# TEACHERS' ATTRIBUTES AFFECTING STUDENTS' ACADEMIC ACHIEVEMENT AND STUDENTS' SATISFACTION AS ITS MEDIATING EFFECT

# Teachers' Attributes Affecting Students' Academic Achievement and Students' Satisfaction as Its Mediating Effect

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**Abstract**

The study investigates the relationship between teacher attributes, student satisfaction, and academic achievement among Grade 10 students in District II of Manila. Utilizing quantitative data analysis, the research examines the direct effects of teacher interaction, teacher learning experience, and teacher innovation skills on student satisfaction and academic performance. The result from the study reveals that teacher interaction significantly influences student satisfaction, with a higher impact on the teacher's learning experience and innovation skills. However, there are no significant direct effects where the observed relationship between the teacher attribute and academic achievement indicates that other factors play a more substantial role in influencing the student's academic outcomes. Furthermore, the analysis explores the mediating role of student satisfaction between teacher attributes and academic achievement and finds that student satisfaction does not significantly mediate the relationship. The findings suggest the complex interplay between teacher characteristics, student satisfaction, and academic performance, highlighting the need for a broader approach to understanding and enhancing educational outcomes. The study encourages further research into additional factors that could influence academic achievement and calls for educational policy and adjustment to better cater to the holistic needs of the students.

**Keywords:** Academic Achievement, Student Satisfaction, Grade 10 Students, Educational Outcomes, Teacher Attributes

## INTRODUCTION

Teachers are pivotal in shaping students' educational experiences and outcomes. Globally, their attitudes, attributes, and interactions with students significantly impact long-term academic performance and personal growth (Shi & Qu, 2022). In countries like the United States, educators who embrace innovative teaching methods and foster supportive classroom environments contribute to higher levels of student engagement and achievement. These findings highlight the universal importance of teacher attributes in driving educational success, with a growing body of research advocating for the enhancement of these attributes to meet global educational standards.

In the Philippines, the role of teachers carries unique cultural and contextual challenges. The Philippine K-12 curriculum emphasizes analytical reasoning and problem-solving as core competencies in mathematics education. However, the connection between these goals and teacher attributes still needs to be explored. Cultural factors, economic disparities, and resource limitations further complicate the teaching environment, making it imperative to study how teacher attributes influence student satisfaction and academic outcomes within this specific context (Gebresilase & Zhao, 2023). Addressing this gap is crucial for tailoring teacher training and instructional practices to better align with the country's educational

objectives.

While global studies underscore the critical role of teacher attributes in academic success, limited research exists on their specific impact on student satisfaction in the Philippine educational setting. Existing literature has yet to examine how teacher attributes such as pedagogical content knowledge, adaptability, and interpersonal skills contribute to fostering a positive learning environment in Philippine math classrooms. This gap is particularly significant given the national emphasis on analytical reasoning and problem-solving. By investigating the relationship between teacher attributes and student satisfaction in the Philippine context, this study aims to bridge this critical gap, leveraging frameworks like Shulman's Pedagogical Content Knowledge (PCK) and Wigfield & Eccles' Expectancy-Value Theory to provide deeper insights.

This study seeks to analyze the influence of teacher-comprehensive attributes on student satisfaction and academic achievement in the Philippine context, with a focus on mathematics education. The findings are expected to provide actionable insights for educators, parents, policymakers, and institutions in refining teaching strategies and fostering supportive classroom environments. By exploring teacher-student dynamics, this research aims to inform curriculum development and teacher training programs that emphasize the significance of teacher adaptability, communication, and instructional methods. Furthermore, the results

will offer the Department of Education and other stakeholders a framework for enhancing educational outcomes by aligning teaching practices with student needs, ultimately improving both satisfaction and performance in mathematics education.

**Framework**

This study is grounded in four key theories that provide a robust foundation for understanding the interplay between teacher attributes, student satisfaction, and academic achievement. Social Constructivism Theory by Lev Vygotsky (1978) emphasizes that learning is a social process constructed through interaction and collaboration. Central to this theory is the concept of the Zone of Proximal Development (ZPD), which highlights the gap between what a learner can achieve independently and with the guidance of a knowledgeable other, such as a teacher. Teachers play a crucial role in scaffolding students' learning within this zone, using attributes like adaptability, effective communication, and interpersonal skills to foster interactive and collaborative environments.

