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Evaluating the perspectives and skills related to research among students in graduate teacher education within the context of the Philippines

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ABSTRACT

This study investigated the research attitudes and capabilities of 338 graduate teacher education (GTE) students taking a Master of Arts in Education who enrolled in a Research Methodology course at a Philippine state university from 2022 to 2024. A descriptive correlational research design was employed using adopted questionnaires to assess the respondents' attitudes toward research using five components. Further, the research capabilities of the respondents were also evaluated. The respondents were chosen using convenience sampling from all subject enrollees within the prescribed school year. Descriptive and inferential statistics were utilized to treat the data. The results revealed that the respondents had a very positive attitude toward the usefulness of research, a very positive attitude towards research, and a positive attitude toward research relevance to life while having negative attitudes toward research anxiety and difficulties. Moreover, the respondents are highly capable in the research process while they are capable of participating in research-related activities. Furthermore, a significant relationship was found between the usefulness, positive attitude, and relevance of research and research capabilities. The findings highlight GTE students' research attitudes and capabilities, offering valuable insights that encourage and support their pursuit of the research writing process.

Contribution/Originality: This study examined the postgraduate students research attitudes and capabilities, which provides significant insights into how Filipino graduate students perceive research and engage with different research activities. The findings will provide valuable context-specific data that can inform future educational policies and practices related to research development in the Philippine setting.

1. INTRODUCTION

Graduate education has a significant impact on both professional and personal development, as it equips students with the essential knowledge and skills necessary for conducting research (Kakupa & Xue, 2019). At this educational level, research is an integral part because this often culminates in thesis or dissertation writing, which fosters students' intellectual and personal development (Albertyn & Bennett, 2021; Bueno, 2023; Daniel, 2022). Hence, acquiring sufficient knowledge and skills about research is a foundational requirement that students must develop to succeed in their research endeavors (Kakupa & Xue, 2019). However, the affective component is equally essential for students who undertake research because despite having relevant research knowledge and skills, one's negative feelings and anxiety about conducting research can have a negative impact on the research activity

(Carvalho, Teixeira, Minas, Lima, & Rodrigues, 2021; Flaherty, 2020). The students' lack of preparedness for research can contribute to their negative attitudes toward it (Hines, Ramsbotham, & Coyer, 2021).

Universities require graduate students to enroll in research methodology courses to prepare them for their thesis or dissertation writing courses (Alsaleh, 2020; Jeyaraj, 2020; Shahsavar & Kourepaz, 2020). Universities invest substantial resources and personnel to help students gain the necessary skills to equip them for their research work (Meerah et al., 2012). Conversely, research indicates that students enrolled in the research methodology courses frequently face anxiety and harbor negative attitudes towards these courses (Bolin, Lee, GlenMaye, & Yoon, 2012; Kucukaydin & Gokalp, 2021; Mensah, Azila-Gbettor, Nunyonameh, Appietu, & Amedome, 2023; Van der Westhuizen, 2014). Although some studies established that students who enroll in research methodology classes have a more positive attitude toward research, this does not influence their aspirations to make research part of their profession (Halabi & Hamdan-Mansour, 2012). Graduate students are quite apprehensive about research activities (Butt & Shams, 2020). Muthuswamy, Vanitha, Suganthan, and Ramesh (2017) pointed out that attitude toward research is a significant factor in completing one's research. Thus, having a negative attitude toward research could result in students not finishing their degrees.

According to Van de Schoot, Yerkes, Mouw, and Sonneveld (2013) the prevalence of students delaying or not completing their master's degree due to research requirements is detrimental to university graduate programs, as it lead to attrition due to the waste of time, energy, and financial resources. Such a scenario must be addressed because it breeds apathy for graduate students to enroll in universities for fear of difficulties or not finishing their degree (Akparep, Jengre, & Amoah, 2017). Therefore, it is crucial to examine the effectiveness of each university's graduate program in addressing these issues and concerns.

One of the reasons for this issue is the need for students' preparedness in their graduate programs and more knowledge and skills in research (Meerah et al., 2012).

A Philippine state university has observed a similar phenomenon, where many Masters of Arts in Education students enrolling in the graduate teacher education (GTE) program fail to complete their degree. The research was found to hinder them from attaining such a degree because after acquiring complete academic requirements, most students still need to enroll in thesis writing, which is the culmination of their degree program. Students expressed a lack of knowledge in research skills and perceived research writing as a challenging task. Moreover, some students reported having limited access to research activities that could enhance their research skills (Bullo, Labastida, & Manlapas, 2021; Landicho, 2020). Even some of those who pursue thesis writing would not be able to finish or delay their graduation (Amani, Myeya, & Mhewa, 2022; Chidi & Sylvia, 2020).

