

Principal Support and Research Competence of TLE Teachers: The Mediating Role of Teacher's Attitudes Towards Research

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ABSTRACT

The primary goal of this study was to use a quantitative non-experimental descriptive-correlational research design to determine the mediating role of teachers' attitudes toward research in the relationship between principal support and research competence of TLE teachers in the selected municipalities of Davao Occidental, namely: Malita, Santa Maria, and Don Marcelino. The study included 239 TLE teacher respondents using a complete enumeration sampling technique. Adapted survey questionnaires were used during the study. The mean, Pearson correlation analysis, and regression analysis were used to analyze the data gathered in the study. The findings demonstrated high principal assistance, including emotional, environmental, instructional, and technological support. TLE teachers demonstrated a high research competency, including knowledge and skills. On the other hand, the findings for TLE teachers' research attitudes were similarly high. Furthermore, a significant relationship was found between principal support and TLE teachers' research competence. Similarly, there was a significant relationship between principal support and teachers' attitudes toward research. A significant relationship was also observed between TLE teachers' attitudes toward research and their research competence. Furthermore, a partial mediation was found between the relationship of principal support and TLE teachers' research competence when mediated by teachers' attitudes toward research. Furthermore, it was discovered that principals' support and teachers' research competence increased after being mediated by TLE teachers' attitudes toward research. As a result, the findings imply partial mediation because the effect was determined to be significant. The findings of the study may serve as a basis for developing policies, programs, and activities that strengthen principal support, leading to improvements in teachers' research competence and attitudes.

Keywords: Educational Management, Principal Support, Research Competence, Research Attitude, Teachers, Mediating Effect, Philippines

INTRODUCTION

In the Philippines' changing educational landscape, teachers serve as future generations' knowledge stewards and designers (Santos & Cruz, 2022). Furthermore, Tolentino (2021) posits that most teachers did not seek further professional education. Since they were thought to have low research productivity, most were not allowed to participate in research training. In agreement with Toquero's (2020) findings, teachers demonstrated limited research skill proficiency; nevertheless, their research competence greatly increased when they used these abilities in real-world scenarios. However, they had difficulties performing

their action research, especially when creating study concepts and conducting literature evaluations. Additionally, teachers demonstrated a lack of research skills proficiency; however, their research competence significantly increased when they applied these skills to real-world scenarios.

Nevertheless, Srikham and Seehamongkon (2023) noted that teachers encountered difficulties performing their action research, especially when creating research concepts and conducting literature reviews. In a different study, assessing the research competencies required in student teachers' classrooms using the Priority Needs Index Modified (PNI modified) showed that cognitive skills were the most important, closely followed by research practice skills and research mindset.

With key supports that encourage pedagogical creativity and eventually enhance educational quality, teachers' research competency is a powerful tool to solve pressing issues within the Philippine educational system. Since then, research has been included in teachers' professional growth in the ever-evolving culture of today, as stated by Oestar (2022). Teachers are encouraged to do action research linked to high-quality classroom instruction by Department of Education (DepEd) principals. According to Gonzales et al. (2020), examining teachers' research competency thus creates various school training programs and activities that administrators offer to help instructors feel competent and informed about the research procedures. Principal support arose from several ideas, such as the teachers' career development, self-improvement, in-service training, and continuation of vocational training, which exposed them to various research activities to increase their productivity and success in their line of work. Professional growth is therefore necessary due to competition (Swart et al., 2019).

Furthermore, regardless of how challenging the work at hand may be, a positive attitude toward research impacts one's behaviors to get them closer to achieving the goal. According to the majority of polls, both conducting and producing research papers are challenging (Malyukova, 2021; O'Brien & Dingle, 2022), particularly when considering individuals who have never done it before. However, compared to teachers at postsecondary institutions, research writing has been viewed as one of the difficulties faced by educators in the Department of Education (DepEd) since it is not a significant component of their duties or responsibilities. Their attitude toward the research culture may also be affected (Bukamal, 2022), and they are somewhat cut off from it (Tergouw, 2022).

Principals must develop strategies and bolster support to assist teachers in developing their research competency and attitude to increase performance. In this situation, principals must understand how much support teachers need to conduct and expose themselves to research, even though teachers have a negative attitude toward doing so (Filali et al., 2022), which makes them anxious and nervous when they hear the word research, making research tasks more difficult for them (Abinan, 2021).

The improvement of schools and the development of teachers' research competence are greatly affected by the principal's position. Principals support help teachers by collaborating with them on professional development projects, such as doing various types of research. Accordingly, the existence and significance of research training is a topic that has caught the attention of teachers, governments, political decision-makers, and researchers worldwide (Griffioen et al., 2019). There should be incentives for school principals to participate in professional development events. Their workload should also be reduced so that they can participate in these events. According to Bozkus (2019), school principals ought to be equipped with resources to aid in the professional development of teachers.

The emotional support of principals was found to be more effective in lowering teachers' stress levels, and there is growing interest in the relationship between emotions and educational leadership, which may assist teachers in coping with negative emotions brought on by adverse events in their lives (Xing, 2021). The

significance of principals' environmental support for teachers' participation has also been the subject of various studies. External factors may impact instructors' performance (Mulyana et al., 2021). Furthermore, principals with strong instructional support focus more on teacher performance, build confidence in instructional leadership, strengthen rural emotions, and create a genuine campus atmosphere and shared vision of purpose. These actions encourage teachers' passion for their work and improve job satisfaction (Skaalvik, 2020). Based on a variety of elements that impact the process of integrating technology, including teachers' attitudes, beliefs, anxiety, technical training, and resources, principals have suggested a range of technical support strategies for the adoption of new technology in the classroom (Cheng et al., 2020; Nelson et al., 2019).

