-efficacy, and career satisfaction. Thus, effective mentorship has a positive effect on workplace behavior and the outcome of research. Positive mentorship experiences have been specifically associated with higher productivity, professional happiness, and trainee research performance.

Peer Factor

When asked about how motivations (group members) facilitate the Pre-Service Teachers in conducting research, PST2 responded, *“You will be motivated if the people in your group are motivated. You'll do your best to help rather than cause trouble.”* Furthermore, PST10 shared, *“Having a good research team makes the process of research easier because the teamwork makes the work lighter for each of you.”* Based on the responses of the Pre-Service Teachers, the research team was a huge factor that contributed to the process of conducting research.

Zhou et al. (2022) claim that for researchers, the research team and mentor act as a "think tank" and a source of spiritual support, fostering development, formulating research strategies, and acknowledging accomplishments. The strengths of each other are complemented by team members from different backgrounds, creating a power of togetherness and mutual recognition. This method assisted in the advancement of academic researchers' proficiency and momentum.

Hence, research has indicated that behavior is shaped in part by modeling, which takes place in peer groups. This is particularly true of teenage intellectual achievement. Someone may be exposed to new habits and perspectives by witnessing a friend's dedication to one's studies or by sharing a belief about the purpose of education (Reich, 2012).

This outcome was further supported by Bandura's self-efficacy theory, which emphasized the value of "vicarious experiences" and role modeling as boosters of motivation and self-efficacy. According to Bandura's (1977) theory, "observing people similar to oneself succeed by sustained effort raises observers' beliefs that they too possess the capabilities to master comparable activities to succeed." As a result, PSTs are more driven to complete research tasks after witnessing their group members effectively do the task.

Relevance to Future Endeavor

“...The information and knowledge we learned from our research will be useful to us when we graduate and start working as teachers.” (PST2)

Research as a foundation for future endeavors was mentioned as one of the motivations of Pre-Service Teachers as well. This corresponds to Zhou's (2022) study, which stated that a broad research vision and strong research capabilities are powerful tools that support academic research achievement. Research confidence is encouraged by systematic training in research knowledge, which in turn inspires high-quality research by fostering fascinating research interests.

Gaining knowledge and expertise in research requires growth-oriented tendencies, enjoyable experiences, and a sense of accomplishment. Competency requirements may arise from self-improvement goals, like a desire to pursue research, or may be prompted by outside pressures. Additionally, Zhou (2022) mentioned that many scholars believe academic research is crucial for teachers since it forms the basis for instruction and benefits society. A few scholars even viewed academic research as an honorable vocation that pushes one's limits and uncovers one's potential.

Table 3. *Generated Themes of Research Question 2*

SUPERORDINATE THEMES	SUBSUBORDINATE THEMES	CODES
Adversities in the Initial Planning Stage in conducting research	Title Formulation	<ul style="list-style-type: none"> • Difficulty generating an appropriate title • Difficulty choosing a topic to explore
Adversities in Paper and Technicalities in Research	Accessing Relevant Resources and Research Technicalities	<ul style="list-style-type: none"> • Difficulty finding relevant and up-to-date literatures • Difficulty constructing the background of the study and theoretical framework • Difficulty doing an English-to-Filipino translation
Adversities in Personal, Social, Emotional and Psychological Aspects	Time management Group Discord Emotional and Psychological Problems	<ul style="list-style-type: none"> • Struggle to balance research with other subjects and personal commitments • Misunderstanding within the group • Trouble getting along with some members • Stress • Burn out • Mental Breakdowns

Relationship of Interviews to Research Question 2

Statement of the problem 2: What are the adversities encountered by Pre-Service Teachers in conducting a research study? (Refer to figure 2)

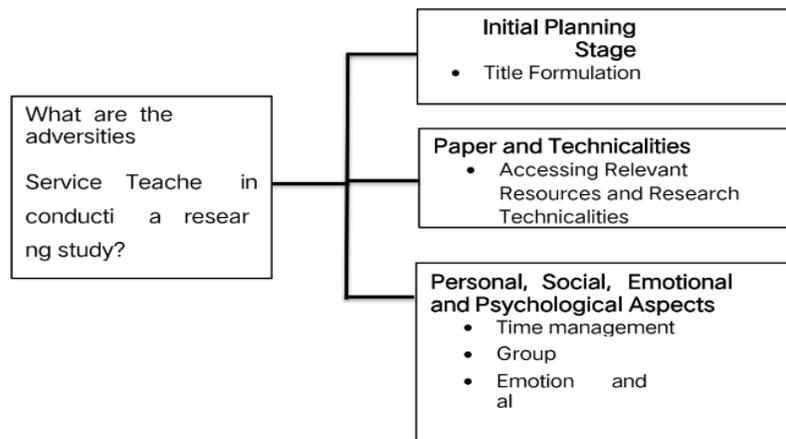


Figure 2. *Diagram of Research Question 2*

Relationship of Superordinate Theme 1: Adversities in the Initial Planning Stage in Conducting Research