Notably, there needs to be more literature exploring the attitudes and research capabilities of GTE students in the Philippine context. Investigating the GTE students' research attitudes and capabilities is imperative to provide salient information relevant to these undertakings. This study aimed to provide significant insights to policymakers, higher education institutions, and professors regarding the GTE students' research attitudes and capabilities in engaging in different research activities that would foster their professional development. Hence, this study aimed to assess the attitudes towards research and research capabilities of 338 GTE students taking up a Master of Arts in Education enrolled in a Research Methodology course at a state university in the City of Cebu, Philippines, from the school year 2022 to 2024. Specifically, it sought to answer the following research questions:

1. What is the level of attitudes of the respondents towards research?
2. What is the level of the research capabilities of the respondents?
3. Is there a significant relationship between the respondents' attitudes toward research and their research capabilities?

2. LITERATURE REVIEW

In the review of literature, attitude refers to an individual's cognitive inclination and behavioral tendency toward an object, leading to either positive or negative evaluations of a particular stimulus, which is crucial in forecasting behavior (Glasman & Albarracín, 2006). In addition, attitude can be an individual's positive or negative affect or belief toward a particular subject or event, incorporating emotions, behaviors, and interactions (Zan & Di Martino, 2007). However, Hussain, Ali, Khan, Ramzan, and Qadeer (2011) evaluate attitude based on consistent verbal and nonverbal behavior towards specific objects or events, as it is not directly observable. A person's attitude significantly impacts their performance in any field, but it is particularly important in research (Muthuswamy et al., 2017).

Attitude toward research is a multifaceted concept encompassing individuals' beliefs about the benefits of research for their profession, the relevance of research to their lives, their favorable or uneasy feelings toward it, and the perception of research as a challenging activity (Papanastasiou, 2005). In contrast, Obaseki and Agu (2019) describe attitude toward research as an individual's thoughts, feelings, and behaviors toward it, which can be either positive or negative. Research itself is defined as the systematic and creative effort to expand existing knowledge and find new applications for it (Organisation for Economic Cooperation and Development (OECD), 2022). Additionally, research involves the structured process of gathering and analyzing information to address specific issues and disseminate findings (Okoduwa et al., 2018).

Papanastasiou (2005) argues that an individual's attitude toward research can influence their willingness to engage in learning the subject, which may affect their decision to pursue further studies in research beyond basic requirements. Likewise, Evans (2011) asserts that a positive attitude toward research can nurture a natural inclination to engage in research activities. Thus, it is crucial to evaluate and shape students' research attitudes. Nevertheless, Khan, Shah, and Khan (2018) noted that students' negative attitudes toward research and research activities stem from their perception of research as lacking usefulness, a deficiency in understanding or initial awareness of research, a limited grasp of its academic relevance, or research capability issues and motivation to undertake and complete research-related tasks.

Ismail and Meerah (2012) defined research capability as collecting data, which involves planning and selecting appropriate tools or instruments, identifying suitable methods for data analysis, and applying the correct statistical tests to determine significance. Research capability evolves through experience and continuous participation in relevant capacity-building activities. It also involves consistently applying acquired knowledge and skills to generate research outputs and foster innovation. Improving research capability requires considering factors like an individual's motivation to participate in research, their attitude, and the essential skills needed for a thorough and systematic research process (Manongsong & Panopio, 2018).

Siemens, Punnen, Wong, and Kanji (2010) investigated the students' experiences and research attitudes in three medical schools in Ontario, Canada. Results showed that 87% of students had research involvement before medical school, 43% were not significantly involved during medical school, and 24% were not interested in participating in any research activities. Moreover, there is a significant difference between the students' research attitudes in the second to fourth years. They considered time, availability of research mentors, training, and lack of acknowledgment as barriers to their involvement in the research activities. These findings were supported by Nel, Burman, Hoffman, and Randera-Rees (2014) who found that medical students considered research essential and had positive research attitudes; however, they considered time, lack of adequate training, and research opportunities as barriers to research.

Van der Westhuizen (2014) assessed the 279 postgraduate students' research attitudes, research self-efficacy, and knowledge at a distance education institution in South Africa using a single-group pre-post test design. The findings indicated that, overall, students demonstrated improved positive attitudes toward research, enhanced research self-efficacy, and increased research knowledge following the completion of the module. Nevertheless,

there was a decline in their perceptions of the research's usefulness, while their anxiety and self-efficacy remained unchanged, specifically regarding data analysis.