Teachers' research competence is a powerful tool for addressing important issues in the Philippine educational system, encouraging educative innovation, and improving educational standards. They also serve as knowledge pioneers and future generations' architects in the rapidly changing educational landscape (Santos & Cruz, 2022). Basilio and Bueno (2019) discussed how important training is as a foundation for successful educational research projects. In addition to the fact that few of them attended seminars, published their findings, or used them in their particular fields of expertise, many lecturers are ignorant of research writing. Additionally, it was observed that locating, utilizing, and assessing material is difficult for many teachers. According to McTaggart (2019), teachers' motivation, expertise, and knowledge allow them to conduct classroom action research.

Furthermore, compared to instructors at tertiary institutions, research writing has been viewed as one of the difficulties faced by secondary school teachers in the Philippines since it is not a significant component of their duties or obligations. Their attitude toward the research culture may also be impacted (Tergouw, 2022), and they are somewhat disengaged from it (Bukamal, 2022). For the majority of them, obtaining a master's degree is not even necessary. Graduate degrees, which involve intensive research training, are only pursued by people who wish to advance in their career or academic rank (Manila et al., 2022). Secondary school teachers struggle to create a research paper at the school year's conclusion since they are not accustomed to conducting research. Regardless of how challenging the work at hand may be, a positive attitude about research impacts one's activities to get them closer to achieving the goal. Writing and conducting research papers is challenging (O'Brien & Dingle, 2022), particularly for individuals who have never done it.

Figure 1 shows that the independent variable is the principal's support with its respective indicator, to wit, emotional, environmental, instructional, and technical support that improves teachers' knowledge in research and, in turn, boosts performance. The dependent variable is the teacher's research competence in research, which describes their knowledge and skills. Knowledge refers to the ability to efficiently source and store data, rise to the challenges posed by new software and digital tools, navigate contextual frameworks, and develop and critically evaluate knowledge and ideas, while skills are defined as the ability to search for, locate, extract, organize, evaluate, and use or present information that is relevant to a particular topic. Moreover, the mediating variable is the TLE teachers attitude toward research, which directly and indirectly affects the study's independent and dependent variables.

The framework shows the direct influence of principal support on the research competence of TLE teachers as mediated by teachers' attitudes. Specifically, path (a) is the independent variable that describes the principal support with the indicators emotional, environmental, instructional, and technical, which has a direct influence on the path (b), which is the teachers' attitude with the indicator's knowledge and skills.

Moreover, path (c) is the mediating variable that explains how or why an independent variable affects a dependent variable by clarifying the process or mechanism through which the relationship.

Independent Variable

Dependent Variable

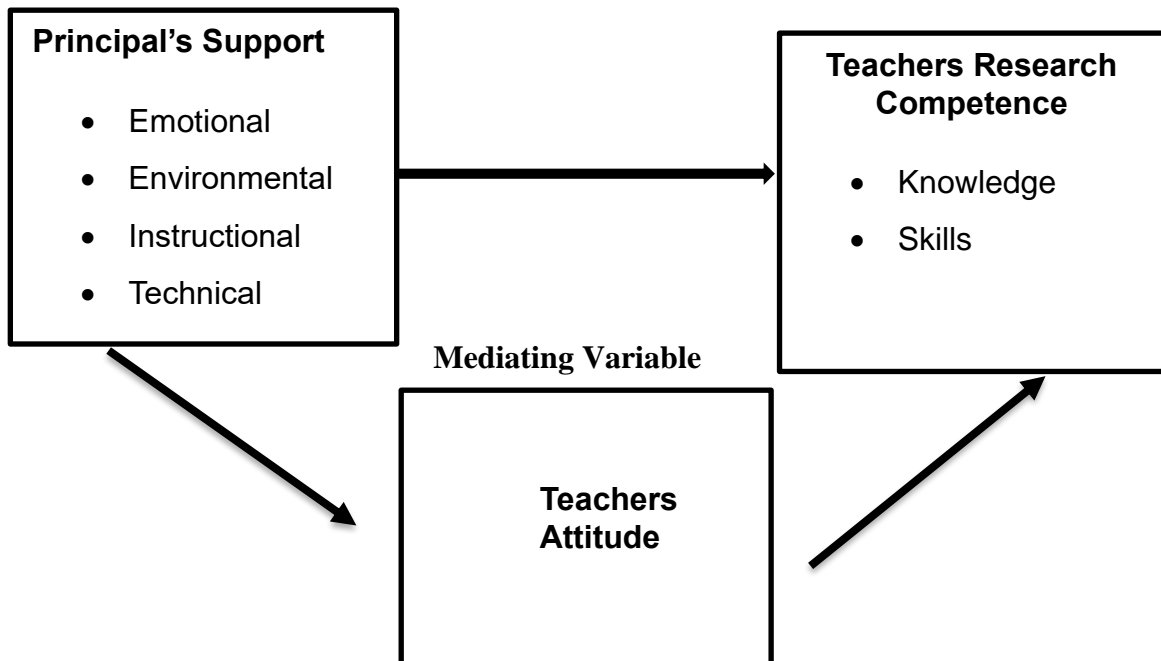


Figure 1. Schematic Diagram Showing the Variable of the Study

Mezirow's Transformative Learning Theory (1991) served as the foundation for the study. It claimed that the key to creating meaning and learning is how students interpret and reinterpret their senses. The concept of transformative learning holds that as students acquire new knowledge, they also critically analyze their prior knowledge and beliefs and change their perspective on the world. It delves deeply into how students discover meaning in their lives and comprehension, going beyond merely gaining knowledge. This learning experience entails a fundamental shift in viewpoint when students begin to challenge everything they previously knew or believed and consider things from fresh angles to create space for new knowledge and insights. According to many students and professionals, true freedom of thinking and comprehension results from this type of learning.

