

The Mediating Effect of Learning Environment on the Relationship Between Pedagogical Competence of Teachers and Engagement of Criminology Students in North Cotabato Province

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ABSTRACT

This study ascertained the role that the learning environment had in mediating the link between pedagogical competence and student engagement. Adapted survey questionnaires were given to 300 criminology students selected through stratified sampling. Data was collected through online platform and statistical tools used were mean and standard deviation, Pearson r and Path analysis. The results demonstrated that teachers' levels of pedagogical competence are quite high, along with very high levels of student engagement and learning environments. There is a significant relationship between pedagogical competence and student engagement, pedagogical competence and learning environment, as well as learning environment and student engagement. The present study found support for

learning environment as a mediator in the pedagogical competence–student engagement relationship. Investigating the learning environment as a partially mediating variable helped to clarify how pedagogical competency and student engagement function.

Keywords: *criminology, pedagogical competence, student engagement, learning environment, mediation, Philippines*

INTRODUCTION

Social scientific discourse has been successful in identifying the root causes of social issues in individual behaviors and families when striving to comprehend the conundrum of student disengagement from school. School disengagement puts students at risk for social exclusion, and the warning score has a strong correlation with both dropout and major problem behaviors. (Atweh, Bland, Carrington, Cavanagh & Quarello 2018; Henry, Knight, & Thornberry, 2012). The role of teachers who adopt a student – centered approach in the delivery of instruction increases opportunities for student's engagement that helps in achieving education goals (Curtis, 2017). Presently, teachers complain about difficulties of enhancing students' engagement in classroom activities due to destruction and interest shifts because of modern gadgets; on the other hand, many also assert that learner's failures are essentially the teacher's fault (Ayedun, 2011).

In the Philippine education system, the pedagogical competence of teachers to enhance engagement of learners through innovative teaching strategies are recognized as vital tools to address the problem in poor academic performances of students. The competence of teachers in differentiating their instructional deliveries to

engage and motivate all types of learners is a challenge faced by many teachers today since many of the teachers are new, inexperienced, or adjusting with the evolution of learning environment. Thus, despite the trainings and supports extended to enhance teacher's competencies to improve the student's academic performances, still, reports by the Commission on Higher Education Commission (CHED) confirm students' achievements are lagging behind in the overall performance target indicators (Licuanan, 2015).

Gains in student achievement are mostly determined by the quality of the teachers themselves. The skills of an expert teacher, such as in-depth pedagogical content knowledge, superior problem-solving techniques, improved adaptation for diverse learners, superior decision-making, superior perception of classroom events, greater sensitivity to context, and superior respect for students, are linked to improved student engagement and performance. However, despite the massive development program to enhance teacher's pedagogical competency development, still issues like poor performances of the students in achievement tests is continuously postulated as a teacher factor (Guerriero, 2015).

School learning environment is also perceived as the common factor that affects the learning engagement of students. The comfort they feel in the classroom directly impacts their comfort and class focus. This can motivate higher participation level (De Vito, 2016). An Applied Model of Learner Engagement presents instructional interventions that educational practitioners can use to more effectively engage learners, as well as best practice guidance for achieving this with mobile and online learning technology in the contemporary educational environment. This model includes the individual, task, and environmental factors that influence how likely a student is to become engaged in learning content (Carroll, Lindsey, Chaparro, & Winslow, 2021). The researcher has not come across a study that addressed the local learning environment, student participation, or the pedagogical skills of criminology teachers. The pedagogical competences of teachers are challenged towards initiating activities that can enhance the student's participation and improve their academic standings. The challenge of the situation now revolves around how competent the teachers are and what capability building programs were provided to them to enable them to perform their duties in teaching students effectively. Thus, the purpose of this study is to investigate the mediating effect of learning environment on the relationship between pedagogical competence of teachers and students' engagement that may eventually result in a positive learning outcome. Hence, understanding student's engagement will help teachers to support the interest of learners through innovative teaching strategies.

Research Objective

The study aimed to determine the mediating effect of learning environment on the relationship between the pedagogical competence of teachers and student's engagement among Criminology students. Specifically, the study sought the following objectives:

To ascertain the level of pedagogical competence of Criminology teachers in terms of:

- 1.1 attitude that furthers student learning,
- 1.2 scientific approach,
- 1.3 broad and appropriate subject knowledge,
- 1.4 knowledge about how students learn,
- 1.5 knowledge about teaching,
- 1.6 knowledge about education goals and the organization,
- 1.7 holistic view,

- 1.8 applied teaching skills,
- 1.9 striving for continuous improvement, and
- 1.10 leadership and organizational ability

To describe the level of student's engagement in terms of:

- 2.1. emotional engagement,
- 2.2. behavioral engagement, and
- 2.3. cognitive engagement

To determine the level of learning environment

To establish the significant relationship of the following:

- 1.11 pedagogical competence of teachers and student's engagement
- 1.12 pedagogical competence of teachers and learning environment, and
- 1.13 learning environment and student's engagement

To ascertain the role that the learning environment plays in mediating the connection between teachers' pedagogical competence and students' engagement.

Hypothesis

The 0.05 threshold of significance will be used to evaluate the subsequent hypotheses.

There is no significant relationship between

- 1.1 the pedagogical competence of criminology teachers and student's engagement.
- 1.2 pedagogical competence of teachers and learning environment

- 1.3 learning environment and student's engagement

The role of the learning environment as a mediator in the interaction between pedagogical competence and student engagement is not significant.

Review of Related Literature

In this section are presented the various literature and studies to provide a clearer understanding in this study. Based on the work of Rygard, Apelgen and Olsson (2010), the indicators of pedagogical competence of teachers include an attitude that furthers student learning, scientific approach, broad and appropriate subject knowledge, knowledge about how students learn, knowledge about teachings, knowledge about educational goals and organization, a holistic view, applied teaching skills, striving for continuous improvement, leadership, and organization ability. These indicators if performed by teachers successfully becomes effective in enhancing learning holistically in the students which is important in the teaching learning process. The indicators of student engagement are affective engagement, behavioral engagement, and cognitive engagement.

Pedagogical Competence

Educational and teaching credentials are referred to as pedagogical competence. The effectiveness of the instruction should be the main factor taken into account when evaluating pedagogical competency. The ability to plan, start, lead, and grow education and teaching, as well as the capacity to deliver research-based instruction based on research in the pertinent field, are all crucial. Scope, breadth, and depth are all crucial. A competence-based approach mandates students gain knowledge and skills

collectively rather than individually. From the point of view of pedagogy, the competency approach from the point of view of modernizing higher education. incorporating workshops, games, and other practical activities, improving the value of professional practice, and establishing optimal conditions for each participant (Rasulova, 2020) is beneficial.

In the Philippines, according to the National Teachers Training Center (NTTC, 2017), the contribution of teacher's competence to the quality of educational system is vital and if the latter is poor, the quality of the former would also fall. Furthermore, Agsulod (2016) emphasized that one of the most important factors that must be taken into consideration is the faculty's effectiveness in the classroom. The quality of the teachers' preparation will have a significant impact on the students' success. Yet, despite this realization on the importance of teacher's competence in learning development still many teachers lack the right competencies in motivating the modern learners in improving their academic performances.

Teacher's behavior and attitude are important aspects in developing the character of the student. The actions seen in the teachers becomes the role model for the students. Their commitment in their works becomes a motivational drive for students to manifest the same values (Jones, 2015). Likewise, in the 21st century, the knowledge, skills, and attitudes necessary to succeed in the workforce of the twenty-first century are referred to as competencies. Education and professional development for teachers should be revised to include teaching essential competencies training.

Teachers in the twenty-first century need to be proficient in both technology integration and teaching techniques, as well as in the subject. Programs for teacher development are very significant. The importance of quality education is being emphasized as a key factor in determining society's economic prosperity. An effective and efficient system of teacher compensation serves as a key lever for luring capable and highly motivated individuals to the teaching profession. Education quality is determined by teachers' qualifications and is related to a country's progress. With new technology, teaching and learning are shifting from being teacher-centered and lecture-based to being student-centered (Jan, 2017).