Pre-Service Teachers' comments indicated that one of the challenges in conducting a research study was the initial planning stage; the majority of PSTs indicated that they had trouble coming up with a research title. The majority of responses were based on the respondents' individual experiences with prior and current research exposure, which led researchers to believe that research was a challenging issue that in some way influences PSTs' unfavorable perceptions and behavior.

Title Formulation

A research article's title that succinctly and fully summarizes the research findings on its own is a good title. Making enlightening and visually appealing scientific titles is a difficult undertaking (Bavdekar, 2016). The majority of PSTs reported having trouble coming up with a suitable title or deciding which subject to investigate; this is comparable to Bavdekar (2016) assertion that the biggest obstacle to their research proposal selection is deciding on a research topic; choosing a title might be challenging for researchers because there are many (sometimes competing and contradictory) factors to consider. According to the PST6, selecting a research topic was challenging since there were numerous factors to consider, including the respondents, the research location, and most importantly, the RRL. Similarly, PST1 stressed that coming up with a research title was difficult because factors such as the audience needed to be considered.

"...Actually, it was not our plan to venture into this study because we had other topics before this.... when it was approved, it wasn't that easy because there are a lot of things that we have to consider, such as our audience." (PST1)

"We faced challenges with our research title because it deals with mental health; it takes extensive research to gain adequate knowledge about our study, so it's fortunate that one of my team members had prior knowledge about it." (PST2)

"...the problem or the adversity that we encountered was actually getting the idea on what we should conduct or what study we should conduct..." (PST3)

"Yes, especially in the title of the study. It's very difficult to look for a hook that will capture the audience and also amuse them." (PST4)

"We find it hard to form a title because we have to consider a lot of things, such as the respondents, the research locale, and especially the RRL." (PST6)

"...We used the English language before for our study, but it was difficult to even formulate our title. Now, since we are using the Filipino language, it is more difficult since we have to translate word for word." (PST10)

In the study conducted by Real (2022), creating a research title is the most assessed task by the respondents as a difficult task. Hence, when it came to creating a research title, students were less skilled. It was expected to learn that the respondents found the beginning section of writing the research paper to be the most difficult. The fact that respondents were still in the process of identifying and expanding their area of interest was one of the primary reasons why they struggled to come up with research titles.

Relationship of Superordinate Theme 2: Adversities in Paper and Technicalities in Research

PSTs said in their comments that they faced difficulties with paper and technicality.

Students already had less and less access to basic academic research, which is essential to a comprehensive education. Moreover, technicalities were also seen as an adversity faced by the PSTs. PST5 mentioned that *"...I am having a question like how am I going to start, as well as in technicality in writing..."* Based on the results of Alajar's (2022) investigation, the results showed that the most challenging aspects of technical writing were coherence, spelling, and technical terminology. Writing practice deficits, terminology omissions, and vocabulary deficiencies were the primary causes of technical writing challenges. To have a strong and reliable research study, one must possess writing, searching, reading, and other related skills. Nevertheless, most PSTs encountered challenges in locating pertinent and current literature and creating the study's backdrop and theoretical framework.

The majority of research found that citing related studies and literature in research papers was a difficult task while producing a research paper. Students must not only locate reliable open access journals with current relevant literature and studies, but also correctly reference sources, adhering to the required format and structure (Real, 2022). PSTs 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 reported that they had trouble locating relevant resources and research technicalities. As a result, it was challenging for the PSTs to write the theoretical frameworks, background information, and other sections of their studies that were brimming with reliable sources, pertinent research, and substantial evidence to support their work.

Relationship of Superordinate Theme 3: Adversities in Personal, Social, Emotional and Psychological Aspects

Time management

It was true that juggling research with other academic and personal obligations might be difficult to manage. PST 2 said that one has to commit to the task, and PST 3 mentioned that managing one's time is one of the challenges one faces when conducting research because one has other subjects or courses to attend at the moment, which makes it challenging to balance one's time. Similar to the study of Versoza (2019), time management appeared to be the most common issue that the researchers faced, affecting research proficiency, peer collaboration, and personal priorities that interfere with having enough time for the task. This suggests that thorough research training was essential, with workshops serving as the cornerstone of any research project.

