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RESEARCH ARTICLE · PHYSICS

CLASSROOM LEARNING ENVIRONMENT AND INSTITUTIONAL SUPPORT AS PREDICTORS OF STUDENTS' MOTIVATED STRATEGIES FOR LEARNING TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE)

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ABSTRACT

This research seeks to investigate whether the classroom learning environment and institutional support significantly influence students' motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte. Specifically, this research seeks to answer the following questions: 1. What is the level of classroom learning environment among secondary institutions in the Province of Davao Del Norte in terms of: 1.1 Classroom Positive; 1.2 Diversity Values; 1.3 Personal Negative; and 1.4 Persistence in major? 2. What is the level of institutional support among secondary institutions in the Province of Davao Del Norte in terms of: 2.1 Teacher's Characteristics; 2.2 Academic Competency Support; and 2.3 Teaching Practices? 3. What is the level of students' motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte in terms of: 3.1 Self-Efficacy; 3.2 Intrinsic Value; 3.3 Cognitive Strategy Use; and 3.4 Self-Regulation? 4. Is there a significant relationship between: 4.1 classroom learning environment and students' motivated strategies for learning Technology and Livelihood Education (TLE)? 4.2 institutional support and students' motivated strategies for learning Technology and Livelihood Education (TLE)? 5. Do classroom learning environment and institutional support significantly influence students' motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte?

Keywords: *Learning Environment, Institutional Support, Quantitative Analysis*

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CLASSROOM LEARNING ENVIRONMENT AND INSTITUTIONAL SUPPORT AS PREDICTORS OF STUDENTS' MOTIVATED STRATEGIES FOR LEARNING TECHNOLOGY AND LIVELIHOOD EDUCATION

(TLE)

A Thesis Presented to the Graduate Education Program

University of Mindanao of Tagum, Inc.

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In Partial Fulfillment of the Requirements for the Degree,

Master of Arts in Education

Major in Technology and Livelihood Education

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CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

The classroom environment and support are pivotal factors that influence students' motivation in academic settings. A positive classroom atmosphere, characterized by supportive teacher-student interactions, can significantly enhance student motivation, fostering engagement and a sense of belonging that propels academic success (Malinda et al., 2021). Conversely, a negative classroom environment may lead to diminished enthusiasm and motivation among students, critically hindering their ability to achieve learning objectives (Naldo, 2024). Given that access to adequate learning resources, including both physical and digital tools, is paramount (Makda, 2025; Firdaus et al., 2023), some studies indicated that limited support not only constrains the learning process but also diminishes motivation as students struggle to engage with the curriculum effectively (Mulaudzi, 2023; Andayani & Akbar, 2025; Roy et al., 2023). Thus, increasing both the quality of the classroom environment and the availability of support is essential to improving student motivation and academic performance (Winarno et al., 2022).

Globally, problems related to students' motivation are evident across various educational settings, emphasizing the role of classroom dynamics and resource availability in motivation (Nanda, 2024; Pratiwi et al., 2025; Fong, 2022). Specifically, research in diverse international contexts has demonstrated that classroom environments that promote active participation and collaboration lead to higher motivation levels among students (Su, 2022). Research indicates that blended learning models can create dynamic classroom interactions that engage students, consequently enhancing their motivation (Hanum & Sari, 2022). On the contrary, research points out that when students perceive their learning environments as rigid or uninspiring, their motivation tends to diminish, leading to suboptimal learning outcomes (Su, 2022). Moreover, the accessibility of learning resources is critical in international contexts. According to studies, students lacking access to varied learning materials exhibited lower motivation and engagement levels (Yusup & Munawaroh, 2023). Additionally, research has highlighted that inadequate technological resources significantly impact students' motivation, especially in a rapidly evolving digital learning landscape. This underscores how both classroom environments and resource accessibility are inseparable variables that significantly shape student motivation internationally (Winarno et al., 2022).

In the Philippine educational landscape, issues regarding students' motivation are deeply intertwined with the classroom environment and access to learning resources (Bantugan et al., 2024; Barrot & Fernando, 2023; Villanueva & Baguio, 2024). Research shows that Philippine classrooms often suffer from overcrowding and insufficient resources, leading to a disengaged learning atmosphere that fosters apathy (Fadila et al., 2022). Studies emphasize that dwindling resources and poor environmental conditions directly correlate with students' lack of motivation, particularly in a post-COVID context where many learners have transitioned to online platforms (El-Taro & Aryani, 2022). Such environments fail to encourage necessary for motivating students to engage actively in their learning processes. In relation, the permeation of digital divides exacerbates these motivational issues. A study indicates that limited access to necessary digital learning resources restricts students' academic engagement and worsens motivation (Darusman, 2021). In essence, the interplay between inadequate classroom settings and insufficient access to learning resources leads to a poignant decline in student motivation in the Philippines, necessitating urgent systemic reforms to enhance educational outcomes.