In *scientific approach*, Suana, et al. (2016) claim that practice is the outcome of a professional competence analysis of Field Experience Practice students in five aspects, that is, able to relate the concepts taught to the real-world environment, convey the material in a way that is easily understood by students, apply the scientific method in accordance with the subject matter, deliver the material attractively and appropriately, carry out an authentic assessment, and use language that is both appropriate and engaging. The findings of this study serve as an example of how to meet the requirements of students' pedagogic competence, particularly when performing authentic assessment while simultaneously preparing for Field Experience (Abadi, Pujiastuti, & Assaat, 2017).

Learning is essentially the same for all people, and it may be quite successful and efficient. Inconsistencies between learning settings and how pupils learn might lead to issues. The learning model has been used to forecast how enhancements to problem-based learning, laboratory learning, and lecture-style learning can be developed.

problems, as well as in the creation and delivery of curricula. The research's findings have been fairly impressive, with reports of significant performance increases and shifts in student attitudes.

To educate students for economics instructors who are ready to play themselves as educators (agent of education) as well as researchers (agent of research and development) and ready to confront the difficulties of the 21st century, learning innovation needs to be designed and applied. According to Kennedy et al. (2016), critical thinking, problem solving, collaborative learning, learner-centered teaching, and digital literacy are basic abilities that educators need.

In broad and appropriate subject knowledge, It was more common for instructors to complete their initial education, knowledge of learning and teaching was less advanced, fewer teaching instruments were available, and the function of education and training was less understood. Teachers will increasingly need the skills to locate, assess, and use learning materials from a wider range of sources, as well as to help students develop these skills. For instance, the increased availability of educational resources via the internet, including Open Educational Resources, means that both teaching staff and students may have access to a much wider range of learning materials (European Commission, 2012).

The students, the teacher, and the learning environment are all part of the educational teaching and learning process. The teachers are clearly playing a significant role in the teaching and learning process when one considers its vast scope. The type of instruction pupils receive largely determines whether they succeed or fail in their educational progress, aided by their instructors. The assurance of a quality teacher in every classroom is the single element most likely to boost student progress. Furthermore, without a teacher taking center stage, no number of classroom amenities and instructional tools can result in the intended learning outcome (Read & Atinc, 2017).

The roles of teachers and schools' knowledge about how students learn expect teachers to teach in increasingly diverse classrooms, integrate students with special needs, effectively use ICT in their instruction, participate in processes of evaluation and accountability, and involve parents in their children's education. The parent's role in the classroom serves as a good counterbalance to the roles of teachers and schools in determining the failures and successes of children. (Perera, 2014). Furthermore, as stated by Reparaz in her study, According to the principals contacted, the outcomes demonstrate the significant efforts made in the schools to incorporate parents. The parents' assessment of this is more reasonable. (Reparaz, & Sotés-Elizalde, 2019).

The teacher's theoretical understanding of their subject matter is one aspect that influences the quality of their instruction. It is widely acknowledged that what teachers do in the classroom has a direct impact on students' learning, hence the function of the teacher in the teaching process cannot be overstated. Yet at the moment, there is a scarcity of information identifying the instructional strategies that promote learning in inclusive classrooms, particularly information collected from direct observations of teachers. Five themes emerged from a thematic analysis of observable inclusive teacher practices: collaboration and teamwork, gauging progress, instructional support, and equity (Finkelstein, Sharma & Furlonger, 2021). Education has to be about quality and excellence guided as the main direction of the institution. Educational institutions are business enterprises out should have knowledge about education goals and the organization, the quality and excellence in the services. It provides, continuous improvement measures, with the best services it is capable of providing, aims to result in a transformed way of being in the world. The quality of their interactions with their students, teachers, and stakeholders, as well as the relationships they had with one another in terms of their systems and subsystems, tactics, policies, attitudes, and beliefs, are more important (Dimaano, 2017).

Holistic view is one way to improve a nation's education is to strengthen its citizens' skills so they can be used to their fullest potential for the benefit of the country. Education is seen as the key to developing a good learning environment that can improve skills and capacities in all domains necessary for techno-economic development. Also, it provides a way to deal with the most pressing issues facing societies in the new millennium. Education must focus on more than only the dissemination of knowledge and education, but also moral upbringing to fully develop students (Wiggan, & Watson-Vandiver, 2019).

The applied teaching skills of teachers assist students in developing into future leaders and better citizens of the nation.

Together they need to be equipped with comprehensive and pertinent subject knowledge through a development program to enhance their methods for teaching. For them to put the key ideas into practice and enhance their teaching tasks, they must be given the relevant training, experiences, instructions, and guidelines (Punongbayan & Bauyon, 2015). The emphasis is on the premise that instructors must develop their knowledge and skills to upgrade, improve, and investigate their teaching practices. Studies on instructors' competences frequently place more emphasis on how they teach than on their own abilities. In regard to education reform research, the advancement of teacher education, scientific findings in educational science, and other fields, teachers' competencies have been expanding. (Selvi, 2010; Yazçayır, & Selvi, 2014). Getting students' attention at the beginning of class promotes active engagement in the teaching and learning process. When they were planning, the teachers worked closely and in-depth with the others (who were observers) to keep the students' attention.

Based on the observers' observations, the teachers needed to alter their classroom behavior, communicative competence, and simplified materials supported by media that made it simple to understand the materials that require high concentration, which is highly effective in enhancing teaching-learning. (Bullock, 2017). Leadership and organizational ability; according to ISO 9001:2015, leadership indicators include leaders at all levels who establish a sense of purpose and direction and who foster an environment where employees are motivated to work toward organizational goals. Leadership is responsible for the management systems' performance in terms of involvement and promotion on the devices. These metrics are crucial for implementing leadership concepts in businesses (Muil, 2016).

Students Engagement It is becoming more widely accepted that student engagement can be thought of as a multidimensional construct. The idea that there are three main types or aspects of student engagement—cognitive, emotional, and behavioral—has now gained widespread acceptance. (Ryu & Lombardi, 2015).

Similarly, Devito (2016) and Lee (2014) outlined the various facets of student engagement. Student participation is made up of a number of different factors, including behavioral, emotional/psychological, cognitive, and academic. While there is disagreement over which of these factors is crucial, findings point out that cognitive, behavioral, and emotional component were highly influenced by learning environment.

Students take ownership of their education in a teaching-learning environment. They are motivated and driven to learn on their own initiative. It is obvious that student interest or participation in an activity is crucial. Thus, in this aspect the roles of teacher's pedagogical competence in providing opportunities for learner to engaged and motivate in class activities is vital (Bray, 2015).

Positive emotional engagement is expected to promote commitment and effort by forging emotional bonds between individuals and institutions (Mahatmya, Lohman, Matjasko, & Farb, 2012). A student's feelings for his or her school, learning, teachers, and peers are referred to as affective engagement. The contemporary literature has also used the phrases psychological and emotional engagement to characterize this phenomenon (Appleton, Christenson, Kim & Reschly, 2006; Reschly et al., 2007; Wang, Degol & Henry, 2019).

Behavioral engagement refers to student's involvement in learning tasks and participation in other extracurricular doings. Behavioral engagement includes effort of students, determination, contribution, and obedience with school structures. Generally, the changes in the school are usually concentrated on changing learners' behavioral engagement. School achievement is usually included in some studies because of students' behavioral engagement which is quantified by the reports made by teacher or students themselves about the efforts exerted in the school. These efforts may include active involvement in laboratory tasks and homework which are accompanied with work persistence (Sheppard, 2011; Matusovic, 2019).

Behavioral engagement includes observable student actions or participation while at school and is investigated through a student's positive conduct, effort, and participation (e.g., participation in extracurricular activities, attendance, and work habits). Behavioral engagement includes observable student actions or

participation while at school and is included in the behavioral engagement domain (Shernoff, 2013), (Fredricks, Filsecker & Lawson, 2016).