Group Discord

Group work could make a significant difference in college science students' motivation, success, and ability to reason. All students must participate in order to achieve these benefits. Students were encouraged to participate through techniques such as role-assignment, group contracts, anonymous peer evaluations, and peer ratings (Chang & Brickman, 2018). Nonetheless, the PSTs stated that collaborating with their members was one of the challenges they faced when conducting research. For example, there were times when a member's ideas contradict those of the other member; hence, misunderstanding arises.

"There are times it's not about the paper but within the members." (PST5).

"Since we were tasked with conducting a research study by group, of course there were times that we had a small misunderstanding." (PST6).

In contrast to the study of group work pedagogies such as POGIL (Moog & Spencer, 2008) and SCALE-UP (Beichner et al., 2007),

role-assigning is recommended to foster critical discussion and prevent students from accepting the fastest answer during problem-solving tasks in order to avoid conflict or dominate discussions (Heller & Hollabaugh, 1992).

Personal, Social, Emotional, and Psychological Aspects

PSTs experience personal, social, emotional, and psychological issues as a result of the research study's extensive, difficult process. A significant number of PST answers indicated that research leads to burnout and emotional discomfort. Psychological problems are commonly associated with work, relationships, health, and feelings of being overloaded by various situations, including but not limited to a high workload, inadequate sleep, poor diet, and so forth (Kapur, 2019). PSTs disclosed that juggling research with other academic obligations was challenging for them, resulting in psychological and emotional issues for the PSTs. According to PST3, psychological issues included mental breakdowns and the feeling of being stuck in one area, position, or research chapter with no idea where to start or what to do next. PST4 said that emotional problems arose during the research process. Teachers were demanding of their students' research output, which leads to burnout because so much revising is required.

Moreover, PST7 stated that *"We experience emotional issues; you cannot really just neglect your research; you have to focus on it."* PST9 also felt anxious, particularly when there was a tight deadline and they failed to complete the task. As noted by Jain and Singhai (2019), it might be intimidating to have a large workload at school and to feel as though one is always rushing to make deadlines. The replies alerted the researchers to underlying issues with their research process.

Table 4. *Generated Themes of Research Question 3*

Superordinate Themes	Subordinate Themes	Codes
Utilized Coping Mechanisms to Conquer Research Adversities	Group Collaboration	<ul style="list-style-type: none"> • Cooperation • Teamwork • Distribution of tasks • Communication • Sharing of relevant information • Adjusting for group members
	Resourcefulness	<ul style="list-style-type: none"> • Visiting libraries in search of relevant literature
	Good Time Management	<ul style="list-style-type: none"> • Allocating time to do research activities • Sacrificing sleep to finish research tasks • Accomplishing research tasks during free time • Prioritizing the subject that needs to be catered to the most
	Mentorship	<ul style="list-style-type: none"> • Creating a to-do list • Seeking advice from the research adviser • Coordinate with the adviser • Ask questions and feedbacks during advising
	Self-care	<ul style="list-style-type: none"> • Allocating time to eat and rest despite being busy
	Optimism and Self-direction	<ul style="list-style-type: none"> • Thinking positively • Grasping the challenge and taking it as an opportunity to grow • Focusing on the study's objective

Relationship of Interviews to Research Question 3

Statement of the problem 3: How do Pre-Service Teachers cope with these adversities in conducting a research study? (Refer to figure 3)

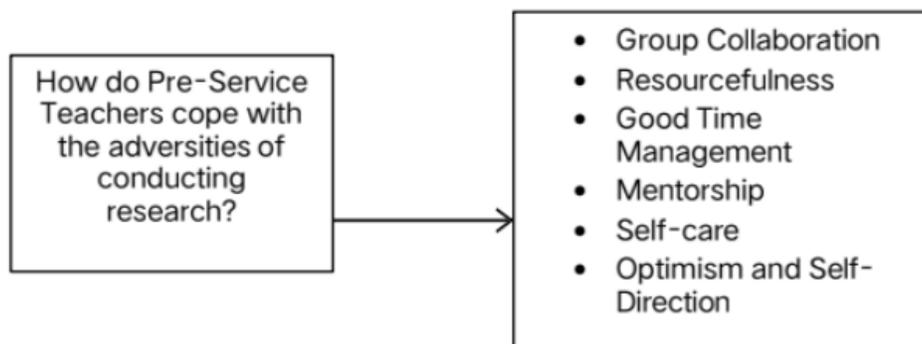


Figure 3. *Diagram of Research Question 3*

The gathered data shows that most of the Pre-Service Teachers have their own way of coping strategies for research. Pre-Service Teachers found these strategies to be effective in coping with the adversities of research.