Experiential Learning Theory by David Kolb (1984) posits that learning is an active process consisting of four cyclical stages: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. Teachers who design experiential learning opportunities aligned with these stages significantly contribute to student engagement and satisfaction, particularly in mathematics education, where practical problem-solving and reflective practices are essential.

Innovation Diffusion Theory by Everett Rogers (2003) explores how new ideas and practices are adopted within a social system. Teachers who demonstrate openness to innovation and adaptability in integrating novel teaching methodologies are more likely to align with diverse student learning needs. Rogers identified five attributes—relative advantage, compatibility, complexity, trialability, and observability—that influence the adoption of new practices. These attributes are integral in understanding how teacher qualities shape educational experiences and outcomes.

Finally, the Expectancy-Value Theory (EVT) by Wigfield and Eccles (2000) provides a nuanced understanding of student motivation, emphasizing two critical factors: expectancy for success and the value of academic tasks. Teachers' ability to communicate the importance and relevance of learning content directly impacts students' motivation, satisfaction, and

academic performance. This theory underscores the critical role of teacher attributes in creating a supportive and motivating classroom environment. Together, these theories provide a comprehensive framework for examining the relationship between teacher attributes and their impact on student satisfaction and achievement.

This study was anchored on the theories mentioned in the theoretical framework, which deals with the students' teaching practices and mathematical proficiency using Bloom's Taxonomy, which may serve as the basis for research.

This study was premised on determining the effects between teacher's attributes and the student's academic achievement, with student satisfaction as its mediating effect.

**Limitations**

The scope of the study centers on exploring the impact of specific teacher attributes on student satisfaction and academic achievement within the classroom setting. The study will collect self-reported data from the Grade 10 students regarding their perception of the three key teacher attributes: Teacher-student interaction, teacher's learning experience, and teacher innovation skills. The study assesses student satisfaction and academic achievement within the curriculum framework established by the Department of Education (DepEd) to determine the relationship between the variables.

The research is limited to the students attending six (6) public educational institutions in District II of Manila. The scope encompasses the specific grade level within the defined geographical region, providing a consistent and controlled sample for examining the relationship between the teacher attribute and student satisfaction as well as academic achievement. Including the six schools offers a broader perspective on how the factors vary across the educational environments within the same district.

However, the study is limited in several ways:

1. The studies rely solely on the student-reported data, excluding the teacher's response and insight.
2. The study was confined to a specific district in Manila, focusing only on the Grade 10.
3. Personal experience, peer interaction, and other external factors influence student perception of the teacher's attributes and satisfaction.

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Despite the limitations, the study aims to offer valuable insight into the influence of teacher attributes on student satisfaction and academic achievement in the specific educational context, contributing to the broader understanding of effective teaching practices and the impact of student outcomes.

**Statement of the Problem**

The general purpose of this study is to determine the relationship between teachers' attributes, students' academic achievement, and students' satisfaction. Specifically, it aims to address the following questions:

1. How do the students assess the teachers' attributes in terms of:

1.1. Teacher's Interactions

1.2. Teacher's Learning Experience

1.3. Teacher's Innovation Skills

2. How satisfied are the students with various aspects of their educational experience?

3. What is the distribution of students' academic achievements?

4. What is the significant effect of the following teacher attributes on student satisfaction?

5. What is the significant relationship between student satisfaction and academic achievement?

6. What is the significant effect of the following teacher attributes on academic achievement in terms of:

6.1. Teacher's Interaction

6.2. Teacher's Learning Experience

6.3. Teacher's Innovation Skills

7. What is the mediating effect of student satisfaction between teacher attributes and academic achievement?

**Research Questions**

1. How do students perceive their teachers' interactions, learning experiences, and innovation skills?
2. What levels of satisfaction do students report concerning their educational experience?
3. How are students' academic achievements distributed across various performance levels?
4. To what extent do teacher attributes impact student satisfaction?
5. Is there a significant relationship between student satisfaction and academic achievement?
6. Do teacher attributes (interaction, learning experience, and innovation skills) significantly affect academic achievement?
7. Does student satisfaction mediate the relationship between teacher attributes and academic achievement?