Obermeier Pérez (2019) assessed the graduate students' attitude toward research using the convergent mixed method at a Mexican Southeastern University. The results indicated that the students had low attitudes towards research.

Moreover, the professors who teach research neither conduct their own research nor provide adequate tutoring services. The institutional conditions do not promote research activities or invite students to participate in research projects. Hence, students ignore the existence of research groups in the university even if they consider these skills necessary. Balacy (2014) supported these findings, which found that students' evaluation of their research teachers significantly determined their attitudes toward research usefulness and difficulty.

Siamian, Mahmoudi, Habibi, Latifi, and Zare-Gavgani (2016) assessed the paramedical college students' research attitudes at Mazandaran University of Medical Sciences in 2015. Results showed that the students had positive research attitudes regarding its usefulness, anxiety, and relevance to life. Moreover, there were no significant differences in their attitudes toward research in terms of their age, gender, and educational level. Interestingly, if research facilities were available, students would be more interested in conducting research. On the other hand, Butt and Shams (2020) explored the attitudes towards research of the 194 Master in Education students from the two public universities in Punjab, Pakistan. The findings revealed that the students had negative research attitudes but significantly differed in their attitudes concerning their program and specialization.

Kakupa and Xue (2019) examined the association between the demographic factors and research attitudes among 100 graduate education students at a particular university in Northern China using the Revised Attitude Towards Research (R-ATR) scale. The study found that students generally held moderately positive attitudes toward research, with doctoral students exhibiting significantly more positive attitudes, greater self-efficacy, and lower levels of research anxiety than master's students. Students who had taken more research courses reported lower research anxiety. Additionally, a positive correlation was found between general self-efficacy and overall attitudes toward research. However, age did not significantly influence these attitudes.

Khan et al. (2018) surveyed 240 university teachers in Khyber Pakhtunkhwa and found positive research attitudes, influenced significantly by incentives. While research anxiety was present, it did not deter their involvement. Fernandez, Galache, and Mabelin (2019) conducted an assessment of the research attitudes and capabilities of university instructors, revealing positive views and high capabilities, albeit with some reservations based on experience. The number of research projects undertaken positively correlated with their research attitudes, capabilities, and engagement.

3. METHODOLOGY

This section presents research procedures observed during the conduct of this study.

3.1. Research Design

Descriptive correlational design was utilized to examine the relationship between the respondents' research attitudes and capabilities. Correlational research is a non-experimental design that examines the relationship between two or more variables without attempting to manipulate them (Devi, Pradhan, Giri, Lepcha, & Basnet, 2022). Adopted questionnaires were used to assess these variables accurately and test for the significance of their relationship. The following null hypothesis was tested:

Ho: Respondents' attitudes towards research and their research capabilities are not significantly related.

3.2. Population and Sample

This research was carried out at Cebu Technological University Main Campus in Cebu City, Philippines. The College of Education graduate program students taking up Master of Arts in Education who enrolled in the Research Methodology course (Ed 601) were asked to participate in this study voluntarily. These students are currently practicing their teaching profession. Out of the 773 students, 338 respondents participated in the study. Convenience sampling was utilized to identify the respondents. Table 1 presents the distribution of the students' profiles.

Table 1. Profile of the respondents.

Profile	f	%
Age		
>52	3	0.89
43-52	16	4.73
33-42	109	32.25
23-32	210	62.13
Total	338	100.00
Gender		
Female	302	89.35
Male	36	10.65
Total	338	100.00
Degree program		
Early childhood education	125	36.98
Mathematics	144	42.60
Special education	63	18.64
Guidance and counseling	6	1.78
Total	338	100.00
Teaching experience (In years)		
>20	5	1.48
16-20	8	2.37
11-15	19	5.62
6-10	90	26.63
1-5	216	63.91
Total	338	100.00

The table shows that the majority of the respondents were female. Furthermore, the majority of these respondents fall within the age range of 23 to 32 years, with the majority specializing in Mathematics. Notably, most respondents have five years or less of teaching experience.