Group Collaboration

In order to overcome research obstacles, Pre-Service Teachers emphasized that working in a group (cooperation) and working as a group (collaboration) were highly beneficial, these, could yield groundbreaking, important, and profound results (Sharma, 2023). Research activities were also rendered more manageable and bearable when they were divided among the members. It had been demonstrated that role assignments increase student satisfaction (Brown, 2010) and learning gains (Bailey et al., 2012). Consequently, PST 1 stated that their group performs well when they divide the paperwork. Thus, in order to prevent burnout and promote satisfaction and engagement in team members' duties, it is crucial that teams distribute tasks evenly (Ahmed, 2020), something that PST 2 mentioned. Hence, allocating research responsibilities among team members aided in task completion and helped the group overcome time-related research adversities.

"...we distribute the tasks, and then after that, that's the time that we are going to sit together as a group at school..." (PST1)

"...the distribution of work should be equal." (PST2)

Additionally, the Pre-Service Teachers made sure to stay in touch with their group members, particularly when dealing with the challenges of research. Furthermore, PST 2 even considered modifying their schedule to accommodate one of their members, which emphasized the importance of communication. Moreover, Pre-Service Teachers mentioned that some of them were having a hard time dealing with their group mates; thus, communication played a role in addressing this. Accordingly, students must be able to communicate effectively, both intellectually and emotionally, in order to work well in a group. Therefore, if they saw tensions building, students ought to initiate discussion regarding the group dynamics or procedure (The University of Waterloo, 2024). PST 3 thus brought attention to this:

"...I always talk to them whether, whenever we're encountering a problem and we try to solve it together..." (PST3)

Additionally, Pre-Service teachers discussed their ideas within their group since some of their members have prior research knowledge, which made it easier for the group to work together to conquer research adversities as they had a member who can mentor them. In fact, PST 4 noted that group discussion facilitated the acquisition of crucial knowledge.

"...socializing with others to get more information..." (PST4)

Group work, then, provided a kind of support system for students who received a great advantage from participating in the collective effort and who might not be very motivated or contribute much (Costley & Lange, 2018). The results of Huang et al. (2019) study, which emphasize that students learn more when they engage with one another, are also consistent with this.

Resourcefulness

Finding and obtaining pertinent material to support a study could be a significant challenge for students conducting research. Pre-Service Teachers addressed this by being resourceful, such as by going to the library to look for pertinent books that they may utilize for their research.

"We were having a hard time looking for online resources. What we did was we visited libraries and we looked for related studies..." (PST10)

Thus, when the appropriate literature was not readily available online, school libraries played a crucial role in assisting Pre-Service Teachers in locating it for their studies. This corresponds with the study by Dison et al. (2019), which found that students use personal tactics like finding local library sources to navigate challenging circumstances, such as sticking to goals and organizing their studies. After all, the main objectives of a university library are to serve educational, scientific, research, and support purposes; they also provide curricular materials to meet the information necessities of teachers and cultivate their career growth (Aina, 2004; Moruf, 2015). This, then, showed how resourceful the Pre- Service Teachers are.

Good Time Management

Pre-Service Teachers made efficient use of their time to balance research with their other coursework. They couldn't put off the other obligations, like peer teaching and reporting that were in line for other topics, while they fought to finish their research paper by the deadline. Therefore, in order to ensure that all demands are met, they made note of setting aside time for research activities, giving up sleep in order to complete assignments, completing research projects during downtime, and giving priority to the subjects that required the greatest attention. Research indicates that proficient time management is linked to increased performance in school (McKenzie & Gow, 2004; Trueman & Hartley, 1996) since students acquire coping mechanisms that enable them to balance conflicting expectations (Adams et al., 2019). Additionally, PST 5 and 7 discussed making a to-do list in order to efficiently manage time.