Emotional engagement refers to learner's feelings of concentration, cheerfulness, nervousness, and antagonism during classroom-related activities. Further, being defined as the level of student's relationship with others and their value in the aspects of schooling. Often, emotional engagement deals with the pleasurable and unpleasurable emotions that learners have with the teachers, classmates, and others in the school. Some studies revealed that emotional engagement, maybe related to relational engagement. Students perceive that the teacher is willing to help them learn in the lessons, and their sense of school belonging as substitutes to understand the level of involvement in school (Vollet, Kindermann, & Skinner, 2017).

In addition, emotional engagement could also refer to social engagement which refers to membership in school life. It connects to the feeling of belongingness, ability for achievement, sense of proficiency, enthusiasm, interest, shared decision making and self-sufficiency of students. It is the collaboration between learners and their groups and between students and teachers and the very significant contribution this creates to the experiences of the learners, and thus to achievement and retention. Also, emotional engagement of students is a primary concern of teachers to engage students in learning which necessitates helpful emotional experiences that add to a schoolroom climate for teacher-student connections for motivation to excel in learning (Shoshani, Steinmetz, & Kanat-Maymon, 2016). Cognitive engagement refers to how students perceive themselves and their tasks, skills, and strategies they use to familiarize their task. This pupil may be engaged behaviorally but not cognitively. To put it another way, simply completing the job at hand does not imply that the person is learning because both the behavioral and cognitive definitions of involvement require effort. This is how cognitive engagement is used to describe the importance of students' participation. (Martin, & Torres, 2016). The goal of cognitive engagement is to help students make an effort to acquire, understand, and master the knowledge or skills in their academic work by focusing on their inner psychological attributes or other unseen characteristics. (Cooper, Stein, Kintz & Minness, 2016). For examining how well students are acquiring and mastering the knowledge and abilities that are explicitly taught in schools, the cognitive engagement domain is chosen (Yazzie-Mintz & McCormick, 2012; Greene, 2015).

Moreover, the presence of cognitive engagement creates a significant difference amongst the efforts of students to basically perform the task and effort that is concentrated on mastery and understanding (Tamura et al., 2022). Students in the classroom who are engaged intellectually and behaviorally will engage in the work at hand and manage their learning concurrently by thinking about previous activities they have completed, taking in for questioning when they need help, and employing problem-solving techniques (Fredricks, Blumenfeld & Paris, 2014; Greene, Miller, Crowson, Duke & Akey, 2014).

Cognitive engagement may refer to intellectual engagement since it refers to the serious mental investment in education, utilizing higher order thinking skills in evaluation, analysis, to develop understanding, in solving multifaceted problems (Tamura et al., 2022). The conception of intellectual engagement permits investigation of what learners are doing inside the classrooms, their emotional experiences that can help improve their learning. Moreover, cognitive engagement, is explained as the student's investments in learning so that students will search for experiences which allow them to go further than the requirements and will relish trials (Albarracin, 2014).

As expectations for teachers and schools change, so do their roles: teachers are supposed to teach in more and more multicultural classrooms, integrate students with special needs, use ICT effectively in the classroom, allow participation of parents in the educational process, and observe evaluation and accountability procedures (Banerjee, 2017). Also, a recent World Conference on Teaching observed that teachers must support students in developing their creativity, critical thinking, problem-solving, decision-making, and working methods and equipment. Success in contemporary democracies depends on having life, career, and personal and social responsibility abilities (Mróz & Ocetkiewicz, 2021).

Relationships that are based on mutual respect, care, and trust between students and teachers encourage both cognitive and emotional development are vital to the overall growth of the student. The involvement and overall growth of pupils depend on developing a caring relationship. Fostering culturally responsive instruction will also enhance respect and student participation. (Ellerbrock & Kiefer, 2010).

De Vito (2016) concluded that the factors which influenced student engagement were communication, collaboration, involvement in learning activities, and enriching educational experiences. students and teachers' interactions; levels of academic challenge; classroom environment support; and family environment support. Each of the five clusters of factors was found influence students desire to participate in learning activities and their perception of the importance of learning.

Learning Environment

Classroom learning environment has an effect on student progress. This could apply to a number of specifics. Structure, resources, color, and a cozy environment are some examples. These factors can all influence whether the classroom is favorable to learning. Each one may not have much of an impact alone, but when combined, they can help improve a student's performance in being able to learn (Klaver et al., 2022). The teaching-learning process depends greatly on the level of student engagement. In school contexts today, teachers should understand the vital role of student engagement to the overall success of students in learning, and the situations which encourage or discourage its improvement (Albarracin, 2014; Voke, 2012).

Motivate to exert learning effort refers to students' engagement in learning activities as the propensity to exert effort that creates powerful learning environment (Malinow, 2018). It is important that students maintain their interest to be motivated for learning to obtain new knowledge and skills. Furthermore, as reported by Ozerem and Akkoyunlu (2015), in their research, the importance of motivation provokes deep level learning. Thus, teachers provide satisfaction and motivation that can help their students in keeping learning efforts on the same high level of educational methods (Woolner, & Stadler-Altmann, 2021).

Grubaugh and Houston (2013) stated that the educational learning environment has contributed to increasing students' engagement and a highly influential motivation of the learner in increasing their academic performance. The comfortable and inclusive learning environment is a contributing factor to increase the participation of students in class activities (Chepkonga, 2017). Any activities that integrate prior knowledge of students' engagement in learning the goal of constructing meaning with new information are included in the "activate toward self-regulated learning" program (Peel, 2018). At least in the United States, more focus has been placed on student engagement as a framework for assessing educational successes and issues like academic advancement or dropout, in part because the learning environment is thought to be extremely flexible and influential on engagement (Christenson, Reschly, & Wylie, 2012; Shernoff, 2013, Rooney, 2017).

In give feedback and coach, it describes students observed performance rather than offering judgement for them to be motivated in improving their performance and achieving their desired outcomes (Laskowski-Jones, 2018). The pristine, serene, and the comfort of the students is provided, which is one of the key elements of the learning environment. Consequently, the educator's main aim should be to create the optimal learning environment. Temperature, lighting, and noise reduction should all work together to provide a comfortable environment (Murugan & Rajoo, 2013; Ismail, Shanmugam & Rajoo, 2021).

Lastly, structure and steer is the fourth indicator of the learning environment that emphasizes the value of educational activities for the students' deep level learning. This anticipates that they will comprehend the material and complete the learning assignments as a result of the teaching approach exhibited primarily in the level of social interaction between the students and the teacher (Tanner, 2013).

With the same view, Shamaki (2015) explained that the combination of effective teaching and learning, are one of the many factors for students' academic achievements in the learning environment. The findings of this study demonstrate that providing enough illumination in the classroom can improve students' performance. Also, data suggests that the quality of the lighting and the artwork affect kids' academic achievement. To avoid impeding

effective academic activities, poor ventilation must be addressed as well as discouraged. Research has also shown that overcrowding is detrimental to learning, so it must also be avoided.

Correlation Between Measures

In the research done by Vandecandelaere, Speybroeck, Vanlaar, De Fraine, and Damme (2012), teachers should devise a suitable order of learning tasks to achieve in-depth learning, which is easier to achieve in traditional educational settings, but should also be met when using more complex learning tasks that encourage self-regulated learning (Vanlaar et al., 2016).

The innovative strategies of the pedagogical competency of teachers in formulating learning activities is observed to be helpful in developing student's engagement. It can initiate participation from learners, attain learning faster and students are highly participative in the classroom since part of the grading outcome of the students reflect their participation and engagement (Abdulkareem & Oduwaiye, 2011).

The analysis of teacher pedagogical training takes into account both current theory and practice. Considering the trends of contemporary socio-pedagogical reality, the prospects and strategies for the development of pedagogical science, the conceptual underpinnings of the formation and development of the creative capability of the future teacher are substantiated (Supkhonovna, 2021). As reported by Deslin (2013), a warm and appreciative attitude from teachers who are joyful, at ease, and tranquil throughout the session, and the use of humor are all examples of pedagogical competence interventions that teachers can employ to create good and supportive classroom environments.