3.3. Data Collection Tools

This research used two sets of questionnaires to gather information from the respondents. An Attitude Towards Research (ATR) scale developed by Papanastasiou (2005) was used to assess the respondents' attitudes towards research. The questionnaire comprises five factors that measure attitudes towards research: research usefulness in the profession, which includes nine items, a positive attitude with eight items, relevance to life, which includes four items, research anxiety with eight items, and research difficulty with three items. The questionnaire was modified by Sison (2019) to contextualize the statements in the Philippine setting. Thus, it was subjected to a validity and pilot test with a Cronbach's alpha of 0.835. The study also adopted the revised questionnaire. The questionnaire used a four-point Likert scale such as 4-Strongly Agree, 3-Agree, 2-Disagree, and 1-Strongly Disagree. Moreover, the research capabilities of the respondents were also assessed using the questionnaire developed by Sison (2019) which has two components: research process with ten items and participation in research-related activities with five items. The respondents were asked to answer each item using a four-point Likert scale such as 4-Strongly Agree, 3-Agree, 2-Disagree, and 1-Strongly Disagree.

3.4. Data Collection Process

Before collecting any data, the researcher adhered to the university's policy on student participation in research. Additionally, the researcher requested the assistance of the subject professors in informing the students of the study's goal and the necessity of participating by giving essential details. The research participants were first selected using convenience sampling. Informed consent was obtained from the respondents before they took part in the data-gathering process. Respondents were informed of their right to withdraw from the process at any point if they felt uncomfortable.

An electronically generated survey questionnaire was utilized to gather the data. The respondents received a link to the survey form. Moreover, it was ensured that the respondents were given enough to answer the questionnaires. Retrieval of the data through the spreadsheets was used and was kept properly.

3.5. Data Analysis

The data gathered were treated based on the study's objectives. Frequency count and percentage were used to describe the distribution of the respondents' profiles. Weighted mean and standard deviation were used to describe the respondents' research attitudes and capabilities. Pearson's r was used to describe the strength of the relationship of the variables and the significance of their relationship. Social science research widely uses Pearson's r, establishing it as a well-established and accepted method for correlational analysis (Regidor, Vesmanos, & Deguito, 2024).

4. RESULTS

This section presents the results of the data gathered. Table 2 illustrates the results on the respondents' research attitudes based on the following aspects: very positive attitudes in terms of the research usefulness in profession (M=3.61, SD=0.52), very positive attitudes towards research (M=3.30, SD=0.55), positive attitudes towards relevance of research to life (M=3.05, SD=0.65), negative attitudes towards the research anxiety (M=2.24, SD=0.70), and research difficulty (M=2.29, SD=0.68).

Table 2. Level of the respondents' attitudes towards research.

Components	M	SD	Verbal description
Usefulness in profession	3.61	0.52	Very positive
Positive attitude	3.30	0.55	Very positive
Relevance to life	3.05	0.65	Positive
*Research anxiety	2.24	0.70	Negative
*Research difficulties	2.29	0.68	Negative

Note: 3.25-4.00-Very positive; 2.50-3.24- Positive; 1.75-2.49-Negative; 1.00-1.74-Very negative.
*reverse scoring

Table 3 shows that the respondents are highly capable of participating in the research process (M=3.27, SD=0.57). Moreover, the respondents are capable of participating in research-related activities (M=3.16, SD=0.62).

Table 3. Level of the respondents' research capabilities.

S/N	Indicators	M	SD	Verbal description
A. Research process				
1	Choosing and describing the population	3.23	0.47	Capable
2	Clearly defining terms and concepts to be used in the study	3.26	0.53	Highly capable
3	Gathering necessary data	3.38	0.52	Highly capable
4	Performing a review of related literature and studies	3.27	0.58	Highly capable
5	Choosing the topic of research	3.29	0.63	Highly capable
6	Formulating research questions	3.25	0.59	Highly capable
7	Identifying and designing appropriate research design and instruments to gather data	3.24	0.60	Capable

S/N	Indicators	M	SD	Verbal description
8	Disseminating the research output to the audience (e.g., conferences, in-house forum)	3.27	0.63	Highly capable
9	Statistically analyzing data	3.30	0.57	Highly capable
10	Making summary, conclusions, and recommendations	3.17	0.58	Capable
	Aggregate weighted mean	3.27		Highly capable
	Aggregate standard deviation		0.57	
B. Participation to research-related activities				
1	Participation to seminars/ Workshops about research	3.27	0.60	Highly capable
2	Participation in in-house/ Institutional research forum	3.16	0.60	Capable
3	Participation in local research forums/ Conferences	3.18	0.59	Capable
4	Participation in regional research forums/ Conferences	3.11	0.65	Capable
5	Participation in international research forums/ Conferences	3.10	0.65	Capable
	Aggregate weighted mean	3.16		Capable
	Aggregate standard deviation		0.62	

Note: 3.25-4.00-Highly capable; 2.50-3.24- Capable; 1.75-2.49-Less capable; 1.00-1.74-Not capable.