"...We had this to-do list on what to accomplish first, and because of that, we tend to be organized. It's like we are able to manage our time." (PST5)

"...I am a busy person, I really create a list of the things that I must do within the day, it is all about time management." (PST7)

Thus, these tactics put them on the correct path. Pre-Service Teachers could overcome the challenges of research and improve group performance and productivity by practicing efficient time management. This study was comparable to that of Dombrowski (2006), as the findings showed a strong correlation between self-efficacy preparation, goal prioritization, self-control, and time management. Furthermore, PST 7 emphasized that time management was essential for overcoming constraints imposed by research demands, including the pursuit of other subjects.

—...Time management is the key. We really observe time management..." (PST6)

Mentorship

Pre-Service Teachers found mentorship as an effective coping strategy for research adversities. This was because research is a highly complex endeavor; hence, students would definitely need assistance from their mentors throughout the span of their research journey. Pre-Service Teachers were honest about needing help from their adviser, as they believed that they were not expert enough to handle their research activities without the guidance of their mentors. Hence, students elaborated that they could cope with research adversities by seeking advice from their research adviser, who's more expert on the field, as well as coordinating with their mentors' ideas to make their work better, and most importantly is by asking questions and feedbacks during advising. This was to clarify the things that Pre-Service Teachers found confusing and so for them to do the correct anticipated results of the study.

As PST 8 and 9 conveyed:

"...we asked during advising, we asked questions, and they provided us with answers..." (PST9)

"We really seek help from our adviser when we can't bear things anymore. We go to our adviser to make the task easier because we know that he has more experience, so we turn to him." (PST8)

It was crucial that PSTs ask their research mentors for feedback because, as Lopez- Garido (2023) noted, regular and clear feedback is crucial for individuals to understand their progress and identify areas for improvement in their tasks and personal growth. When individuals receive more thorough, advanced performance feedback, their self-efficacy and subsequent task performance both increase (Beattie et al., 2015).

Pre-Service Teachers found this an effective strategy, in addition to seeing this as one of their motivations for research as well. Thus, mentorship played a significant role in shaping the performance of Pre- Teachers in research, as they are more capable of conquering research adversities when guided by their research adviser despite being challenged on the task, which thus allowed them to produce the work anticipated.

As PST 4 conveyed:

"...the teacher that really motivates you and helps you make research much easier." (PST4)

This corresponds with the results of Lysons et al. (ND) study which says that high- quality mentoring relationships are needed for mentoring to have a larger impact on academic performance. In contrary, Yurtseven et al. (2011) study indicates that the mentoring service had no significant effect on students' academic achievement and self- efficacy perceptions.

Self-care

As mentioned in the preceding discussion of RQ2, research had many obstacles. As such, one must deal with these in a deeper way, which should begin with taking care of oneself. Despite their busy schedules, Pre-Service Teachers could manage the challenges of undertaking research by scheduling time for meals and relaxation. This highlighted the importance of Pre-Service Teachers' health despite their hectic schedules. This worked well because it gave Pre-Service Teachers more energy and helped them deal with the emotional and psychological issues that were especially addressed in the discussion of RQ2, which was about the difficulties that Pre-Service teachers had when conducting research. PST 1 and PST 4 therefore brought this to light:

"...what I do is that if I sacrifice my sleep this day, I will make sure to pay back my sleep the next day, or I will treat myself. So, for me, that's the most effective way for me to go on..." (PST1)

"...it's important to stop, but never quit. I manage my time by having my own time, sleeping... And also, eating..." (PST4)

According to Bickham (2022), students who practice self-care can better handle stress, feel less anxious and happier, which will help them cope with transitions, form enduring connections, and bounce back from difficulties. Individuals can also maximize their educational achievements and lessen the detrimental impacts of stress on their academic and professional lives by making self-care a priority (Smart School, 2023).

Furthermore, tying Bandura's self-efficacy to this, it can be said that PSTs using self- care as a coping mechanism have a sufficient level of self-efficacy because, as health psychologists have shown (Bandura, 1988), individuals are inclined to embrace good habits when they have faith in their ability to do so. As a result, self-efficacy also plays a role in people's adoption of other healthy lifestyle



choices, such as making an effort to maintain a balanced diet (Lopez-Garrido, 2023) or PSTs making an effort to prioritize their own needs by getting enough rest and relaxation during or after a demanding research schedule. Consequently, this enables Pre-Service Teachers to properly function as student researchers by helping them handle the stress brought on by their research journey.