In the Davao Region, similar motivational issues reflect broader trends observed nationally. Research has shown that classroom environments affected by insufficient resources and subpar teacher training significantly detract from student motivation (Naldo, 2024). It is critical for educators to possess knowledge and self-efficacy in using available resources effectively in the learning process, as informed and motivated teachers can enhance student engagement (Yazon & Callo, 2021). Conversely, when teachers feel ill-equipped, it can lead to demotivating classroom environments, severely impacting students' enthusiasm and performance. Moreover, the accessibility of learning resources in Davao often amplifies motivational challenges. Research indicates that students exposed to varying resource availability experienced inconsistencies in their motivation levels and learning outcomes (Liman et al., 2021). This underscores a pressing need for targeted interventions that not only improve resource accessibility but also foster supportive learning environments conducive to student motivation.

Despite the growing body of works of literature addressing the influence of classroom environments and resource accessibility on student motivation (Hanaysha et al., 2023; Cayubit, 2022; Anthonia et al., 2024; Campillo-Ferrer & Miralles-Martínez, 2021), the researcher observed that significant gaps persist. Most current studies tend to focus on specific educational contexts or modalities, such as online or blended learning environments, without sufficiently integrating the broader implications of classroom dynamics that affect motivation (Hanum & Sari, 2022). Furthermore, research often lacks a nuanced understanding of the socio-cultural factors underlying motivation variations across different demographics, particularly in regions like the Philippines and Davao (Ani-Rus & Catalano, 2023). Consequently, the researcher firmly believes that exploring more diversified methodologies and holistic approaches to study how these variables interplay offers a research gap that can be effectively addressed.

The urgency of researching students' motivation concerning classroom environment and access to learning resources cannot be overstated. Given the profound implications for educational equity and quality, understanding these dynamics is crucial for developing effective interventions that can enhance student engagement and achievement. Additionally, as educational institutions increasingly shift towards inclusive and innovative learning models, such research will aid policy-makers and educators in identifying best practices for nurturing motivation amidst diverse learning contexts and challenges. Ultimately, fostering student motivation is vital for creating empowered, self-directed learners capable of navigating the complexities of contemporary education and beyond.

The proposed research will implement a comprehensive dissemination plan targeting academic conferences, workshops, and peer-reviewed journals to share findings effectively. Certainly, engaging with stakeholders, including educators, policymakers, and researchers, will also be prioritized to facilitate dialogue and practical applications of the research outcomes. Furthermore, utilizing digital platforms, such as webinars and social media, the researcher intends to broaden the reach and impact of the findings, ensuring that diverse audiences are informed and engaged in discussions about enhancing student motivation in various contexts.

STATEMENT OF THE PROBLEM

This research seeks to investigate whether the classroom learning environment and institutional support significantly influence students’ motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte.

Specifically, this research seeks to answer the following questions:

1. What is the level of classroom learning environment among secondary institutions in the Province of Davao Del Norte in terms of:

1.1 Classroom Positive;

1.2 Diversity Values;

1.3 Personal Negative; and

1.4 Persistence in major?

2. What is the level of institutional support among secondary institutions in the Province of Davao Del Norte in terms of:

2.1 Teacher’s Characteristics;

2.2 Academic Competency Support; and

2.3 Teaching Practices?

3. What is the level of students’ motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte in terms of:

3.1 Self-Efficacy;

3.2 Intrinsic Value;

3.3 Cognitive Strategy Use; and

3.4 Self-Regulation?

4. Is there a significant relationship between:

4.1 classroom learning environment and students' motivated strategies for learning

Technology and Livelihood Education (TLE)?

4.2 institutional support and students' motivated strategies for learning

Technology and Livelihood Education (TLE)?

5. Do classroom learning environment and institutional support significantly influence students' motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte?

HYPOTHESES

The following hypotheses are formulated and will be tested at a 0.05 level of significance:

1. There is no significant relationship between classroom learning environment and students' motivated strategies for learning Technology and Livelihood Education (TLE).

2 There is no significant relationship between institutional support and students' motivated strategies for learning Technology and Livelihood Education (TLE).

3. Classroom learning environment and institutional support do not significantly influence students' motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions in the Province of Davao Del Norte.

REVIEW OF RELATED LITERATURE

This section presents literature and studies conducted worldwide to explore the areas of classroom learning environment, institutional support, and students' motivated strategies for learning Technology and Livelihood Education (TLE) among secondary institutions.

Classroom Learning Environment

The classroom learning environment is crucial in determining students' academic success and overall engagement. Shoaib and Ullah emphasize that various indicators of the classroom environment, including the physical setup and interpersonal relationships, play significant roles in predicting students' learning experiences, particularly for girls (Shoaib & Ullah, 2021). This assertion is supported by findings presented by Khuhro, which highlight the positive influence of classroom climate on student engagement and the necessity of maintaining a supportive environment to drive student interest in learning (Khuhro, 2024). Moreover, Asrobi et al. reveal that involving students in reflective teaching practices can further enhance communication and foster an inclusive classroom, thus strengthening the learning environment overall (Asrobi et al., 2023). Furthermore, recent studies underscore the vital role of emotional well-being in the classroom context. Ma et al. argue that a respectful classroom climate promotes emotional stability and a drive for continuous engagement in academic activities (Ma et al., 2024). Wei et al. corroborate this by demonstrating that positive interactions and a supportive teaching atmosphere can significantly affect students' learning outcomes, enhancing their overall academic performance (Wei et al., 2024). These conclusions are echoed by Hosseini et al., who identified the correlation between a favorable classroom social climate and student engagement in language-learning contexts (Hosseini et al., 2022).