Table 4 presents the correlation analysis between the respondents' attitudes toward research and their capabilities. The Pearson's r value showed that the respondents' capabilities in engaging in the research process are statistically significant with the following research attitudes: UP and RP (r=0.439, p<0.001), PA and RP (r=0.484, p<0.001), RL and RP (r=0.353, p<0.001). Moreover, the respondents' capabilities in participating in research-related activities are statistically significant with the following research attitudes: UP and PRA (r=0.410, p<0.001), PA and PRA (r=0.468, p<0.001), RL and PRA (r=0.359, p<0.001).

Table 4. Correlation analysis.

Components	UP	PA	RL	RA	RD	RP
PA	0.782**					
RL	0.488**	0.494**				
RA	0.124*	0.207**	0.371**			
RD	0.027	0.110*	0.294**	0.714**		
RP	0.439**	0.484**	0.353**	0.229	0.037	
PRA	0.410**	0.468**	0.359**	0.061	-0.105	0.717**

Note: UP=Usefulness in profession; PA=Positive attitude; RL=Relevance to life; RA=Research anxiety; RD=Research difficulties; RP=Research process; PRA=Participation to research-related activities
**significant at p<0.001; *significant at p<0.05.

5. DISCUSSION

The data collected to assess the respondents' attitudes towards research revealed that the GTE students highly recognized the usefulness of research in their profession. They believe that research can be an avenue for their professional development because it allows them to delve into educational theories, practices, and innovations that enhance their teaching efficacy (Van der Westhuizen, 2014). The GTE students' very positive attitude toward the usefulness of research suggests that they acknowledge its need in their profession because it is a course requirement. Nevertheless, it does not indicate that the students personally like and identify with research (Kakupa & Xue, 2019). On the contrary, Butt and Shams (2020) found that the students in master's program find research to be hardly useful in their profession.

Interestingly, there was also a very positive research attitude among the GTE students, which suggests they developed a better understanding of research after engaging in the research methodology subject. It is important to note that their exposure to the course positively impacts their attitudes in research. When students comprehend the research process, they can appreciate its value, which reduces their apprehension and builds their confidence in engaging in research activities (Bolin et al., 2012). The results indicate that GTE students have positive thoughts and are serious about research activities because they perceive that it could help their future professional lives (Papanastasiou, 2005). Similarly, Basudan et al. (2019) also found that accountants and specialists have positive

research attitudes and are eager to engage in research and apply its findings in their practice. They perceived that engaging in research enhances their professional knowledge. Additionally, Kumari et al. (2018) discovered that students with research training developed positive research attitudes and were more likely to conduct it.

The negative attitudes of GTE students regarding research anxiety suggest that they experience high levels of anxiety when conducting research. When they understand the demands of the research activities, they can feel the pressure of performing them. Research activities are time-consuming and require adequate research training, funds, and resources, which can cause anxiety in the researcher (Nel et al., 2014; Siemens et al., 2010). Awareness of research demands can influence the GTE students' choice to pursue the research activity. Moreover, the GTE students' negative attitudes regarding research difficulty indicate that they find it challenging to conduct research. The GTE students understand that conducting research entails different processes, from choosing the research topic and population, formulating research questions, determining the appropriate research design, identifying appropriate instruments, gathering data, data analysis to formulating the summary, conclusions, and recommendations until disseminating the research outputs. The GTE students who enroll in thesis writing must undertake these rigorous processes. Hence, they perceive that engaging in research activities is complicated and difficult (Hatch, 2023).

Conversely, the GTE students asserted their exceptional proficiency in executing various research procedures. These results suggest that the GTE students have acquired the concepts and principles of research in their research methodology course. However, the claim of the GTE students can be validated when they engage in research, such as writing their thesis. Therefore, they must apply the research inputs they acquire from their professors to evaluate the extent of their learning from the course. This can be done by involving themselves in research-related activities. However, GTE students need more opportunities to participate in different research-related activities. Due to their school responsibilities, the lack of time for research activities limits their participation in research-related activities. Moreover, GTE students' limited research engagement contributes to their worries in pursuing their thesis writing course (Haven, Pasman, Widdershoven, Bouter, & Tijdink, 2020; Ommering, Wijnen-Meijer, Dolmans, Dekker, & van Blankenstein, 2020).