Furthermore, the Cognitive Learning Theory (1991) examines human thought processes. Understanding mental processes is crucial to comprehending how individuals learn. The cognitive approach acknowledges that both internal and external factors can impact individuals. The cognitive learning theory was used in this study to explain how teachers view research as a challenging assignment or work that must be completed at school as part of their professional growth.

Conversely, the Behaviorism Learning Theory (1904) demonstrates that people's actions are determined by their interactions with their surroundings. It implies that external, as opposed to internal, forces shape and teach actions. The behaviorism learning theory in this study links teachers' challenges when researching to their inability to complete a comprehensive study in the classroom.

Research writing is stressful, according to several studies (Filali et al., 2022; Issah & Braimah, 2020; Tindowen et al., 2019). People become apprehensive and nervous when they hear the word research. They find the study task more challenging as a result of this anxiousness (Abinan, 2021). To help them feel secure and informed about the research procedures, a number of training and development initiatives are

being carried out in schools (Gonzales et al., 2020). However, the researcher noticed that further research, such as the impact of teachers' attitudes on research using mediation analysis, is needed. Therefore, this study aimed to ascertain how teachers' attitudes about research mediated the relationship between TLE teachers' research competency and principals' support. In addition, empowering the principal to give teachers more support in conducting research that is useful in addressing issues and concerns in education, the findings help bolster the Department of Education's research programs and activities to assist teachers in developing their research abilities and attitudes.

Moreover, the purpose of the study was to determine the mediating effect of teachers' attitudes towards research on the relationship between principals' support and TLE teachers' research competence, which was also considered among TLE teachers in selected secondary schools in the Division of Davao Occidental. Thus, it sought to determine the level of principals' support provided to help teachers in terms of emotional, environmental, instructional, and technical support; it assessed the TLE teachers' research competence in terms of knowledge and skills and evaluated the level of TLE teacher's attitudes toward research. Further, it ascertained the significant relationship between principal support and TLE teachers' research competence, assessed the significant relationship between principal support and TLE teachers' attitudes toward research, and determined the significant relationship between TLE teachers' research attitudes and research competence. In addition, it investigated the mediating effect of teachers' attitudes towards research on the relationship between principals' support and TLE teachers' research competence. The null hypotheses were tested and verified at a 0.05 level of significance. Specifically, it stated that there is a significant relationship between principal support and TLE teachers research competence, there is no significant relationship between principal support and TLE teachers' attitudes toward research, there is no significant relationship between TLE teachers' research attitudes and research competence, and there is no mediating effect of teachers' attitudes towards research on the relationship between principals' support and TLE teachers' research competence.

In the global setting, the findings of the study were significant by promoting the importance of research among teachers in the different disciplines by addressing various educational issues and concerns. It helps them assess and evaluate their research competence and improve their research attitude by having a deep understanding of the significance of research on the educational landscape, leading to the delivery of quality education services and ensuring the learners learn and feel safe and secure at school. In addition, the finding may contribute essential information that helps promulgate a strong commitment to ensure inclusive and equitable quality education and promote lifelong learning opportunities through research (SDG 4-Quality Education). More so, it also serves as the foundation for developing policies and guidelines in implementing various research activities in the Department of Education that benefit students, teachers, school administrators, parents, and the community in general. Further, the findings of the research conducted by the teachers may have a direct influence not just inside the school but on the identified problems in the community that directly affect the overall operation of the school.

In addition, the TLE teachers may find research more beneficial by conducting action research to address problems inside the classroom. This allows them to contribute to a new body of knowledge. Further, the findings of the study help TLE teachers to assess their research competence and find ways to improve it by engaging themselves in research, attending training and seminars, and joining research activities like research presentations or forums. In turn, this gives them a positive attitude towards research. On the other hand, future researchers will benefit from the findings by examining the gap as a basis for conducting future research that verifies the claims and queries of the present study.

METHOD

This section presents the research information about the participants, materials and instruments, research design and procedure, and ethical considerations to analyze the results of the study.

Respondents

The study was conducted in the selected secondary schools within Davao Occidental's three municipalities: Malita, Santa Maria, and Don Marcelino. The respondents of the study were the 239 TLE teachers identified using the universal sampling technique. In using the universal sampling technique, not all the people in the population have the same probability of being included in the sample. For each one, the probability of being selected is unknown (Kabera, 2009). The universal sampling technique was used, and all the TLE teachers were taken as the respondents. The researcher preferred to use the universal sampling technique to select respondents from the selected secondary schools in the three municipalities of Davao Occidental because they provided helpful information to test the hypothesis of this research.