In the correlational study on the importance of teacher's competence with professional commitment and job satisfaction with the performances in teaching, the results showed highly committed and satisfied teachers highly correlate with motivation in teaching their students. This supports the idea that if teachers are competent and satisfied with their jobs their teaching strategies are highly responsive to the needs of the students. This results to higher motivation for the students to participate in their class activities and discussions (Akram, Malik, Sarwar, Anwer & Ahmand, 2015).

The impact of the four pedagogical skill domains on students focused on outcomes for student engagement and instructional quality, which are supported by theoretical hypotheses about potential interactions between teacher variables. The Department of Education has boosted spending on high-quality education during the past 20 years, particularly to raise teachers' pedagogical expertise and expand related resources like classroom supplies, textbooks, and buildings to accommodate the nation's expanding student population. However, the results of the data review for 2017 show that learning levels are still low and that many students suffer from high rates of teacher absenteeism, a lack of teaching competencies, funding leaks, mismanagement, low accountability, and low parental engagement despite increases in education spending and enrollment. Thus, the agency focuses on intensifying the weak areas identified for quality education outcome (Guru, 2017).

In the study of Koch et al. (2018) on African American and European American students' perceptions on teacher competence, results showed a significantly relationship associated with teachers competence to students' engagement in school activities. Yet, most multicultural competency training takes place in training programs and classrooms, and there hasn't been much research into the faculty with multicultural proficiency. Following the investigation, six domains were identified: faculty qualities, faculty constraints, faculty attributes, faculty-student connections, faculty initiative and faculty as agents of social justice. These themes included a few that the field of multicultural competency training had never seen before.

The holistic approach of teachers in instructional delivery distinguishes the teachers with good pedagogical competence because of the difference in the methodology used such as information technology, classroom management and career management which are highly effective in catching attention of the students that can initiate good engagement in the classroom activities (Suciu & Mata, 2015). The impact on students' engagement because of teachers' pedagogical competence in overall learning improvement is high. Effective teachers are those highly motivational in student's engagement in the lectures in the class. This can boost learning faster because attention and cooperation of the students with competent teachers are higher (Amusan, 2016).

In summary, the different literatures offer a foundation and reinforcement in the current study on the mediating effect of learning environment on the relationship between pedagogical competence of teachers and student's engagement. Moreover, the different readings shows that there is a possibility that the relationship of pedagogical competence of teachers and students engagement can be better explained when mediated by learning environment. With these, the researcher was motivated to establish the relationships of these variables because teachers pedagogical competence and student engagement are crucial factors for all learners in all levels of education to continue and accomplish their educational journey with satisfactory performance.

Theoretical Framework

The study is anchored on the proposition that the pedagogical competence of

the teacher contributes to student's engagement which can improve teaching learning-process effectively. In the Pedagogical Competence Model formulated by Olson, Ryegard and Apelgren (2010), they have shown that the teachers' teaching skills is an important part of the total pedagogical competence of teachers which includes different domains such as teaching skills, theoretical knowledge and attitude characterized by willingness to develop. these were part of the overall characteristics of pedagogical competencies of teachers that can promote students' engagement. On the other hand, the student's engagement as an essential aspect of effective teaching learning process is supported by the engagement theory of Vygotsky that emphasizes the role of environments which includes teachers' pedagogical competence in providing learning environment, therefore promoting engagement of learners which results in effective learning outcomes. It concludes that more engaged students in a class due to thier teacher's pedagogical competence learn better and more effectively.

Likewise, a framework for technology-based instruction and learning is called Engagement Theory (Kearsley & Schneiderman, 1999). Its basic tenet is that students need to be actively involved in learning activities through social contact and worthwhile work. Although in theory such involvement may take place without the aid of technology, Kearsley and Schneiderman are of the opinion that technology can help engagement in ways that are challenging to accomplish without it.

Furthermore, teacher's pedagogical competence can be assessed using the Scholarship of Teaching and Learning (SoTL) model (Ryegård, Apelgren& Olsson, 2010). This discussed the activities of a pedagogically qualified instructor and the intricacy of the idea of pedagogical competence. In this paradigm, it was stressed that good teaching and the evolution of teaching, as well as evaluations and student learning, serve as examples of pedagogical competence. It is necessary for the continuing growth of pedagogical competence as well as both general and subject-specific knowledge of how students learn. In the simulation, the Teaching skills, Theoretical knowledge, and Approach, which are characterized by willingness and the ability to develop, are assessment areas to evaluate pedagogical competency.

In this study the theory and model helped in providing support to the importance of developing the pedagogical competence of the teachers for them to be able to provide better activities in their students that can motivate learning to students, achieved through experiential learning activities. Furthermore, the school environment is a factor postulated to affect the engagement of students that can enhance better performance outcome.

Conceptual Framework

As presented in Figure 1, is the relationship of pedagogical competence of Criminology teachers to students engagement. The independent variable which is pedagogical competence, Ryegard, Karin, Apelgren and Olsson (2010) has the following indicators: *an attitude that furthers student learning* refers to the idea that students' attitudes toward learning affect their capacity, motivation, and readiness to learn. A *scientific approach* refers to guidelines and processes for the identification and development of problems in the methodical pursuit of knowledge; *broad and appropriate subject knowledge* refers to the amount of knowledge and information that students are expected to learn in a certain subject and that professors teach; *knowledge about how students learn* refers to knowledge of how certain instruction, subjects, themes, and issues work; *knowledge about teaching* refers to the knowledge base of teachers; *knowledge about educational goals and the organization* refers to a declaration

that outlines the competencies, skills, and qualities that students should have after finishing a course; *holistic view* emphasizes the significance of the entire and the dependencies between its components; *striving for continuous improvement* demands an organizational structure and *leadership and organizational ability* refers to the focused management approach that works towards what is best for individuals and what is best for a group.

The indications for the dependent variable, student involvement, include the following: *emotional engagement* includes both positive and negative emotions to teachers, peers, and subject matter (Fredricks et al., 2004). *Cognitive engagement* entails the idea of investment, a "thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills." Emotional and cognitive engagement lead to *behavioral engagement*, which is associated with positive conduct and involvement in learning tasks.

The learning environment, which is hypothesized to influence students' learning engagement, is the mediating variable.