Active participation in research-related activities significantly correlated with the GTE students' positive attitudes toward research, including its usefulness, relevance to life, and the research process. These findings suggest that enhancing students' research capabilities can foster more positive views about research. Thus, it is essential to require the GTE students to enroll in the research methodology course because it positively impacts the GTE students' perceptions of research. Interestingly, research anxiety and difficulty do not influence their perceptions about their research skills and capability to participate in research-related activities, implying that they believe they are equipped with enough research knowledge and skills to enable them to conduct research (Samosa, 2021). Furthermore, their research capabilities do not influence their feelings of anxiety and difficulty in conducting research. Hence, other factors involving research can be attributed to these feelings (Davidson, Jaber, & Southerland, 2020).

Despite the GTE students' positive research attitudes and commendable research capabilities, some still prefer not to finish their degree by not enrolling in the thesis writing course. Hence, this cannot be attributed to their attitudes and research skills, which suggests a need to look into the current situation of the GTE students. GTE students can make practical and applicable decisions when they understand the course requirements. Notably, the GTE students involved in this study are currently teaching, which limits their time to do extra tasks aside from their school responsibilities. Conducting research requires much time, compromising the GTE students' school responsibilities. Besides, thesis writing needs enough financial resources and logistics because students need to spend money on the data-gathering process, statistician, and panel examiners who will scrutinize their work during the activity. Considering the monthly income of the teachers of the Department of Education (DepEd) in the Philippines, which ranges from Php 27,439–Php 38,150 (470 USD-650 USD) (Divina, 2024) it is difficult for the

GTE teachers to meet the financial requirements of the thesis writing without the financial support of their family, in which, in most cases, these students do not receive any support (Essuman, 2020).

However, GTE students who do not finish their program have the opportunity of getting promoted when they have already earned the complete academic requirements based on the promotion guidelines of DepEd (DepEd Order No. 66, 2007). In addition, some GTE students who earned master's units ventured into the employment abroad, particularly in the United States, which provides very high compensation compared to what they earn in the Philippines (Oris & Caballes, 2024). The opportunities that the GTE students can avail themselves of when they finish their academic requirements could be their source of motivation to enroll in postgraduate studies. However, despite their inability to complete their graduate studies, they are already aware of the opportunities available to them. Hence, their possible promotion and employment abroad motivate them to enroll in their master's program even without finishing it (Amani et al., 2022; Jonbekova, Kim, Kerimkulova, Ruby, & Sparks, 2021; Li, Shen, & Xie, 2021).

6. CONCLUSION

The GTE students' positive research attitudes towards the usefulness and relevance of research in their lives imply their affirmative belief in the crucial role of research in their professional practice. Although they believe they possess the necessary research skills to conduct research, they believe more opportunities to participate in various research activities would be beneficial. Notably, the graduate students' very high perception about their capabilities in the research process positively influences their attitudes towards research. GTE students' research attitudes and capabilities are promising characteristics for conducting research. This demonstrates that GTE students receive adequate preparation and possess sufficient research knowledge and skills. While these factors may not directly hinder GTE students from pursuing thesis writing, it's crucial to consider their potential impact given the demanding nature of research. To successfully complete a thesis, students need enhanced research capabilities, active participation in research-related activities, and appropriate support. Universities and DepEd could encourage student engagement by offering assistance programs and incentives.

7. IMPLICATIONS

This study highlights the importance of research for GTE students, who demonstrate positive attitudes but may face barriers to active engagement. Universities should strengthen their GTE programs and support systems to bridge this gap, ensuring students can fully leverage their research skills and maintain their positive outlook. Moreover, the results imply that the GTE curriculum provides sufficient preparation and equips students with research knowledge and skills, which is contradictory to the notion that students' research capability is a barrier to thesis completion.

8. LIMITATIONS OF THE STUDY

The limitations of the study are inevitable because of the following aspects, to wit:

1. The study used survey questionnaires to measure research attitudes and capabilities, which may introduce bias due to the subjectivity of the responses of the students.
2. The study was conducted in a state university in the Philippines, which limits the generalizability of the results to other institutions or regions.
3. The data was gathered at a single point in time, which makes it difficult to establish causality in the research attitudes and capabilities.
4. The study does not consider other factors such as institutional support, faculty mentoring, and work and family responsibilities that may influence students' research engagement.

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Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The authors declare that they have no competing interests.
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