Optimism and Self-direction

Having an optimistic view of life was one of the additional coping techniques that Pre- Service Teachers employ to overcome research challenges. This highlighted the fact that Pre-Service Teachers managed to maintain a positive outlook on the current circumstances even in the face of hardship. As PST 4 stated, one should not mistrust one's ability to conduct research or think poorly of themselves because, despite the fact that it may be difficult, Pre-Service Teachers have confidence in their ability to complete it. Therefore, in order for Pre-Service Teachers to overcome the challenges of conducting research, they must have high self-efficacy. In line with this, Bandura's self-efficacy theory stated that perceptions of abilities significantly influence them, with variation and not fixed attributes, and that self-sufficient individuals recover from setbacks and handle situations effectively, focusing on handling them rather than dwelling on potential issues (Bandura, 1977).

"The effective strategy is to focus on the objectives and always think that you can do them. Always think positively and take it as a challenge and an opportunity to grow." (PST4)

This optimistic outlook, which entails having faith in one's ability to complete goals they set for themselves, is advantageous stipulated that part of the quest of improving oneself or learning a new skill is convincing oneself that one is capable of completing the task at hand (Lopez-Garido, 2023). Thus, students were therefore able to overcome a variety of research obstacles by developing a sense of self-efficacy and being optimistic, getting rid of their negative and self-doubting thoughts.

Moreover, when students had high self-efficacy, it would also enhance their self-sufficiency or their ability to complete research tasks effectively.

Furthermore, PST 4 emphasized that one should stay focused on seeking the answer for one's study, which emphasized self-direction as well as viewing research as a chance to learn rather than as a difficult undertaking. Thus, despite the fact that completing a research project presented many challenges for Pre- Service Teachers, research remained valued by students, who saw it as a chance to collaborate despite its difficulty. This was consistent with the findings of Vossen (2018), who found that students seemed to see research more favorably since they felt it was more relevant than other tasks such as design activities.

In this regard, the interpreted data indicated that the Pre-Service Teachers were able to enhance and acquire a number of competencies that were essential not just for research study engagement but across various subjects, including: knowing the fundamentals or proper format for a research paper; identifying trustworthy sources; possessing strong communication skills; time management abilities; teamwork; empathy; and willingness to take risks.

This meant that research was a groundbreaking opportunity for Pre- Service Teachers to gain knowledge that would be needed for their journey beyond research, rather than a mere subject to be taken or a requirement to comply.

Thus, when the appropriate literature was not readily available online, school libraries played a crucial role in assisting Pre-Service Teachers in locating it for their studies. This corresponds with the study by Dison et al. (2019), which found that students use personal tactics like finding local library sources to navigate challenging circumstances, such as sticking to goals and organizing their studies. After all, the main objectives of a university library are to serve educational, scientific, research, and support purposes; they also provide curricular materials to meet the information necessities of teachers and cultivate their career growth (Aina, 2004; Moruf, 2015). This, then, showed how resourceful the Pre- Service Teachers are.

Table 5. Summary of the Generated Themes of Research Questions 1, 2, & 3

Superordinate Themes	Subordinate Themes	Codes
Motivations of Pre- Service Teachers to carry out a research study 1. Intrinsic Motivations 2. Extrinsic Motivations	Personal Drive	<ul style="list-style-type: none"> Personal Cultivation Curiosity & Self-fulfillment Relevance of the topic being studied
	Academic Goals	<ul style="list-style-type: none"> To pass the subject and earn a good grade
	Mentorship Peer Factor	<ul style="list-style-type: none"> Guides and compliments from the mentors and other subject teachers To not be a burden to the group
	Relevance to Future Endeavor	<ul style="list-style-type: none"> Serves as a pre-requisite knowledge & to become an effective teacher in the future
Adversities that Pre- Service Teachers Encountered in Conducting Research	Title Formulation	<ul style="list-style-type: none"> Difficulty generating an appropriate title & choosing a topic to explore
	Accessing Relevant Resources and Research Technicalities	<ul style="list-style-type: none"> Difficulty finding relevant and up-to-date literatures Difficulty constructing the background of the study and theoretical framework Difficulty doing an English-to-Filipino translation