A striking aspect of the classroom environment is its psychological dimension. Yidana discusses how teachers' management styles and the physical classroom layout combine to shape students' perceptions of their learning environment, including feelings of emotional support and belonging (Yidana, 2025). On the other hand, Vidić asserts that a positive classroom atmosphere is linked to increased school satisfaction, emphasizing the importance of nurturing not only academic competencies but also interpersonal relationships within the educational setting (Vidić, 2021). This collective body of literature emphasizes that a well-structured and engaging classroom environment is pivotal for maximizing student participation and enhancing their overall educational experiences.

Lastly, contemporary studies indicate that the shift in classroom designs, such as active learning environments, underlines a transformative approach to teaching and learning. Chen et al. suggest that active learning classrooms significantly improve intrinsic motivation by fostering collaborative learning and flexibility (Chen et al., 2024). Additionally, Jin and Peng discuss how spatial factors in classrooms, particularly in active learning settings, greatly affect student satisfaction and engagement (Jin & Peng, 2022). These insights necessitate a comprehensive reevaluation of traditional classroom spaces to uplift the learning experience and outcomes for students.

Institutional support

Institutional support plays an integral role in facilitating student engagement and academic success in educational institutions. Recent studies highlight the necessity of comprehensive support systems, including access to resources and the provision of emotional and academic guidance. For instance, Dao-Sabah outlines the importance of classroom management approaches that foster positive relationships between students and teachers, creating a conducive support environment for learning (Dao-Sabah, 2023). Asrobi et al. further elaborate on the necessity of institutional backing in reflective teaching practices, arguing that suitable support enhances the overall classroom experience for students (Asrobi et al., 2023). Additionally, effective institutional support contributes significantly to the emotional well-being of students. Tong et al. identify the relationship between enhanced institutional support and improved student engagement, highlighting that structured guidance encourages students to participate more actively in their learning processes (Tong et al., 2022). This assertion is reinforced by research from Jin and Peng, which emphasizes that institutions need to provide adequate support to create engaging learning environments, as this directly correlates with student satisfaction and success (Jin & Peng, 2022).

In the context of higher education, a lack of institutional support can hinder students' academic performance and motivation. Tying back to the previous literature, Khuhro indicates that a supportive institutional climate enhances student self-efficacy, providing structures within which students can thrive academically (Khuhro, 2024). Ma and Wei argue for the mediating role of institutional support on student engagement and academic performance, illustrating that institutional systems significantly influence students' learning trajectories (Ma & Wei, 2022).

Moreover, the institutional structures must adapt to meet the evolving needs of students. Mutiawati et al. describe how systematic support can modify student behaviors toward learning, ultimately shaping successful learning environments (Mutiawati et al., 2023). Likewise, Yuk et al. articulate that fostering supportive relationships among educators and students is vital for reinforcing institutional frameworks conducive to meaningful education (Kusztal et al., 2023). These findings collectively underscore that institutional support is a cornerstone of an academic environment where students can excel.

Students' motivated strategies for learning technology and Livelihood Education (TLE)

Students' motivated strategies for learning technology and Livelihood Education (TLE) have gained attention due to their significance in fostering skills suited for a rapidly evolving workforce. Recent research features the impact of motivation on learning outcomes, with various authors examining how intrinsic and extrinsic motivations drive student engagement in educational programs. For instance, Asrobi et al. stress the importance of intrinsically motivated students in constructing meaningful learning experiences, particularly when engaging with technical subjects like TLE (Asrobi et al., 2023). This intrinsic motivation is further

supported by studies like those from Chen et al., who exhibit how active learning environments foster greater self-determined learning strategies among students (Chen et al., 2024). Moreover, the role of classroom climate remains crucial in enhancing students' motivated learning strategies. Wei et al. highlight the correlation between a supportive learning environment and students' capacity to navigate their educational journeys effectively, promoting adaptive learning strategies necessary for mastering TLE (Wei et al., 2024). Alongside this, Vidić emphasizes the importance of emotional engagement in forms of motivated learning, where positive classroom atmospheres can significantly enhance students' willingness to explore complex concepts within TLE (Vidić, 2021).

In education, the integration of technology in learning strategies is also emphasized across studies, with Khuhro elaborating on how the incorporation of modern educational tools can enhance student engagement and motivation (Khuhro, 2024). Chen's work additionally indicates that aligning teaching strategies with contemporary educational tools increases student adaptability and fosters proactive engagement in TLE (Chen et al., 2024). This perspective aligns with findings from Yidana, who asserts that effective learning strategies and emotional support systems significantly contribute to students' performance and motivation in technologically oriented courses (Yidana, 2025).

Furthermore, the dynamic nature of motivated strategies in TLE is underscored by emerging research indicating the need for educators to adapt their approaches continually. Shoaib and Ullah affirm that a responsive teaching style that recognizes diverse learning strategies is essential to nurturing students' active participation and motivation in technology-focused programs (Shoaib & Ullah, 2021). Similarly, Ma and Wei discuss the vital role of engaged learning environments in facilitating the adoption of effective learning strategies, thereby enriching students' experiences in TLE (Ma & Wei, 2022). Collectively, these studies contribute to an understanding of how motivation plays a pivotal role in shaping students' learning journeys in technology and livelihood education.