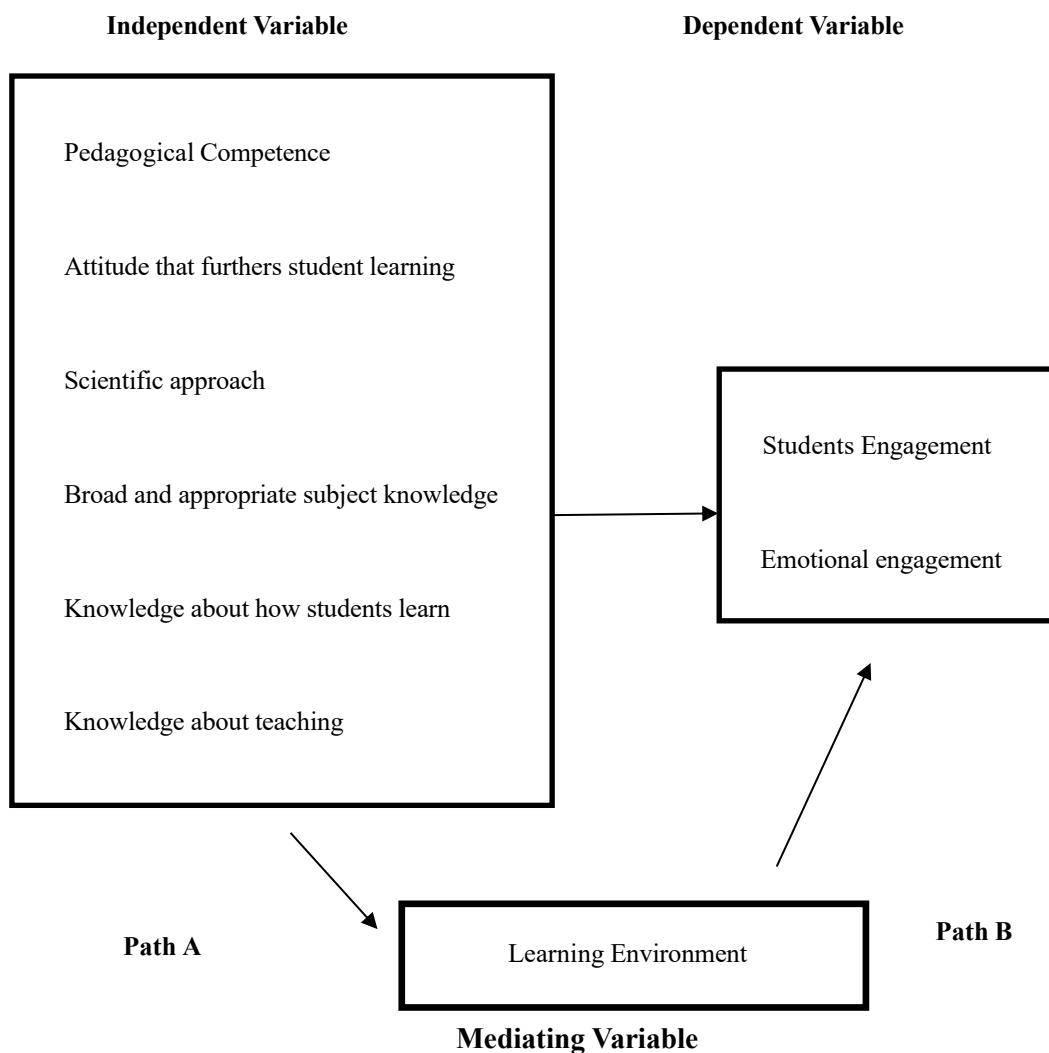


Figure1. The conceptual framework for the study, displaying the study's variables.

Significance of the study

The findings of this study are deemed vital to improving the quality education system in the country through intensifying students' engagement in instructional delivery of the teachers. Further, the result of the study can provide guidance for the teachers and school administrators on strategies to develop pedagogical competence of teachers to enhance students' engagement. The result will be a means to discover the domains in pedagogical competencies that best contribute to enhancing engagement of students.

Furthermore, the study may be beneficial in improving the quality of teaching- learning process through provision of student-centered education programs to ensure quality education access to all students. This will provide better learning opportunities centered towards developing learners' participation as an essential dimension in the teaching-learning process.

Finally, the result of the study may be beneficial to the teachers and students who are the direct beneficiaries of the improved teaching-learning process, since data on influential factors that increases engagement of learners will be generated for this research. This can guide teachers in the enhancement of their pedagogical competence in teaching learning process.

Definition of Terms

The terms used in the study are operationally defined as follows:

Student Engagement. This term refers to the improvement in the emotional, behavioral and cognitive engagement of the students in their classroom activities and interactions with others.

Pedagogical Competence

This term describes a teacher's capacity to change their attitude in a way that supports student learning, scientific approach, broad and appropriate subject knowledge, knowledge of how students learn, knowledge of teaching, knowledge of organizational goals, holistic view, applied teaching skills, pursuit of continuous improvement, leadership and organizational skills.

Learning Environment

This term describes a teacher's capacity to change their attitude in a way that supports student learning, scientific approach, broad and appropriate subject knowledge, knowledge of how students learn, knowledge of teaching, knowledge of organizational goals, holistic view, applied teaching skills, pursuit of continuous improvement, leadership and organizational skills.

METHODS

Research Design

This study utilized the descriptive – correlational design. A descriptive survey research design employs a structured questionnaire intended to collect precise information from respondents and distributed to a sample of a population. In conducting quantitative research, the researcher seeks to explain and describe current situations, establish relationship between variables and attempts to explain causal relationships between variables (Creswell, 2005). The researcher recorded what happened after observing genuine behavior as it actually happened without attempting to influence the situation being seen (Rofianto, 2011). Given that it described the pedagogical proficiency of criminology professors and student participation, this study method is the most appropriate. The correlational design explained the connection between the teachers' instructional expertise and the students' participation.

The study's mediation approach was used to ascertain how learning affected both teachers' pedagogical expertise and students' involvement. Amongst the three variables, route analysis was used in the study. A helpful statistical analysis method called path analysis aids in understanding the relationship between two or more independent variables and a dependent variable. This demonstrates the amount of influence the mediating variable

has on the dependent variable when used as a mediator and whether the connection has continued to be important (Allen, 2017; Crossman, 2020).

Research Locale

The study was conducted in the North Cotabato Province, where criminology teachers are employed, as depicted in Figure 2. The 17 municipalities that make up the North Cotabato Province are strategically situated in the middle of Mindanao on the eastern edge of Region XII. Its northern and eastern borders are formed by the provinces of Lanao del Sur and Bukidnon, while its western and southern borders are formed by the provinces of Maguindanao, Davao del Sur, and Sultan Kudarat.



Figure 2. Map of the Philippines and the Research Locale

Population and Sample

The respondents of the study were 300 criminology students coming from the selected schools in North Cotabato Province. All models required minimum sample sizes that ranged from 100 to 500 observational data points since mediation is a sort of study used to identify the causal mechanism connecting a predictor and an outcome through a mediator variable (Sedory, 2020). The researcher used the stratified sampling technique as sampling design. It is a probability sampling design wherein a sample size is computed from the total population using percentage proportion as the sample size.

The inclusion criteria on selecting the respondents included only the officially enrolled Criminology students for school year 2020-2021, who used as basis for selection. The first-year criminology and non - criminology students were excluded to participate during the conduct of the survey.

The respondent's selection was only those who voluntarily joined, who are available and accessible during the conduct of survey; thus, those who refused, not were available during data gathering can withdraw in participating in the study. The research was carried out during the first semester of the 2020–2021 academic year.

Research Instrument

The study utilized an adapted survey questionnaire. This was composed of two main parts. The first part is made up of statements about the pedagogical competence of the criminology teachers adapted from Ryegård, Apelgren and Olsson (2010). The pedagogical competence questionnaire is composed of 65 items. The adapted instrument made use of a 5-point Likert scale and was determined based on the

following ranges of means:

Range of Mean	Descriptive Level	Interpretation
4.20 - 5.00	Very High	Pedagogical competence is always observed.
3.40 – 4.19	High	Pedagogical competence is oftentimes observed.
2.60 – 3.39	Moderate	Pedagogical competence is sometimes observed.
1.80 – 2.59	Low	Pedagogical competence is seldom observed.
1.00 – 1.79	Very Low	Pedagogical competence is also observed.

The second tool on student engagement, was adapted from Hart, Stewart & Jimerson (2011). This had the indicators emotional engagement behavioral engagement and cognitive engagement. There were 10 items in the questionnaire. The adapted instrument made use of a 5-point Likert scale and was determined base on the following ranges of means:

Range of Mean	Descriptive Level	Interpretation
4.20 - 5.00	Very High	Student engagement is always observed.
3.40 – 4.19	High	Student engagement is oftentimes observed.
2.60 – 3.39	Moderate	Student engagement is sometimes observed.
1.80 – 2.59	Low	Student engagement is seldom observed.

1.00 – 1.79	Very Low	Student engagement is also observed.
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Lastly, the third tool measured the learning environment self-efficacy among junior high school students. This questionnaire was adapted from the study of Vandecandelaere (2014).

Schelfout's equilibrium model demonstrated how to encourage learners to put forth effort, get them moving in the direction of self-regulated learning, provide feedback and coaching, and structure and steer. The questionnaire is composed of 29 items. The adapted instrument made use of a 5-point Likert scale and was determined based on the following ranges of means:

Range of Mean	Descriptive Level	Interpretation
4.20 - 5.00	Very High	Learning environment is always observed.
3.40 – 4.19	High	Learning environment is oftentimes observed.
2.60 – 3.39	Moderate	Learning environment is sometimes observed.
1.80 – 2.59	Low	Learning environment is seldom observed.
1.00 – 1.79	Very Low	Learning environment is also observed.