<p>1. Initial Planning Stage 2. Paper and Technicalities 3. Personal, Social, Emotional and Psychological Aspects</p>	<p>Time management Group Discord Emotional and Psychological Problems</p>	<ul style="list-style-type: none"> • Struggle to balance research with other subjects and personal commitments • Misunderstanding within the group & trouble getting along with some members • Stress, Burn out & Mental Breakdowns
<p>Utilized Coping Mechanisms to Conquer Research Adversities</p>	<p>Group Collaboration Resourcefulness Good Time Management Mentorship Self-care Optimism and Self-direction</p>	<ul style="list-style-type: none"> • Cooperation, Communication & Teamwork • Distribution of tasks • Adjusting for group members • Visiting libraries in search of relevant literature • Allocating time to do research activities • Sacrificing sleep to finish research tasks • Accomplishing research tasks during free time • Prioritizing the subject that needs to be catered to the most • Creating a to-do list • Seeking advice & coordination with the research adviser • Ask questions and feedbacks during advising • Allocating time to eat and rest despite being busy • Thinking positively & grasping the challenge and taking it as an opportunity to grow • Focusing on the study's objective

Table 5 shows the summary of the themes generated from Research Question 1: What are the motivations of Pre-Service Teachers to carry out a research study? Research Question 2: What are the adversities encountered by Pre-Service Teachers in conducting a research study? And Research Question 3: How do Pre-Service Teachers cope with these adversities in conducting a research study? All the responses of the PSTs were transcribed, translated as needed, and analyzed thematically with the aim of unveiling the research capabilities of the Pre-Service Teachers in conducting a research study.

Conclusions

The majority of Pre-Service Teachers were enthusiastic about conducting research, despite the complexity of the process. The reasons why Pre-Service Teachers performed research go beyond just wanting to complete their research course, get good grades, or eventually appeared on the dean's list for the current academic year. Nevertheless, they emphasized it as one of their main points of motivation, as it was crucial for their internship. Instead, they were both intrinsically and extrinsically motivated to conduct research. Their intrinsic and extrinsic motivations included their research team and mentors, which significantly impacted their performance, making the complex process more manageable. Thus, Pre-Service Teachers found mentorship and guidance significantly impacting their research journey, reducing anxiety and boosting motivation. Their curiosity and desire for knowledge also fueled their engagement.

Moreover, Pre-Service Teachers viewed research as a means to develop skills, lay the groundwork for future careers, and open doors in a complex society. This was due to PSTs' perception of research as an excellent opportunity to strive for, as it would foster not only their research abilities but also their Internet literacy, social skills like empathy and effective interpersonal interaction, time-management abilities, and most of all, their very own motivation to start thinking about how they could become effective teachers in the future; a goal they had set for themselves since enrolling in the College of Teacher Education. This indicated that Pre-Service Teachers still saw the value of research; not just for the individuals and organizations specified in their study but also for themselves as researchers; despite the fact that research was an intricate procedure. Hence, this study concludes that motivations, both intrinsic and extrinsic, are driving forces that influence one's interest in research; thus, these affect one's performance in the journey of conducting a research study.

Students' research capabilities were shaped by their intrinsic and extrinsic motivations; this implies that Pre-Service Teachers enrolled in the College of Teacher Education regarded research as a more profound opportunity than just an academic necessity. Research activities were seen to be a tool for self-cultivation and for building a sturdy foundation for the Pre-Service Teachers, this suggests that further exposure to research related activities could equipped Pre-Service Teachers with skills and knowledge that are necessary in their field of endeavor. Moreover, it was found that mentorship played a crucial role in students' motivation; this implies that when students and research mentors had a positive and professional relationship, students were more likely to engage actively in research, as mentor's guidance served as one of their motivations for research. The research team as well motivated Pre-Service Teachers and this highlights the imperative roles of each member in the research journey of the team, as one could influence another in regards to the performance and attitude towards the research process. Overall, the discussion in regards to the motivation of the Pre-Service Teachers implies that both intrinsic and extrinsic motivations affected one's attitude and performance in the research process. Thus, these motivations were critical for the Pre-Service Teachers as it drove one's capabilities and facilitated engagement in the whole research journey.

The researchers also concludes that Pre-Service Teachers faced numerous challenges when conducting research studies. These include

developing a study title, selecting a research topic, navigating the paper and technical aspects of research, feeling stuck, and finding relevant resources. Pre-Service Teachers struggled with composing theoretical frameworks that essentially act as the study's foundation, upon which the data interpretation would be based, background details, and other components that contained reliable references and evidence. For instance, the majority of the respondents found it most challenging to locate and compile relevant literature and studies because there were numerous factors to be considered, specifically the year, the study's relevance, and the reliability of the source.