Collectively, the literatures reviewed highlighted the intricate relationship between the classroom learning environment, institutional support, and students' motivated strategies for learning Technology and Livelihood Education (TLE). A positive classroom environment fosters student engagement and emotional well-being, essential for cultivating effective learning strategies. Meanwhile, robust institutional support mechanisms enhance pedagogical practices and facilitate student success. Together, these factors significantly influence students' intrinsic motivation, which is crucial in navigating the complexities of technology-oriented programs. This interconnectedness suggests that educational stakeholders should prioritize creating supportive learning environments and institutional frameworks that promote active learning, ultimately equipping students with the necessary skills and motivation for their future endeavors.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study finds its theoretical foundation in several educational theories that elucidate the interaction between the classroom environment, institutional support, and learning motivations. One significant theoretical lens is the Constructivist Learning Theory, which posits that knowledge is constructed through interaction with the environment rather than passively absorbed from traditional teaching methods. This perspective aligns with findings that highlight the efficacy of active learning environments in facilitating deeper learning among students by fostering engagement and motivation, with studies reporting that active learning classrooms yield more favorable learning outcomes than traditional settings (Jin & Peng, 2022; Brooks, 2011). Additionally, Piaget's and Vygotsky's theories stress the importance of social interaction and cognitive development in a supportive learning environment, suggesting that collaboration and communication within the classroom are critical for developing motivated learners (Khatimah, 2021).

In relation, another relevant theoretical framework is Self-Determination Theory (SDT), which emphasizes the role of intrinsic and extrinsic motivational factors in educational settings. SDT postulates that autonomy, competence, and relatedness are fundamental to enhancing motivation, particularly in contexts like Technical and Vocational Education (Grandeza & Grandeza, 2024). Research has demonstrated that when students sense

institutional support and perceive their educational environment as supportive, they exhibit enhanced engagement and intrinsic motivation in their technical training (Milkie & Warner, 2011). Studies focusing on students' self-efficacy also underscore that effective institutional support can mitigate external pressures, thereby fostering a more conducive environment for learning (Milkie & Warner, 2011). Together, these theories underline a multifaceted approach, illustrating how both classroom dynamics and institutional frameworks significantly influence students' strategies for learning in technology and livelihood education contexts.

Furthermore, these selected theories are particularly relevant to the study as they collectively provide a comprehensive understanding of the variables influencing students in learning Technology and Livelihood Education (TLE). Specifically, the constructivist Learning Theory is essential in analyzing how classroom learning environments can be structured to promote active engagement among learners, which has been shown to lead to better educational outcomes in vocational subjects like TLE (Jin & Peng, 2022; Grandeza & Grandeza, 2024). This is corroborated by research indicating that technology-enhanced learning environments facilitate practical skill acquisition and real-world application, critical for a field concerned with employability and life skills (Cacho et al., 2022; Almerez et al., 2019). Moreover, incorporating aspects of social constructivism acknowledges the necessity of collaborative and experiential learning, which are vital in vocational education settings that bridge theoretical knowledge and practical skills (Almerez et al., 2019).

On the other hand, the Self-Determination Theory's focus on motivation also reinforces the necessity of institutional support in fostering learner autonomy and competence (Mendoza, 2024). By analyzing institutional structures that promote an environment conducive to learning, the research aligns with findings that demonstrate a positive correlation between perceived institutional support and student motivation, which is critical for success in Technology and Livelihood Education (Ogoc, 2024; Mendoza, 2024). Furthermore, studies illustrate that when educational institutions adopt a more engaging and supportive approach, students are more likely to display resilient attitudes and adaptive learning strategies, which are significantly beneficial in navigating the challenges associated with vocational training (Cabahug et al., 2024). Thus, the integration of these theories provides a robust framework for understanding and improving the motivations and strategies employed by students in learning Technology and Livelihood Education.

Figure 1 below shows the variables in this study. The first independent variable, which is the classroom learning environment, comprises by its factors such as *Classroom Positive*, *Diversity Values*, *Personal Negative*, and *Persistence in major*(McGhee et al., 2007). The second independent variable, which is the institutional support also has its factors such as *Teachers' Characteristics, Academic Competency Support,* and *Teaching Practices*(Lim & Ho, 2022). Moreover, the dependent variable which is students' motivated strategies for learning Technology and Livelihood Education (TLE), contains its factors such as *Self-Efficacy, Intrinsic Value, Cognitive Strategy Use,* and *Self-Regulation* (Kubischta, 2014).

Independent Variables Dependent Variable

CLASSROOM LEARNING ENVIRONMENT

- Classroom Positive
- Diversity Values
- Personal Negative
- Persistence in major

STUDENTS' MOTIVATED STRATEGIES FOR LEARNING TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE)

- Self-Efficacy
- Intrinsic Value
- Cognitive Strategy Use
- Self-Regulation

INSTITUTIONAL SUPPORT

- Teacher's Characteristics
- Academic Competency Support
- Teaching Practices

FIGURE 1: The Conceptual Framework of the Study

SIGNIFICANCE OF THE STUDY

This study holds substantial significance on both a global and local scale, offering valuable insights into pedagogical practices and their impact on educational outcomes. Specifically, this is beneficial to the following:

Global Significance and Social Value

This study holds substantial global significance by contributing to the broader understanding of effective educational practices, particularly within the context of Technology and Livelihood Education (TLE). In an increasingly globalized and technologically driven world, fostering students' motivated strategies for learning TLE is paramount for economic development and social progress. The findings can inform educational policies and pedagogical approaches not only in the Philippines but also in other developing nations grappling with similar challenges in integrating practical, skills-based education into their curricula. By identifying key predictors like classroom learning environment and institutional support, the research provides actionable insights that can be adapted across diverse educational systems to enhance learning outcomes and prepare a more skilled workforce capable of contributing to global innovation and sustainable development.