The instrument was submitted for validity for the panel of experts. The reliability result was analyzed using mean with an average score of 4.66 having a very high descriptive level.

Data Collection

The research underwent series of activities in gathering the needed data. The first step was to submit the instrument for validity and dependability of the test. After which a letter of permission was submitted to the dean of the graduate study to be allowed to conduct the research. A letter of permission was distributed also to the selected schools in North Cotabato Province offering criminology courses seeking approval to conduct a survey among their students; This was noted by the Dean of the Graduate students at the University of Mindanao.

Once approved, a survey schedule was fixed based on the availability of the respondents. After the approval to conduct the study was given, the researcher made sure that proper ethical considerations such as voluntary consent and confidentiality of the identity of the respondents were assured. administer and the survey questionnaire were administered to the respondents of the school online using Google form.

During the distribution of the research instrument, the research simultaneously gave the instruction for the completion of the survey. The researcher made clear that their participation in the research is voluntary in nature and they have the right to withdraw their participation if they wish to. The researcher also gathered and recorded the data for statistical analysis after administering the survey questionnaire.

Statistical Tools

The data gathered through the questionnaires were tallied and treated using the following statistical tools.

Mean was utilized to assess the level of student engagement and the pedagogical proficiency of the criminology professors.

Pearson r was employed to establish a strong link between students' participation and the pedagogical proficiency of criminology lecturers.

Regression determined the best predictor of the pedagogical competence of the criminology teachers.

Path Analysis. This was done to ascertain the role that the learning environment played in mediating the connection between pedagogical competence and student engagement.

Ethical Considerations

A set of moral standards that have been proposed by an individual or group and are generally accepted constitute ethics in research. It includes legal guidelines and behavioral expectations for the proper conduct of research. When conducting research, ethical issues are crucial. Informed permission, confidentiality, and interview consequences are the three primary areas of ethical concern that Walliman (2011) highlights when discussing the use of interviews.

The researcher will take into account a number of ethical issues to make sure the study is carried out in an appropriate way. All participants received informed consent prior to taking the survey to adhere to the ethical standards for research. The researcher had been issued a certificate of approval with UMERC No. 2022-033.

Voluntary Participation. It must be indicated that the participation of respondents is voluntary in nature. The respondents included only the officially enrolled 2nd year to 4th year Criminology students for school year 2021-2022. The first-year criminology and non – criminology students will be excluded from participating during in the survey.

The respondent's selection was only those who will voluntarily join and who are available and accessible during the conduct of survey; thus, those who will refuse, and not available during data gathering can withdraw from participating in the study.

Recruitment process. The researcher must observe and adhere to the proper protocol on the recruitment process. Initially, the researcher sought the permission of the school's division superintendent to conduct the survey. Then, the endorsement from the said office was submitted to the school President where the study was conducted. Thus, the researcher also ensured that the protocol and reminders given by the office of the SDS will be properly observed. This included securing parental consent, strictly follow health safety guideline from the IATF and exception of the respondents from the liabilities.

Privacy and confidentiality. The respondents were additionally informed that their information will be kept private and confidential and that only the research adviser will be informed of the precise details of each survey. The respondents and the research adviser do not know one another. The names of the participants were replaced with pseudonyms in the final report to protect their privacy. The researcher gave personal background information and some of his personal anecdotes as a professional in the teaching sector while explaining the study's goals to the respondents. This contributes to the development of trust, which in turn inspired respondents to provide truthful responses to the survey.

Risks. Moreover, the researcher also informed the respondents that their participation in the survey would not bring any foreseeable risks to their personal health or well-being. Thus, the respondents will be informed that in the event that they become upset or distressed as a result of answering the questions, then the researcher would have helped them obtain a referral to see a trained professional who can help process these feelings.

Benefits. Further, observable benefits of the study will be immediately disseminated to the stakeholders. The findings of the study generated facts which are important for the enhancement of the students' well-being. The findings of the study would serve as basis for educational institutions to pay attention to create a teaching and learning environment that enhances students' performance in school. Also, this study provided meaningful information to both school heads and college teachers as they develop plans to best implement change within their current teaching station.

Furthermore, the researcher also strictly adheres other ethical issues which include;

Plagiarism. The researcher ensured that the resources being used in this study are properly cited. The authors' ideas are paraphrased and properly synthesized to abstained plagiarism.

Fabrication. No fabrication or inclusion of data, survey, or enactment that never arise in the gathering of data. Thus, all the information presented were carefully written and cited. All sources used in this study came from reliable journals and other scholarly works and;

Falsification. This study follows the guidelines for APA 7th edition citation style, therefore there are no changes or misrepresentations of the work of any research data acquired. The obtained facts and information are written in the most precise manner possible.

In the event of the emergence of any unintentional plagiarized, fabricated, and falsified ideas, the researcher will immediately revise the manuscript. Also, this paper was subjected to plagiarism detector procedure to assure that the manuscript is not plagiarized. The researcher also guaranteed that provisions on deceit and conflict of interest aspect were strictly observed.

Deceit. There searcher assured the respondents that the study was done with honesty and transparency. Research suggests that any potential harm to the respondents is outweighed by the benefit of deceiving them. The researcher assists the respondents satisfactorily and talks through the process and the outcome of the study. They are given general idea of what the researcher is investigating and why such study is conducted. Their role and contribution to the study were promptly explained.

Conflict of Interest. There was no indication of a conflict of interest (COI), and there were no circumstances under which a professional decision regarding a primary interest, such as the welfare of the participants or the reliability of the research, might be influenced by a secondary interest, such as monetary or academic gains or recognitions.

Permission from Organization/Location. Prior to the conduct of the study, procurement of letter to conduct a study duly signed by the Dean of Professional Schools was provided by the researcher to the Schools Division Superintendent. Then the reply from the said office allowing the researcher to conduct the study and was delivered to the School President where the conduct of the study was done.

Technology Issues. The researcher administered and retrieved the survey questionnaire to the respondents of the study using Google form.

During the distribution of the research instrument, the research simultaneously gave the instruction for the completion of the survey. The researcher made clear that their participation in the research is voluntary in nature and they have the right to withdraw their participation if they wish to. Further, after the administration of the survey questionnaire, the researcher will collect and record the data for statistical analysis.

Authorship. Finally, the researcher considered the adviser and a select group of people, such as colleagues who made significant contributions to the study's conception and design, data collection, analysis, and interpretation, as well as the writing of the manuscript or its critical revision for key intellectual elements, to be co-authors once the final version was approved for publication. The adviser is considered to be the co-author of this study because of the important guidance and contribution to make the study publishable.

Participants can contact the researcher at given mobile number and email address on the informed consent form if they have questions, concerns or complaints about the research. Also, the researcher ensured that the benefits of the study would be shared during meetings and conferences having stakeholders as part of the audience.

RESULTS

Data and findings analysis based on respondents' responses were presented in this chapter, in this order: Level of pedagogical competence, level of student engagement, and level of learning environment; significance on the relationship between pedagogical competence and level of student engagement, pedagogical competence, and learning environment and student engagement. It was clear from all the statistical tables that the standard deviation varied between 0.56 and 0.88. They are very close to 1.0, indicating that the values that are clustered around the mean indicate consistency of replies. (Nasir, Hasnan & Hamid, 2015).

Level of Pedagogical Competence

In Table 1, the level of Pedagogical Competence had a very high descriptive level with an overall mean of 4.26 and a standard deviation of 0.57. The outcome suggested that measures pertaining to teachers' teaching methods are consistently observed. The indicator for pedagogical competence with the highest mean is leadership and organizational ability ($m=4.24$), which is classified as extremely high. This implies that pupils constantly observe the leadership and organizing skills of teachers. Scientific method, on the other hand, had the lowest mean of all the indicators. It is the only indicator with a mean of 4.14, yet the result is still high and indicates that it is frequently noticed.