To ensure the qualification of the respondents, the researchers established the inclusion and exclusion criteria. For the inclusion criteria, the respondents must be permanent teachers of the participating school in the study, taught TLE subject regardless of the grade level, and have more than one (1) year in the service regardless of their age, gender, and position. For the exclusion criteria, the respondents who are not secondary teachers teaching TLE were not included in the study. Moreover, the respondents have the right to withdraw from participation if they feel harm or discomfort.

Materials and Instrument

The researcher utilized an adapted and modified survey questionnaire from Hughes (2012) "The Relationship Between Principal Support and Teacher Retention In Hard To Staff Schools", for principal support; Oestar and Marzo (2022), "Teachers as Researchers: Skills and Challenges in Action Research Making," for the indicator skill, knowledge; and Saghir et al. (2021) "Attitude of Prospective Teachers Towards Research: A Survey Study of Different IER Programs for the research competence and attitude". Furthermore, the survey questionnaire consists of three parts. Part I: level of principal support with indicators emotional (5 items), environmental (6 items), instructional (8 items), and technical support (5 items). Part II: Level of teachers' competence in research with indicators of knowledge (5 items) and skills (37 items). Part III: Level of TLE teachers' attitude toward research (10 items).

To analyze the data gathered, the following 5-point Likert scale was used. For the level of the principal's support, very high (4.20-5.00), high (3.40-4.19), moderate (2.60-3.39), low (1.80-2.59), and very low (1.00-1.79); for the level research competence, (4.20-5.00), high (3.40-4.19), moderate (2.60-3.39), low (1.80-2.59), and very low (1.00-1.79); and for the level of research attitude, (4.20-5.00), high (3.40-4.19), moderate (2.60-3.39), low (1.80-2.59), and very low (1.00-1.79).

To ensure the validity of the research questionnaire, a validation process was conducted by the panel of experts, obtaining a mean score of 4.69, described as excellent. In addition, pilot testing was conducted among 30 respondents who were not part of the study to determine whether the questions captured the information intended to measure. The results revealed a Cronbach Alpha of .723 (acceptable) for principal support, .723 (acceptable) for research competence, and .746 (acceptable) for research attitude.

Research Design and Procedure

This study employed a non-experimental, quantitative research design utilizing a descriptive correlational

research technique. This approach is used to gather data, thoughts, facts, and information pertinent to the subject. The descriptive non-experimental correlational design helps to determine the extent of the relationship between two or more variables (Bhandari, 2021). In this context, the correlational method was chosen as the optimal design to fulfill the study's objectives and test the hypothesis. According to this approach, if the significance value exceeds .05, the null hypothesis (H_0) and the alternative hypothesis (H_a) are accepted. Hypothesis testing in this context determines whether the correlations between variables are strong or weak (Creswell, 2012).

Additionally, the study employed mediation testing to investigate three variables. This involves assessing the relationship between the predictor and mediator variables and between the mediator and criterion variables (Baron & Kenny, 1986). A straightforward mediation model implies that the relationship between an independent variable and an observed outcome can be explained by the influence of a third factor, known as a mediator. The relationship is fully mediated if the direct relationship between the independent variable and the outcome becomes insignificant after accounting for the mediator's influence. Furthermore, partial mediation occurs when the mediator accounts for some, but not all, of the relationship between the independent variable and the outcome. The degree of mediation is referred to as the indirect effect (Baron & Kenny, 1986). Mediation analysis is versatile and can be applied to linear regression, logistic regression, polynomial regression, and more (Shrout & Bolger, 2002).

The data collection followed a series of steps. First, the researcher sent a letter to the Schools Division Superintendent of the Department of Education Division of Davao Occidental, requesting permission to conduct the study. After receiving approval, the researcher sent similar letters to the School Heads of the participant schools. Upon their approval, the survey questionnaire was administered to respondents in the selected secondary schools in the Division of Davao Occidental. The researcher visited the concerned school heads as a courtesy call to discuss the plan for conducting the face-to-face survey. During the courtesy call, the researcher requested a list of all respondents from the school heads/principals. This list served as the basis for data gathering, which took about one month from distributing the survey questionnaire to retrieving the completed questionnaires. Before data collection, the researcher secured a Certificate of Compliance from UMERG to ensure adherence to ethical considerations in research.

Mean was used to determine the level of principal's support and teachers' competence and attitude towards research; Pearson's Product Moment Correlation Coefficient was used to measure the degree of relationship between principal's support and teachers' competence towards research; principal's support and teachers attitude towards research; and medgraph using Sobel Z test was used to determine the mediating effect of teacher's attitude on the relationship between principal's support and teachers' competence. These were tested at the 0.05 level of significance.

This study addresses ethical issues and considerations, particularly before data collection. The researcher underwent an evaluation by the ethics review committee members. After several review processes, the study was approved by the UM Ethics Review Committee (UMERG) with Protocol Number 2024-430. Respondents' participation was voluntary and anonymous to protect their privacy, and they were provided with information to ensure they understood the study before deciding to participate. The researcher ensured that all data gathered were kept confidential and used solely for research purposes. Informed consent was obtained from all respondents involved in the study.

Respondents were carefully selected based on criteria specified in the research, which included secondary TLE teachers in the selected secondary school in the Division of Davao Occidental. The study did not

involve any high-risk situations for the respondents, as it was conducted with secondary TLE teachers and followed due process. All teachers were the primary beneficiaries of the study.

To ensure originality and avoid plagiarism, the study used Grammarly, Turnitin, and Plagiarism Detector software. The research followed the standard procedures the University of Mindanao Professional Schools established. There was no evidence of intentional misrepresentation to fit a model or theoretical assumption. The study had no conflict of interest, as the researcher had no prior relationship with the respondents. The research was a requirement to complete a master's degree in education at the University of Mindanao Professional Schools.