On the other hand, the social value of this research lies in its potential to empower individuals and communities. Technology and Livelihood Education (TLE), by its very nature, equips students with practical skills that are directly applicable to real-world scenarios, fostering self-sufficiency, entrepreneurship, and improved quality of life. When students are motivated to learn in this domain, they are more likely to pursue vocational careers, establish small businesses, and contribute to local economies. This has a ripple effect, reducing unemployment, alleviating poverty, and promoting social mobility. By highlighting the crucial roles of a supportive learning environment and institutional backing, the study underscores the collective responsibility of educators, administrators, and policymakers in creating conditions that allow all students, regardless of their background, to thrive in Technology and Livelihood Education (TLE) and unlock their full potential.

Specific Beneficiaries of the Study

The primary beneficiaries of this study are undoubtedly the *students*enrolled in Technology and Livelihood Education (TLE) programs. By understanding the factors that predict their motivated strategies for learning, educators can design more engaging and effective learning experiences, leading to improved academic performance and skill acquisition. When students are intrinsically motivated, they are more likely to participate actively, persist through challenges, and develop a deeper understanding of Technology and Livelihood Education concepts and practices. Ultimately, this translates into more competent and confident individuals who are better prepared for future careers, higher education, or entrepreneurial endeavors, directly impacting their personal and professional success.

Secondly, *educators and school administrators*stand to benefit significantly from the findings of this study. Teachers can gain valuable insights into how to cultivate a positive and supportive classroom learning environment that fosters student motivation. This might involve adopting specific pedagogical strategies, creating collaborative learning opportunities, or providing individualized support. *School administrators,*on the other hand, can leverage the research to identify areas where institutional support for Technology and Livelihood Education (TLE) programs can be strengthened. This could include allocating more resources, providing professional development opportunities for Technology and Livelihood Education *teachers,*
improving facilities, or developing robust curricula that align with industry needs. By implementing the recommendations derived from this study, educational institutions can optimize their Technology and

Livelihood Education programs, leading to better outcomes for both students and the broader community.

DEFINITION OF TERMS

The following terms are defined conceptually and operationally. This ensures to attain a common understanding of the study.

Classroom Learning Environment. The classroom learning environment encompasses the physical and psychological settings in which learning occurs. It reflects the social interactions, classroom arrangements, and emotional climate that shape students' educational experiences and can greatly influence their engagement and achievement (Wilke et al., 2024; Inayatulloh et al., 2023). A supportive classroom environment promotes collaboration, active participation, and motivation among students, ultimately leading to more effective learning outcomes (Sundari & Utami, 2024). In this study, this refers to the environment of students in learning Technology and Livelihood Education (TLE) in terms of Classroom Positive, Diversity Values, Personal Negative, and Persistence in major.

Institutional Support. Institutional support refers to the resources, services, and assistance provided by an educational institution to facilitate student success and well-being. This may include academic advising, access to mental health services, tutoring programs, and career services. Recent studies emphasize that adequate institutional support plays a pivotal role in enhancing student retention, satisfaction, and overall academic performance, as it addresses the diverse needs of students in their educational journeys (Benzies et al., 2024; Dong & Cheng, 2024). In this study, it refers to how students are supported in their school in terms of Teachers' Characteristics, Academic Competency Support, and Teaching Practices.

Students' Motivated Strategies for Learning. Students' motivated strategies for learning encompass the specific techniques and approaches that learners employ to enhance their engagement and understanding of content. These strategies are rooted in motivational psychology, indicating that students who possess higher levels of intrinsic motivation are more likely to utilize effective learning methods, such as self-regulation techniques and goal-setting. A recent investigation highlighted the critical link between motivation and the strategic application of learning approaches, suggesting that fostering intrinsic motivation leads to better academic performance (Navío et al., 2023; , Hassan et al., 2022). In this study, it refers to how students feel motivated in learning technology and Livelihood Education in terms of Self-Efficacy, Intrinsic Value, Cognitive Strategy Use, and Self-Regulation.

CHAPTER II

METHODOLOGY

This section of the study presents the entire components of the methodology. This is organized to provide a comprehensive order of presentation. Specifically, this involves the Research Design; Research Locale; Research Respondents; Research Instruments; Data Collection; Statistical Tools; and Ethical Considerations.

RESEARCH DESIGN

This proposed quantitative study will utilize the descriptive and correlational approach. The researcher will use this approach to ensure the effectiveness of attaining the general objectives of the research and to guarantee the suitability of the study approach on possible data results of the study. Additionally, the study will utilize a quantitative approach to investigate further and give a more structured triangulation of results concerning variables such as classroom learning environment, institutional support, and students' motivated strategies for learning Technology and Livelihood Education.