Table 1. *Level of Pedagogical Competence of the Teachers*

Indicators	Mean	SD	Descriptive Level
Attitude that furthers students learning	4.20	.60	Very High
Scientific approach	4.14	.66	High
Broad and appropriate subject knowledge	4.18	.60	High
Knowledge about how students learn	4.20	.63	Very High
Knowledge about teaching	4.21	.61	Very High
Knowledge about educational goals and the organization	4.21	.61	Very High
Holistic view	4.22	.61	Very High
Applied teaching skills	4.22	.61	Very High
Striving for continuous improvement	4.19	.65	High
Leadership and organizational ability	4.24	.62	Very High
Overall	4.26	.57	Very High

Indicators of student engagement are shown in Table 2 in order of highest to lowest mean ratings, along with their related descriptions and standard deviations. To help the readers grasp each sign, its analysis and interpretation are simplified. The overall mean of the data for this variable was 4.26, which is very high. From highest to lowest mean

ratings, the indicators are arranged as follows: emotional engagement got a mean score of 4.20 or very high, Cognitive development averaged 4.18 or high, behavioral engagement 4.14 or high.

Table 2. Level of Student Engagement

Indicators	Mean	SD	Descriptive Level
Emotional engagement	4.20	.60	Very High
Cognitive development	4.18	.66	High
Behavioral engagement	4.14	.60	High
Overall	4.26	.57	Very High

In Table 3 is displayed the degree of learning environment, which is considered to be at a very high level with a weighted mean score of 4.25 overall and a standard deviation of 0.60. The highest mean for a given item was "During teamwork or when I am working alone, the teacher asks about the challenges I encounter while addressing an issue," which had a mean value of 4.31 and is characterized as being extremely high. The item with the lowest mean of 4.19, however, reads, "When an assignment or test goes rather wrong, I am encouraged to think about what has caused the problem and what I can do about it." It also had a high descriptive equivalent.

Table 3. Level of Learning Environment

Items	SD	Mean	D.E.
Overall	0.60	4.25	Very High

Significance on the Relationship between pedagogical competence, learning environment and student engagement

The first ordered correlation analysis is between pedagogical competence and student engagement as displayed in Table 4. The association was evaluated at a significance level of 0.05, and a total r-value of 0.838 and a p-value of 0.000 indicated the rejection of the null hypothesis. It implies that pedagogical competence and student engagement are significantly related. This indicates a significant positive relationship between the two variables (Patil & Modi, 2019).

When the domains of pedagogical competence and learning environment were correlated, the data indicated that the pedagogical competence domain was significantly correlated with learning environment because the computation produced an overall r-value of 0.837 with a probability value of 0.000 or significant, which is significant at 0.05 level. This demonstrates that the learning environment and instructional competence have a substantial, beneficial link.

Similarly, the learning environment and student engagement are the subjects of the third bivariate correlation analysis, which is depicted in Table 4. The relationship between the two variables was examined at the 0.05 level of significance and revealed an overall r-value of 0.824 and a p-value of 0.000, which is significant at this level. The null hypothesis was rejected as a result of this finding. Overall, there is a significant correlation between the three variables of student involvement, learning environment, and pedagogical competency.

Table 4. Significance on the Relationship between Pedagogical Competence of Teachers, Learning Environment and Student Engagement

	Pedagogical Competence	Learning Environment
Student Engagement	.0.838(.000) **	.824(.000) **
Pedagogical Competence	-	.837(000) **

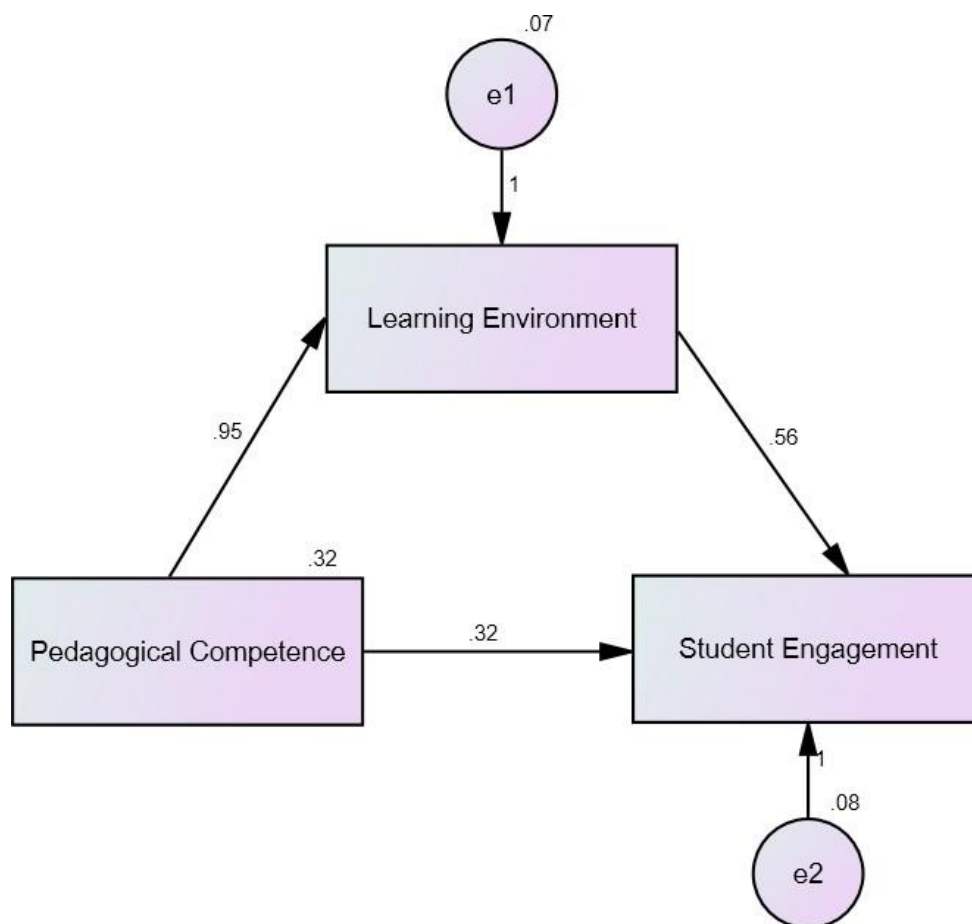
Mediating Effect of Learning Environment

The path analysis of the learning environment's mediating role in the link between pedagogical competence and student engagement is presented in Table 5. A third variable can operate as a mediator if three conditions are met (Baron & Kenny, 1986). These are grouped as Steps 1 through 3 in Table 5. The Table is Step Four (MV). Student participation in step 3 is significantly predicted by the learning environment (MV) (DV).

Table 5. *Mediation of Learning Environment Regression Weights: (Group number 1 - Default model)*

			Estimate	S.E.	C.R.	P	Label
MLE	<---	OVMIV	.952	.027	35.347	***	
OVMC	<---	MLE	.564	.061	9.268	***	
OVMC	<---	OVMIV	.315	.064	4.886	***	

As can be seen in the table of regression weights, additional path analysis was employed as a matter of triangulation to evaluate the significance of the mediation effect. In this particular case, partial mediation was achieved since the correlation between pedagogical competence and student engagement was achieved with sign unchanged with the estimates .564 and .315. Between pedagogical proficiency and the learning environment, the mediator, there was a strong association as well. Furthermore, there was a significant correlation between the mediator, learning environment and student engagement. Thus, partial mediation is obtained in the current study. This suggests that while the learning environment mediates some aspects of instructors' pedagogical ability and student engagement, other aspects are either direct or mediated by other variables not examined in the current study.



Meanwhile, the relationship between pedagogical competence (IV) and student engagement (DV) is depicted in Figure 3, and this was severely weakened by the addition of the mediating variable, the learning environment. The 95% confidence interval clearly indicates that there has been significant mediation. The accuracy of the coefficient estimate is measured by the tiny se. The estimate is more accurate the lower the standard error. Since it has partial mediation, it could not be claimed totally that learning environment is the very reason how pedagogical competence can influence student engagement.