In this study, there was no deceit. All information presented was accurate and underwent validation and thorough review by various experts in the field of research. The researcher obtained permission from the relevant agencies where the respondents were employed. No one was authorized to publish or present this paper without the researcher's consent except for the researcher or the adviser. For the publication of this study, the adviser will be listed as a co-author.

RESULTS AND DISCUSSION

This section presents the results on the level of principals' support, research competence of TLE teachers, TLE teachers research attitudes, significant relationship between principal support and TLE teachers research competence, significant relationship between principal support and TLE teachers attitudes toward research, significant relationship between TLE teachers research attitudes and research competence, and influence of principals support on TLE teachers research competence as mediated by TLE teachers attitudes towards research.

Level of Principals' Support

Table 1 below shows the descriptive results on the level of principals' support to the TLE teachers in terms of emotional, environmental, instructional, and technical support.

Table 1 Level of principals' support

Indicator	SD	Mean	criptive level
Emotional Support	0.31	4.01	High
Environmental Support	0.24	4.03	High
Instructional Support	0.22	4.02	High
Technical Support	0.20	4.11	High
Overall	0.14	4.04	High

Specifically, technical support got the highest mean of 4.11 (high) and SD of 0.20 (high reliability). It implies that the school principal oftentimes provides environmental support to the TLE teachers. Further, the results emphasized that the principal provides TLE teachers with constructive feedback, undivided attention, clerical assistance, valuable information, and necessary materials for productive outcomes. DepEd teachers combine technical support by the principal to enhance the provision of essential education services. It requires specialized skills, is an active process with steps to follow, uses tools through process consulting, and is goal-focused. Additionally, it is a journey that respects the client's capacity and pace while reminding them of their primary role and accountability. The Department of Education attests that

technical support is offered to address issues, boost performance, and produce outcomes. In addition, Magcanas (2019) affirmed that technical assistance provisions begin with a defined goal in mind and an awareness of what needs to be addressed. When challenges and concerns continue to arise, technical support must seek more strategic tactics and methods to address and resolve them. Consideration of important factors influencing the success (or failure) of provisions would be critical.

On the other hand, emotional support got the lowest mean of 4.01 (high) and SD of 0.31 (high reliability). It implies that oftentimes the school principals provide emotional support needed by the TLE teachers. Indicatively, it stressed that TLE teachers felt valued, recognized, and respected by their school principals. Furthermore, Xing (2021) argued that principals' emotional support was more effective in reducing teachers' stress, and there has been a growing interest in the relationship between educational leadership and emotions, which could assist teachers in coping with negative emotions caused by life events. Oplatka and Gamerman (2021) firmly believed that schools are emotional environments. For example, Ispa-Landa and Thomas (2019) proved that emotional reactions to the problems of learning and socialization are typical for students and frequently influence parents' emotional engagement, program decisions, discipline concerns, and extracurricular choices.

Level of TLE Teachers Research Competence

Table 2 presents the results on the level of the TLE teacher's research competence in terms of knowledge and skills.

Table 2 Level of TLE teachers research competence

Indicator	SD	Mean	Descriptive level
Knowledge	0.32	4.02	High
Skills	0.15	4.06	High
Overall	0.20	4.04	High

Respectively, skills got the highest mean of 4.06 (high) and an SD of 0.15 (high reliability). This implies that the TLE teachers have a high level of skills regarding their research competence. Specifically, they understand classroom-based action research, such as the procedures, ethics, benefits, and importance. Based on their results, Manongsong and Panopio (2018) concluded that to become a competent teacher, one must plan adequately, provide effective instruction, evaluate learning activities, use appropriate methods and techniques, and perform and/or avail of community linkage. These can make any classroom teaching and learning environment more favorable and productive. Such capacity may increase over time as a result of experience and continuous, relevant capacity-building efforts. Meanwhile, McTaggart (2019) confirmed that teachers' ability to perform classroom action research depends on their knowledge, competency, and motivation.

Meanwhile, knowledge got the lowest mean of 4.02 (high) and an SD mean of 0.32 (high reliability). The results indicate a high knowledge of TLE teachers in terms of their research competence. It describes their skills in identifying problems, writing, formulating research questions and hypotheses, citing literature, drafting theoretical and conceptual frameworks, selecting research design, describing research locale and population, using sampling techniques, selecting and preparing instruments, making ethical considerations, organizing statistical tables, graphs, and textual presentations, choosing tools for data analysis and interpretation, encoding data, citing references using APA format, and arranging entries in the

bibliography. In support of the findings, Basilio and Bueno (2019) professed the need for training as a foundation for effective educational research efforts. They noticed that many teachers are unfamiliar with research writing and that few have attended seminars, published their findings, or used the findings in their various fields of concentration. It was also stated that many teachers struggle to find, use, and evaluate information.

Level of TLE Teachers' Research Attitude

Table 3 presents the results on the level of TLE teachers' research attitude in the secondary schools of selected municipalities in Davao Occidental.