The descriptive approach is a type of quantitative research approach to summarize, organize, and display data that describes the characteristics of a population or phenomenon. It does not aim to explain or analyze the data or answer questions about cause and effect, but rather to simply describe the data. Its data can be collected

through surveys, observational studies, and interviews. The data is then organized and presented in tables, charts, and other descriptive forms (Mohammadi et al., 2020). In this study, the descriptive approach would involve the researcher gathering data that describes the variables of interest, such as classroom learning environment, institutional support, and students' motivated strategies for learning Technology and Livelihood Education.

Correlational research is a type of research method that investigates the relationship between two or more variables. This approach is used to study cause-and-effect relationships between variables and to make predictions about future events. This approach is used to determine if two variables are related and to what degree, but does not identify the strength of the relationship or the cause of the relationship (Garcia et al., 2020). In this study, the correlational approach will be utilized by the researcher in examining the relationships between classroom learning environment, institutional support, and students' motivated strategies for learning Technology and Livelihood Education.

RESEARCH RESPONDENTS

The respondents for this study will be students coming from four (5) public secondary institutions situated in the province of Davao del Norte, school year 2024-2025. The total number of respondents is calculated using the Qualtrics sample size calculator with a margin of error of 0.05 and a confidence level of 95%. With a total population of 2785, the sample size is determined to be 338 students.

On the other hand, this study will be conducted in the province of Davao del Norte. By ensuring efficient and productive implementation of the proposed study, the researcher is confident that the aforementioned province will be fit for the successful conduct of the study. Additionally, the researcher chose the province due to its immense collective population of Local Public Secondary Institutions, which can allow for an in-depth study of classroom learning environment, institutional support, and students' motivated strategies for learning Technology and Livelihood Education.

Furthermore, Davao del Norte is a province in the Philippines situated in the Davao Region occupying the southeastern section of Mindanao. Its capital is the City of Tagum. The province has a land area of 3,422.61 square kilometers or 1,321.48 square miles. Its population as determined by the 2020 Census was 1,125,057. This represents 21.46% of the total population of the Davao Region, 4.29% of the overall population of the Mindanao Island group, or 1.03% of the entire population of the Philippines. Based on these figures, the population density is computed at 329 inhabitants per square kilometer or 851 inhabitants per square mile.

Moreover, Figure 2 depicts the map of Davao del Norte where the researcher intends to conduct this study in the four (5) Public Secondary Institutions, specifically located in the municipality of Santo Tomas, Kapalong, Panabo City, Carmen, and Tagum City.

Figure 2. Map of the Province of Davao del Norte

MATERIALS AND INSTRUMENTS

This study will utilize three (3) adapted research instruments. These instruments will be modified by the researcher to fit the overall objectives of the study. Additionally, these instruments will be validated by the panel of experts and will be pilot-tested to ensure its overall reliability in conducting the research.

CLASSROOM LEARNING ENVIRONMENT MANAGEMENT QUESTIONNAIRE (CLE-Q). In measuring the first independent variable, the researcher will utilize this adapted instrument by McGhee et al. (2007). The scale consists of 32 items. This instrument has a high collective reliability and internal consistency of 0.91. It represents its factors*: Classroom Positive, Diversity Values, Personal Negative,* and*Persistence in major.* This will be rated on a 5-point Likert scale ranging from: *5 Strongly Agree - 4, Agree - 3, Somewhat Agree - 2, Disagree,* and *1. Strongly Disagree.*

The following parameter limits, descriptive equivalent, and interpretation will be applied to identify the level of classroom learning environment.

Parameter Limits	Descriptive Equivalent	Interpretation
4.20 - 5.00	Very High	This indicates that the classroom learning environment at Public Secondary Institutions is very much evident.
3.40 - 4.19	High	This indicates that the classroom learning environment at Public Secondary Institutions is evident.
2.60 - 3.39	Moderate	This indicates that the classroom learning environment at Public Secondary Institutions is fairly evident.
1.80 - 2.59	Low	This indicates that the classroom learning environment at Public Secondary Institutions is less evident.
1.00 - 1.79	Very Low	This indicates that the classroom learning environment at Public Secondary Institutions is least evident.

INSTITUTIONAL SUPPORT QUESTIONNAIRE (IS-Q). In measuring the second independent variable, the researcher will utilize this adapted instrument by Lim and Ho (2022). The scale consists of 43 items. This instrument has a high collective reliability and internal consistency of 0.89. It represents its factors: *Teachers' Characteristics, Academic Competency Support, Teaching Practices,* and *Technology in Instruction.* This will be rated on a 5-point Likert scale ranging from: 5 *Strongly Agree - 4, Agree - 3, Somewhat Agree - 2, Disagree,* and *1. Strongly Disagree.*

The following parameter limits, descriptive equivalent, and interpretation will be applied to identify the level of institutional support.

Parameter Limits	Descriptive Equivalent	Interpretation
4.20 - 5.00	Very High	This indicates that the institutional support at Public Secondary Institutions is very much manifested.
3.40 - 4.19	High	This indicates that the institutional support at Public Secondary Institutions is manifested.
2.60 - 3.39	Moderate	This indicates that the institutional support at Public Secondary Institutions is fairly manifested.
1.80 - 2.59	Low	This indicates that the institutional support at Public Secondary Institutions is less manifested.
1.00 - 1.79	Very Low	This indicates that the institutional support at Public Secondary Institutions is least manifested.

MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE (MSFL-Q). In measuring the dependent variable, the researcher will utilize this adapted instrument by Kubischta (2014). The scale consists of 40 items. This instrument has a high collective reliability and internal consistency of 0.89. It represents its factors*: Self-Efficacy, Intrinsic Value, Cognitive Strategy Use,* and *Self-Regulation*. This will be rated on a 5-point Likert scale ranging from: 5 *Strongly Agree - 4, Agree - 3, Somewhat Agree - 2, Disagree,* and *1. Strongly Disagree.*

The following parameter limits, descriptive equivalent, and interpretation will be applied to identify the level of students' motivated strategies for learning Technology and Livelihood Education (TLE)

Parameter Limits	Descriptive Equivalent	Interpretation
4.20 - 5.00	Very High	This indicates that the students' motivated strategies for learning TLE at Public Secondary Institutions are very evident.
3.40 - 4.19	High	This indicates that the students' motivated strategies for learning TLE at Public Secondary Institutions are evident.
2.60 - 3.39	Moderate	This indicates that the students' motivated strategies for learning TLE at Public Secondary Institutions are fairly evident.
1.80 - 2.59	Low	This indicates that the students' motivated strategies for learning TLE at Public Secondary Institutions are less evident.
1.00 - 1.79	Very Low	This indicates that the students' motivated strategies for learning TLE at Public Secondary Institutions are least evident.

DATA GATHERING PROCEDURE

The necessary data will be collected through systematic procedures involving the following steps:

Seeking Permission to Conduct the Study. The researcher will ask permission from the Dean of the Graduate School, and certificate clearance from the Research Ethics Committee (REC) to proceed in conducting the survey. Additionally, the researcher will obtain permission from the School Principals where the study will be conducted. This will ensure to foster productive administration of study given its adapted survey instruments.

In connection, the researcher will use the adapted questionnaires to conduct the study after being granted permission and obtaining informed consent from the respondents. For the adapted questionnaires, the respondents will provide their responses through survey questionnaires and face to face interviews. Before the respondents answer the questionnaires, the researcher will facilitate a short orientation relative to the study, its objectives, and the survey questionnaires. To ensure validity, and accuracy, and to avoid ambiguity, the researcher will personally handle the administration of all survey instruments and interviews. After the survey completion, the data will then be retrieved.

The survey will begin with the Classroom Learning Environment Questionnaire (CLE-Q); followed by the Institutional Support Questionnaire (IS-Q); and will conclude on Students' Motivated Strategies for Learning Questionnaire (MSFL-Q). The respondents will be required to respond to the questionnaire in an environment wherein they alone may respond to the offered survey questionnaires to safeguard the data. This will be stated explicitly in their Acknowledgement/Informed Consent.

General Orientation and Seeking Consent from Research Respondents. The researcher will secure the necessary permissions and endorsements from the Dean of the Graduate School and the School Principals before beginning the study. Ethical considerations, including respect for persons, beneficence, and justice, particularly regarding data privacy, will be adhered to throughout the study. Informed Consent/Informed Assent will be obtained from all respondents before data collection. All consent forms will be signed, either electronically, scanned, or through other acceptable means, as proof of voluntary participation. Data collection for the quantitative research will be conducted online using Google Forms. The researcher will personally handle the correspondence and administration of the questionnaires. The process will be completed in a single 120-minute session, covering the three adapted questionnaires. The Google Form link will be sent to the UMERC. To ensure data protection, the respondents will be instructed to complete the survey in a private setting. This requirement will be stated in the Informed Consent/Assent.

Data Security and Confidentiality. The data provided by respondents will be treated with complete anonymity and utmost confidentiality through discrete coding. No personal identifiers will be used in any reports, presentations, or publications resulting from the research. All research data will be stored securely, with material copies kept in locked files and electronic copies in password-protected folders. Access to these files will be restricted to the researcher only. The study data will be retained for three years after completion and will be securely destroyed afterward, following legal guidelines to prevent unauthorized access or disclosure.

Administration and Retrieval of the Questionnaire. Before distributing the survey questionnaire, the researcher will orient the gatekeeper on ethical considerations, including obtaining respondents' data, and will ensure the gatekeeper signs a confidentiality agreement. A virtual orientation about the study will be conducted, with additional communication via phone or video chat for those unable to attend. For respondents who cannot participate, replacements will be found. The completed questionnaires will be returned to the researcher. Respondents will have 90 minutes to complete the questionnaires, which will be administered and managed personally by the researcher. The Google Form link will be sent to the UMERC, and the completed questionnaires will be collected after the allotted time.

Checking, Collating, and Processing of Data. Finally, the researcher will gather, check, and tabulate the raw data in an Excel format. This data will then be analyzed by the graduate school statistician. The researcher will interpret the results and compile the findings for discussion.

In analyzing and ensuring the concreteness of data interpretations, the following statistical tools such as Mean, Standard Deviation, Pearson-r, and Multiple Regression Analysis will be utilized.