DISCUSSION

The discussion of the study's results is provided in this chapter. Also, a conclusion and recommendation were made, which were based on the study's findings. The discussion and conclusions are based on the results of the study generated from the survey. The conclusions were derived from the findings of the paper and focuses on the important factors for discussions. The recommendations of the study are ideas that the researcher suggests for further research to be conducted.

Pedagogical competence

The very high level of pedagogical competence is due to the very high ratings given by the respondents on “Is familiar with and shows consideration for different learning styles” a specific item in Knowledge about how students learn; “is appreciated as a teacher” in Applied teaching skills indicators and high-level ratings given to “Puts course evaluation to a meaningful use” in striving for continuous improvement. These indications showed an overall very high rating, which was the result of the students' extremely high ratings. This indicated that professors are valued and use course evaluations well. This supports the argument made by Deschaine and Sharma (2011: 2015) that in order to be an effective teacher, one must be willing to do a thorough evaluation of his own teaching philosophy, methods, and efficacy. Real (2022) also contends that presentation of appropriate teaching characteristics is how fruitful learning is then attained couple. To ensure effective teaching and productive learning, teachers must be competent.

Student Engagement

There is a very high level of student engagement. This finding was due to the three indicators described as very high. The indicators are *emotional engagement*, *behavioral engagement*, and *cognitive development*. This shows that teachers seem to care about grades in emotional engagement. This result is in conformance with Vollet, Kindermann, and Skinner (2017) that the teacher is willing to help them learn and grasp concepts in the lessons, and their sense of school belonging as substitutions for understanding the level to which students were socially involved in school.

The ideas of Albarracin, (2014); Dunleavy, Milton and Crawford (2010) and Trowler (2010) have bearing in this study as they related that cognitive engagement specifically self-motivated that got the highest ratings which explained as the student's investments in learning that students will search for experiences which allow to go further than the requirements and will relish trials.

Learning Environment

The learning atmosphere is of a very high caliber. The extremely high result demonstrated that all of the teacher involvement item-statements were rated as extremely high. Yet, the top three item-statements that most strongly support the very high ranking are as follows: “After an exam, we are given the written answers”, “The teacher asks me about the challenges I face while tackling an issue when working in a group or on my own”, and “My interest in the lecture is ensured by the teacher”. Due to this As a result, teachers put a lot of work and focus into their teaching assignments because they want their pupils to learn from them. This is consistent with the assertions made by Woolner, Clark, Laing, Thomas, and Tiplady (2012).

The idea of Liem and Chong (2017), that student engagement is receiving more attention as a framework for understanding educational successes and concerns like academic improvement or dropout, at least in part, because engagement is thought to be malleable and heavily influenced by the learning environment. This finding is consistent with the study's findings.

Correlation between Pedagogical Competence, Student Engagement and Learning Environment

There was a strong correlation between pedagogical proficiency and student involvement. All the three indicators of student engagement significantly related with all the ten indicators of pedagogical competence. This finding of the study corroborates with the claim of Abdulkareem and Oduwaiye, (2011), that the contribution of a teacher, pedagogical competence is observed to be helpful in developing student's engagement. The ability of teachers in using innovative strategies in formulating learning activities which can initiate participation from learners, helps attain learning faster because students are highly participative in them as in the classroom since part of the grading outcome of the students reflects their participation and engagement.

In addition, the study's results also agree with research done by Deslin (2013), who found that classroom interventions like creating welcoming and encouraging environments are a crucial component of a teacher's pedagogical competence. These include having a kind and appreciative attitude, remaining happy, relaxed, and peaceful throughout the lesson, and using humor. The study found that effective teachers' educational practices influence students' motivation and academic achievement.

The study's results disproved the null hypothesis that was initially put out and showed that there is a substantial relationship between pedagogical competency and the learning environment. This finding explained the ideas of Suciú and Mata, (2015) on the different pedagogical competence domains, and results showed relationship of teachers' pedagogical competence in the students active learning and their environment.

Student participation and the quality of the learning environment are significantly correlated. The result backs up Tanner's (2011) claim that educational activities are crucial for students' deep learning and that teachers should expect them to be able to comprehend the material and complete assignments as a result of their teaching methods, which are primarily reflected in the social connections between students and teachers.

Mediating Effect: Path Analysis

This study aimed to add to the body of knowledge about learning environment as a potential indirect mediating variable for the relationship between pedagogical competence and student engagement. As a potential mediating construct to explain how pedagogical competency and student engagement function, the learning environment was looked into. A teacher's approach to teaching tasks, as well as their psychological involvement in and willingness to master difficult topics, may be shown in this study's direct consequences, which may aid in improving the existing studies. In particular, Olson, Ryegard, and Apélgren's (2010) Pedagogical Competence Model, which stressed that the study's findings had in relation to teachers' teaching abilities, verifies the study's conclusions.

Further, the student's engagement as an essential aspect of effective teaching learning process is concluded by the engagement theory of Vygotsky that emphasizes the role of environments which includes teacher's pedagogical competence in providing learning environment that can promote engagement of learners which results in effective learning outcome. The mediation analysis involved the path between pedagogical competence and student engagement and pedagogical competence and learning environment. The findings confirmed the ideas of Tondeur (2016) that theories and models helped in providing support on the importance of developing the pedagogical competence of the teachers for them to be able to provide better activities in their students that can motivate learning to students which can be achieved through experiential learning activities. Furthermore, the school environment is a factor postulated to affect the engagement of students that can enhance better performance outcome.

CONCLUSION

As the study goes through the process of analyzing, producing output, and reporting, the use of Path Analysis increased the validity and thoroughness of the study's findings. The findings showed that there is a significant relationship between pedagogical competence and student engagement, a significant relationship between levels of pedagogical competence and learning environment, and a significant relationship between levels of pedagogical competence and learning environment. The level of pedagogical competence significantly influences learning environment. The Mediating Effect: Path Analysis for this study supports Olson, Ryegard, and Apélgren (2010), who stressed that they had demonstrated the importance of teaching abilities as a component of teachers' overall pedagogical competence.

In support the Scholarship of Teaching and Learning (SoTL) model developed by Ryegrd, Apélgren, and Olsson (2010) that outlined the actions of a pedagogically qualified teacher and the complexity of the concept of pedagogical competence. In this paradigm, it was stressed that instructional competency is proved by Successful teaching is characterized by the growth of the teacher, student learning, and evaluations.

Furthermore, findings have bearing on the idea of Tondeur (2016) that the school environment is a factor postulated to affect the engagement of students that can enhance better performance outcome.

Recommendation

Based on the study's findings, pedagogical competence, student engagement, and learning environment all have very high levels; yet, the researcher still recommends conducting a separate investigation that will only concentrate on the variables left out of this one. The specific items with the lowest mean scores in the broad and suitable subject knowledge indicator, such as "Seeks information about subject relevant research (e.g. Via journals or by attending conferences)," should receive special consideration. In response, the researcher suggests that teachers be given the chance to develop and improve their pedagogical competency by assigning them assignments that advance the aforementioned abilities.

Based on the results, aside from giving them responsibilities, the researcher suggests carrying out a skill-building exercise that will improve teachers' pedagogical expertise and increase their involvement with the students so that they can work effectively. Teachers and the head of the school may spend time working together on a task that will improve their capacity for decision-making.

Every aspect of the study needs to be reviewed again, as there may be additional symptoms that were missed from the variables and those that are there are very well demonstrated the poll-takers. To this purpose, the researcher advises locating other indicators that might have an impact on the study's variables.

Likewise, the researcher also discovers that teachers who use a well-motivated teaching philosophy tend to have the lowest test scores and who should receive training to improve their social skills so they can take part in whatever decision-making is required in the classroom. In order to unite the findings and conduct a more in-depth investigation of why teachers are still dissatisfied with their participation in decision-making in schools, the researcher suggests doing a second study from a different angle. This second study may be qualitative.

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