Table 3 Level of TLE teachers research attitude

Indicator	SD	Mean	Descriptive level
Attitude	0.25	4.03	High
Overall	0.25	4.03	High

In general, an overall mean of 4.03 was accumulated and described as high, and an SD of 0.25 indicates a very low dispersion and high reliability. The results imply that TLE teachers possessed a high research attitude. It expounds that TLE teachers perceived that research is not complicated, useful, or applicable and increased their interest in different fields of knowledge. Having a positive attitude towards research is a mindset that influences the actions to move the person towards attaining the goal no matter how difficult the assigned task. However, O'Brien and Dingle (2022) underlined that writing a research paper is challenging, particularly for individuals who have never done it before. Bukamal (2022) stated that teachers in the Philippines are somewhat estranged from the research culture, and (Tergouw, 2022) their attitude toward it may also be influenced. Furthermore, Manila et al. (2022) pointed out that teachers are not required to earn a master's degree. Only individuals who desire to be promoted to a better position or academic rank are motivated to pursue graduate degrees that include intensive research training. Because research is not part of their daily routine as secondary school teachers, many find it challenging to complete their studies at the end of the school year. A positive attitude toward research is a mindset that inspires behaviors to progress the individual toward achieving the objective, regardless of how challenging the task.

Significant Relationship Between Principal Support and Research Competence of TLE Teachers

Table 4 presents the results on the significant relationship between the principal support and research competence of TLE teachers in the secondary schools of selected municipalities in Davao Occidental.

The results revealed an overall p-value of 0.000 ($r\text{-value}=0.690$), which is less than a 0.05 level of significance, implying a significant relationship between principal support and research competence of TLE teachers. Specifically, for emotional support, 0.000 ($r\text{-value}=0.598$); for environmental support, 0.002 ($r\text{-value}=0.200$); for instructional support, 0.000 ($r\text{-value}=0.480$); and for technical support, 0.000 ($r\text{-value}=0.226$). Thus, null hypothesis is rejected. As to the results presented, Swart et al. (2019) asserted that principal support emerged from several concepts, including the continuation of vocational training, self-improvement, in-service training, and career development of teachers, as well as exposing them to different research activities in order to be more successful and productive in their profession. Therefore, competition needs professional development.

Table 4 Significant relationship between principal support and research competence of TLE teachers

Principal Support	Overall
Emotional Support	0.598** (0.000)
Environmental Support	0.200** (0.002)
Instructional Support	0.480** (0.000)
Technical Support	0.226** (0.000)
Overall	0.690** 0.000

** significant @ .01 *significant @ .05

Significant Relationship Between Principal Support and Attitudes Toward Research of TLE Teachers

Table 5 presents the results on the significant relationship between the principal support and attitude toward research of TLE teachers in the secondary schools of selected municipalities of Davao Occidental.

Table 5 Significant relationship between principal support and attitudes toward research of TLE teachers

Principal Support	P-Value
Emotional Support	0.584** (0.000)
Environmental Support	0.192** (0.003)
Instructional Support	0.161* (0.013)
Technical Support	0.032 (0.626)
Overall	0.485** (0.000)

** significant @ .01 *significant @ .05

The results disclosed an overall p-value of 0.000 ($r\text{-value}=0.032$), which is less than a 0.05 level of significance, indicating a significant relationship between principal support and attitudes toward research of TLE teachers. Respectively, for emotional support, 0.000 ($r\text{-value}=0.584$); for environmental support, 0.003 ($r\text{-value}=0.192$); for instructional support, 0.013 ($r\text{-value}=0.161$); and for technical support, 0.626 ($r\text{-value}=0.032$). Moreover, the results affirmed that the null hypothesis has been rejected. Several studies offer insight into principals' capacity and support to teachers' practice. Having a positive attitude towards research is a mindset that influences the actions to move the person towards attaining the goal no matter how difficult the assigned task. In reference to the findings, Malyukova (2021) claimed that many teachers found it challenging to write research papers based on their experiences. Similarly, Bukamal (2022) highlighted that research writing has been a problem among teachers in the Department of Education

(DepEd) because it is not a part of their responsibilities or obligations compared to tertiary school teachers. Furthermore, Tergouw (2022) remarked that teachers at the Department of Education were not interested or active in research, which influenced their research attitude.

Significant Relationship Between Attitudes Toward Research and Research Competence of TLE Teachers

Table 6 presents the results on the significant relationship between the attitudes toward research and research competence of TLE teachers in the secondary schools of selected municipalities of Davao Occidental.

Table 6 Significant relationship between attitudes toward research and research competence of TLE teachers

	Overall
Attitudes Toward Research	0.541**
	0.000

** significant @ .01 *significant @ .05

The results unveiled an overall p-value of 0.000 ($r\text{-value}=0.541$), which is less than a 0.05 level of significance, indicating a significant relationship between attitudes toward research and research competence of TLE teachers. Therefore, the null hypothesis is rejected. To achieve better performance, principals must devise techniques and strengthen support to help teachers improve their research abilities. In line with the findings, Filali et al. (2021) attested that it is vital for principals to grasp the extent to which teachers demand unique and favorable support to conduct and expose themselves to research despite the teachers' negative attitude about performing research. Abinan (2021) added that when teachers hear the word research, they become concerned and nervous, making the research assignment more difficult.

Mediating Effect of Teachers Attitude Toward Research on the Relationship Between Principal Support and TLE Teachers Research Competence

A Medgraph using Sobel Z-test was employed to prove the mediation and to strengthen the obtained result on the significant mediating effect of teachers' attitude toward research on the relationship between principal support and TLE teachers research competence in secondary schools of selected municipalities of Davao Occidental. Baron and Kenny (1986) established the mediation analysis about the mediating effect of a variable on the correlation between two other variables.