Time management was another adversity, as PSTs found it hard to balance research with other academic and personal responsibilities given that Pre-Service Teachers also had other coursework, classes, and assignments to finish, including lesson planning. Additionally, they struggled to get along with other members, sometimes leading to quarrels. Hence, the demanding, drawn-out research approach led to personal, social, emotional, and psychological issues, whereas many PSTs reported experiencing burnout, mental breakdowns, and mental distress and exhaustion. The exhausting experience of research for PSTs was a result of these adversities. Hence, it could be said that carrying out research was an uphill battle to take given that every phase of the process, from the beginning to the end, was tough and demanding, putting one's research capability to the test.

The study's conclusion demonstrated how difficult and intricate doing research is. It follows that undertaking research would undoubtedly present challenges for students, since each stage of the process raised issues that went beyond the mere structure of the paper to encompass a whole range of intricate issues. Accessing relevant and up-to-date literature was the most difficult part of research, according to the outcome of the study. This implied that the relevant studies published online beyond 2018 could not be sufficient and could hardly be found by students to support their studies, while studies published prior to 2018 might serve as a great help to support students' studies if allowed by the mentors. Additionally, the study revealed that a variety of factors contributed to students' difficulties in coming up with study titles and selecting themes, underscoring the significance of careful preparation, thoughtful deliberation, and persistence.

Moreover, it could be difficult to balance research with other academic courses; hence, time management abilities were needed. Research could impact the relationships amongst group members; to perform an efficient and successful study, one must be empathetic, patient, tolerant, and willing to put aside personal matters. Stress tolerance, then, is a must in research because the intricacy of the work would cause emotional and psychological problems for students. The results of the study informed educators, students, and researchers about the potential adversities that may arise when carrying out research. Hence, intervention was imperative for addressing the challenges faced in conducting research, as these challenges or adversities could significantly affect one's study.

Furthermore, it can be concluded that Pre-Service Teachers, in spite of all the difficulties they faced while conducting their research, remained steadfast and persevered, took calculated risks to overcome the research's uphill battle, and developed useful coping mechanisms to get past the adversities. These strategies include efficient time management, group collaboration, effective communication, resourcefulness, task allocation, mentorship, self-care, optimism, and self-direction. Pre-Service Teachers allocated time for research activities, prioritized tasks, and prioritized subjects to avoid failure. Hence, they had successfully overcome rigorous research schedules and deadlines while completing tasks on other subjects. Group collaboration and communication helped Pre-Service Teachers resolved conflicts and cultivate interpersonal skills. Task allocation, on the other hand, was crucial for completing research activities quickly and effectively. Mentorship was highly valued by Pre-Service Teachers, since PSTs were aware that they are not experts in the field.

Self-care was also essential for overcoming psychological and emotional challenges. Pre-Service Teachers made time for eating and unwinding, which improved their resilience. They used optimism and self-direction to overcome adversities and took them as opportunities for improvement and for enhancing skills. These approaches fostered fundamental capabilities beyond research, such as Internet literacy, critical thinking, and time management skills. Additionally, Pre-Service Teachers also shared the things that they would like to do differently the next time they conduct research, which include: careful selection of group mates, hands on involvement in research, and doing a background study about the topic to be pursued. This indicated that Pre-Service Teachers had become conscious of their research capabilities. Thus, it can be concluded that Pre-Service Teachers earning a bachelor's degree in Elementary Education were more than capable of creating great research and overcoming research-related adversities; something in which the College of Teacher Education ought to take pride.

According to the study's findings, students could overcome research challenges by designing and applying the appropriate strategies. While employing unrealistic tactics, such as scheduling a group call and doing a word-for-word translation, were ineffective in addressing research challenges. Furthermore, teamwork, communication, and task distribution among the teammates made the research task quicker and enhanced the group's performance. The study's findings also imply that establishing effective time management skills is essential for balancing research with other subjects and overcoming time constraints on research activities. Furthermore, when students practice self-care and think positively, they are better equipped to deal with the physical, emotional, and psychological impacts of research.

Furthermore, this study suggests that excellent mentoring encourages students to become more engaged and committed to conducting research. This implies that the research mentors of the College of Teacher Education in a Higher Educational Institution were effective in mentoring Pre-Service Teachers; their direction and assistance considerably aided the Pre-Service Teachers in overcoming research challenges and remaining motivated to conduct research. Overall, the study's outcome shed light on the relevance of coping techniques

in research, which students, mentors, policymakers, and, most importantly, future researchers could utilize to overcome research adversities and adequately carry out future research investigations.

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