Mean. This tool is also known as the arithmetic mean; this value summarizes an entire set of numbers. In this study, the mean will be employed to determine the level of classroom learning environment, institutional support, and students' motivated strategies for learning technology and Livelihood Education (TLE) at Public Secondary Institutions. Specifically, this statistical tool will address research questions 1, 2, and 3.

Standard Deviation.A standard deviation will be utilized to find out if the scores are equally distributed or if they are near the mean. Specifically, this statistical tool will address research questions 1, 2, and 3.

Pearson-r. The Pearson product-moment correlation, commonly referred to as Pearson-r, is a widely used measure of correlation. In this study, the Pearson-r will be used to determine the presence of a relevant relationship among classroom learning environment towards students' motivated strategies for learning TLE; and between institutional support towards students' motivated strategies for learning. Specifically, this statistical tool will address research questions 4, 4.1, and 4.2.

Multiple Regression Analysis. Multiple regression analysis will be employed to determine the significant influence of classroom learning environment and institutional support towards students' motivated strategies for learning TLE at Public Secondary Institutions. Specifically, this statistical tool will address research question 5.

ETHICAL CONSIDERATIONS

This research protocol will be submitted to the University of Mindanao Ethics Review Committee (UMERC) for full board review. The researcher will observe the 10 dimensions of research ethics, such as social value, informed consent, vulnerability issues, risk-benefits and safety, privacy and confidentiality of information, justice, transparency, qualification of the researcher, adequacy of facilities, and community involvement.

Social Value. The researcher recognizes the significant social value of this study in understanding how classroom learning environments and institutional support influence students' motivated strategies for learning Technology and Livelihood Education (TLE). The insights gained can directly inform educational practices and policies, ultimately leading to improved student engagement and achievement in a critical subject area. By identifying key predictors, the researcher aims to contribute to the development of more effective pedagogical approaches and a more supportive educational ecosystem for TLE students.

Informed Consent. Before data collection, the researcher will ensure that all respondents, whether students, teachers, or administrators, are provided by their informed consent. For student respondents, the researcher will obtain assent from them and informed consent from their parents or legal guardians. The researcher will clearly explain the study's purpose, procedures, potential risks and benefits, and their right to withdraw at any time without penalty. This will be done in a language and manner easily understandable to them, allowing for voluntary and autonomous participation.

Vulnerability Issues. The researcher will be aware of the potential vulnerability of the student respondents, given their age and their position within the educational hierarchy. To mitigate this, the researcher will

emphasize the voluntary nature of their participation and assure them that their decision to participate or not would have no bearing on their academic standing or relationship with their teachers. The researcher will also make sure that the research process does not disrupt their regular learning activities or place undue pressure on them.

Risk, Benefits, and Safety. In this study, the researcher will carefully assess the potential risks associated with this study, which are deemed minimal. The primary risks are related to time commitment for surveys and potential discomfort in answering questions about their learning environment. In this manner, the researcher will be ensuring that surveys are concise and administered at convenient times. The potential benefits, however, are substantial, including contributing to a better understanding of effective TLE education and potentially leading to improved learning outcomes for students. The safety and well-being of all participants will be of paramount concern throughout the study.

Privacy and Confidentiality of Information. The researcher is committed to upholding the highest standards of privacy and confidentiality for all collected data. In this study, all responses will be anonymized or de-identified to ensure that individual identities cannot be linked to their responses. Data will be stored securely, accessible only to the researcher, and will be destroyed after the completion of the study and dissemination of findings, in accordance with ethical guidelines.

Justice. In designing this study, the researcher will strive to ensure that the selection of respondents is fair and equitable, reflecting the diverse student population without bias. The potential benefits of the research are intended to be shared broadly, ultimately contributing to improved educational experiences for all TLE students, not just those who participated in the study. In this manner, the researcher aims for a distribution of benefits that is just and accessible to the wider educational community.

Transparency. The researcher of this study will maintain full transparency throughout the research process. The research methodology, data collection instruments, and analytical approaches will be clearly articulated. Upon completion, the researcher plans to disseminate the findings widely through academic publications and presentations, making the results accessible to relevant stakeholders, including educators, policymakers, and parents. On the other hand, any potential conflicts of interest will also be disclosed.

Qualification of the researcher. As the researcher, she possesses the necessary academic background and research skills in educational psychology and quantitative methodologies to competently undertake this study. Her qualifications include relevant coursework, prior research experience, and a strong understanding of ethical research principles, ensuring the study is conducted with rigor and integrity. The researcher will also seek guidance from experienced academic advisors throughout the research process.

Adequacy of facilities. In this study, the researcher will ensure that all necessary facilities for data collection and analysis are adequate and appropriate. This will include access to suitable spaces for survey administration, reliable computer systems for data entry and statistical analysis, and secure storage for research materials. The institutional support, including access to libraries and research software, will also be crucial in facilitating the study.

Community Involvement. While direct community involvement in the design phase is not a primary focus, the researcher recognizes the importance of engaging with the educational community throughout the study. Consequently, the researcher aims to establish good relationships with school administrators and teachers, whose cooperation will be essential for gaining access to respondents and for understanding the local context. The findings will be shared with the participating schools and relevant educational authorities to ensure that the research contributes meaningfully to their ongoing efforts to improve Technology and Livelihood Education.

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