Mediation analysis involves four steps for the third variable to be considered as a mediator. Presented 7 are the steps that were categorized as steps 1 to 4. As shown, step 1 presents the significant direct effect of TLE teachers' research competence on principal support. In step 2, principal support exhibits a significant direct effect towards teachers' attitude toward research, the mediator (M). Meanwhile, step 3 presents the results of the analysis, which suggest that teachers' attitude toward research significantly predicts the research competence of TLE teachers. Furthermore, mediation analysis using medgraph determines the significance of the mediation effect where paths a, b, and c are found to be correlated, which involves the Sobel z test. It implies that the mediator variable is the mediating for all effects.

In addition, using regression analysis, the results suggest that a portion of principal support is mediated by teachers' attitude toward research, while other components are either directly influenced or indirectly affected by factors not involved in the paradigm. Notably, it was observed that in step 4 (denoted as c'), the influence of principal support on teachers' research competence was even seen to increase after being

mediated by TLE teacher attitude toward research. With this, partial mediation occurred because the effect was found significant at $p < 0.000$

Table 7 Mediating effect of teachers attitude toward research on the relationship between principal support and TLE teachers research competence

Step	Path	B	S.E.	β
1	c	1.000	0.068	0.690***
2	a	0.874	0.102	0.485***
3	b	0.217	0.041	0.269***
4	c'	0.811	0.074	0.559***

Meanwhile, the result of the computation of mediating effects is shown in Figure 3. The Sobel z test in Table 8 yielded a z-value of 4.49, $p < 0.05$. This means that the mediating effect is partial, such that the original direct effect of principal support on teachers' research competence was increased upon the addition of TLE teachers' attitudes toward research. The positive value of the Sobel z test indicates that the addition of TLE teachers' attitudes toward research increases the effect of principal support on teachers' research competence.

Consequently, Ulla (2019) confirmed that conducting research has become an essential component of every teacher's evaluation and performance rating at the end of the academic year. The "enclosed Basic Education Research Agenda" has been mandated by DepEd for implementation by school leaders and administrators across the country. Identifying school concerns and solutions includes teacher benefits, professional advancement, and barrier reduction. Teachers are expected to conduct research projects to improve their teaching methods to benefit their students and the school. However, in accordance with the results of the study by Kurtoglu-Hooton (2020), 92 percent of teacher researchers are uninterested in conducting research due to a lack of funds and too many obstacles caused by a lack of expertise. Principal support is an important consideration in these circumstances.

Meanwhile, Ulla's (2018) study revealed that the relevance of research helps teachers enhance their competence by boosting their curiosity, learning something new, refining their problem-solving abilities, and pushing them in new directions. Working on a faculty-initiated research project allows you to work directly with your mentor, who could be a faculty member or another experienced researcher.

Table 8 Results of statistical analysis on presence (or absence) of mediating effect

Combination of Variables	Sobel z	p-value	Mediation
principal support → attitudes toward research → research competence	4.494320	<0.05	Partial Mediation

Moreover, the computed effect size for the mediation test seen between three variables is shown in Figure 2. A direct effect of 0.811 (81.10%) was shown between principal support and research competence. Meanwhile, the indirect effect of 0.189 (18.90%) is the value obtained from the original beta between principal support and teachers' research competence that passes through TLE teachers' attitude toward research to research competence ($a \cdot b$, where "a" denotes the path principal support → TLE teacher's attitude toward research and "b" pertains to the path between TLE teachers' attitude toward research → research competence). To get the indirect effect, the value of 0.874 (a) was multiplied by the value of 0.217

(b). In this case, the total indirect effect was 0.189. It seems that about 87.4% of the total effect of principal support on teachers' research competence goes through the TLE teacher's attitude toward research.

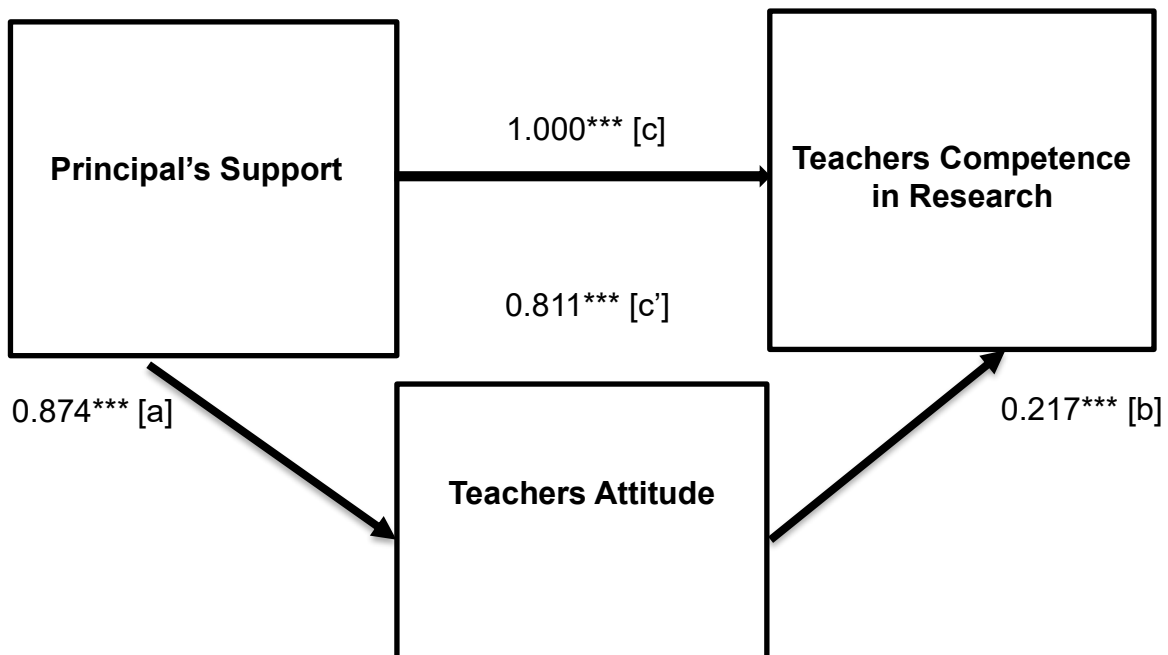


Figure 2. Medgraph Showing the Variable of the Study

Also, it shows that the mediating effect of teachers' attitudes to teachers' research competence was 0.217. It means that with every increase in 1 standard deviation, the effect of principal's support mediated by teachers' attitudes increases by 0.874, while with every increase in 1 standard deviation, the mediating effect of teachers' attitude to teachers' research competence increases by 0.217. Hence, the effect size determines the extent of the effect of principal support on teachers' research competence, which can be associated with the indirect path. The total effect value of 1.000 is the beta of principal support toward teachers' research competence with TLE teachers' attitudes toward research included in the regression, where the direct effect of 0.811 was added to 0.189 to get the total mediating effect of 1.000.

The results indicate that the principal's support has a direct effect on the teacher's research competence; however, with the addition of teachers' attitudes as a mediating variable, the significant effect increases. Therefore, the teacher's attitude significantly mediates the relationship between principal support and teachers' research competence. Moreover, it was considered that intensifying the principal support helps increase the teacher's attitude towards research, which also has a significant effect in increasing the research competence of TLE teachers.

CONCLUSION AND RECOMMENDATIONS

Based on the findings generated in the study, it can be concluded that the level of principal support was high. Specifically, emotional support was high, environmental support was high, instructional support was high, and technical support was high. Meanwhile, the results on the TLE teachers' research competence were high. Accordingly, the indicators knowledge was high and skills was also high. On the other hand, the results of the TLE teachers' research attitude were high. Furthermore, a significant relationship was found between principal support and TLE teacher's research competence. Similarly, a significant relationship was also found between principal support and attitude toward research of the teachers. In

addition, a significant relationship between attitudes toward research and research competence of TLE teachers was found. Moreover, partial mediation was shown between the direct and indirect effect of principals' support and teachers' research competence mediated by teachers' attitudes towards research with a p-value of less than 0.05 significance level. Further, it was also found that principals' support and teachers' research competence increased after the TLE teacher's attitude toward research was mediated. Hence, the results indicate a partial mediation due to the effect was found significant.

In support of the findings, Griffioen et al. (2019) asserted that the principal's role has a significant impact on school improvement and teacher research skill development. Principals assist teachers by collaborating on their professional growth, such as participating in various research initiatives. In this regard, the presence and value of research training have piqued the interest of governments, political decision-makers, researchers from around the world, and teachers. The findings of the study of Bozkus' (2019) concluded that school principals should be rewarded to participate in professional development activities such as research. In addition, their workload should be reduced so they can attend these events. School principals should be given instruments to promote teacher professional development and ensure the quality of their results. Furthermore, Mezirow's Transformative Learning Theory (1991) claimed that how people interpret and reinterpret their sense experiences is critical to creating meaning and learning. People who get new knowledge also analyze their previous beliefs and understanding, and their entire worldview evolves as a result of new information and critical thought.

Anchored on the results of the study, the researcher recommends that the principals should value their teachers by recognizing all their efforts and contributions through awards and rewards systems, empowering them to provide productive outcomes out of their areas of assignments by providing them accurate information about what they need to do for them to be guided and as well as provide them the necessary resources ensuring the quality of their outcomes. All of these help teachers become more competitive and engaging, especially in doing research to address school and classroom-based problems that benefit students to attain quality learning.

Meanwhile, the TLE teachers may engage in various training, seminars, and workshops and join research forums and presentations to continually improve their research competence and understanding of the importance of classroom-based action research to continue doing timely, relevant, and beneficial research that contributes to social values. Aside from that, TLE teachers may also engage in statistical training to effectively apply statistical tools in their research studies, particularly in getting sample sizes from the population to guarantee the exact number of respondents to be included in the study.

Furthermore, the TLE teachers may gain a positive attitude toward research and consider its importance among all professionals towards addressing organizational concerns and issues by presenting the research outputs, applying its findings to the identified problems, and determining the importance of results.

In addition to the findings, another mediating variable may be considered in future research to fill the gap of the present study by using other statistical analyses like path analysis and structural equation models to broaden the findings of the present study. On the other hand, the Division of Davao Occidental may intensify the implementation of various research activities within the division to encourage all teachers in different fields of specialization to conduct their research and present their outcomes to others to gain knowledge and awareness for instructional and managerial development.

Notably, research partnership is also recommended, particularly in Higher Education Institutions. This aids teachers in the Department of Education to widen their knowledge, skills, and understanding of research by conducting training, programs, and activities related to research. Moreover, it is suggested that

incentives may be given to those teachers who fully completed and published their papers to motivate them to continue to conduct research that provides solutions to educational issues and concerns.

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