**Hypothesis**

The study tests the following null hypotheses:

H$_0$1: There is no significant relationship between teacher attributes (teacher-student interaction, learning experience, and innovation skills) and student satisfaction.

H$_0$2: There is no significant variation in academic achievement among students based on teacher attributes.

H$_0$3: There is no significant relationship between student satisfaction and academic achievement.

H$_0$4: Student satisfaction does not mediate the relationship between teacher attributes and academic achievement.

**Literature Review**

This chapter provides international and domestic literature that verifies and supports the inquiry. These strengthen the points made during the research process and provide important context for the conversation and concerns in determining the current study. The following is the related literature review: Teacher Attributes, Teacher Interaction, Teacher Learning Experience, Teacher Innovation Skills, and Student Satisfaction.

**Teacher's Attributes**

Teacher attributes are a unique combination of traits, skills, and characteristics that define a classroom educator's effectiveness and directly affect scholars' learning, pride, and general educational fulfillment. The core of these attributes is difficulty-dependent understanding, which refers to the teacher's deep knowledge of the content they are training. This information bureaucracy is for effective teaching, allowing educators to explain complex concepts in

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simple phrases, hopefully solving questions and guiding students through complex topics (Ezeanyagu et al., 2023). Coupled with the know-how of the number of challenges is pedagogical knowledge, which includes the study of numerous teaching strategies, exclusive know-how of acquiring knowledge of patterns, and adapting methods to meet the wants of different novices. A teacher with experience in pedagogy can create engaging instruction, use differentiated instruction, and rent assessment equipment to tune student progress. In addition to content material and pedagogy, the instructor's emotional intelligence is critical to creating a great classroom environment. Teachers with high emotional intelligence can connect with students on a private level and foster a sense of acceptance and recognition.

This attribute allows them to respond appropriately to the emotional stimuli of students, creating a supportive and safe area for learning. The emotional bond between instructor and learner can greatly influence learner satisfaction, as students are more likely to interact and participate when they feel understood and valued. Additionally, this connection may lead to better control in the classroom, as students who respect their instructor are more likely to follow directions and protect the area. Organizational skills and study room control are similarly critical attributes (Yuan et al., 2023). Effective teachers can maintain order and structure within the classroom and offer a stable learning environment. They are professionals at setting clear expectations, managing time effectively, and creating exercises that keep students focused. This structure allows teachers to effectively deliver content without interruption and ensure that knowledge of objectives is achieved. Robust organizational skills help teachers stabilize workloads, plan instruction, and coordinate activities that make learning fun. Innovation and creativity are increasingly important in modern education, with teachers expected to incorporate generational and contemporary teaching methods into their classrooms (Bruno & Lawyer, 2020). Innovative teachers are open to exploring new ideas, using technology to improve mastery, and encouraging students to think outside the box. This characteristic promotes a dynamic classroom where students are encouraged to be creative and take advantage of the knowledge they have acquired. Teachers who embrace innovation often use multimedia resources, interactive devices, and collaborative tasks to allow students to interact and enable them to apply knowledge to real-world scenarios (Bruno & Lawyer, 2020).

## Teacher's Interaction

Teacher interaction is an element of classroom dynamics that noticeably affects student learning, engagement, and classroom climate. At its core, teacher interaction involves a variety of approaches where educators talk, connect, and build relationships with their students. These interactions create a supportive learning environment where students feel valued and impacted by participation. Effective instructor-student interaction includes verbal exchange, emotional support, responsiveness to student needs, and the ability to foster a classroom community experience. One of the most crucial aspects of teacher interplay is the verbal exchange of opinions (Feraco et al., 2023). Teachers must convey information effectively and ensure that students recognize the material and know what is expected of them. This consists of each verbal and non-verbal verbal exchange, with successful teachers adept at using tone, body language, and facial expressions to interact with students. In addition, open communication allows teachers to provide feedback and encouragement, which can be crucial in guiding students to mastery and development. In addition to verbal exchange, teacher interaction involves building strong relationships with students. This relational issue is essential to the growth of a classroom environment where students feel comfortable and supported (Bulan & Engin, 2023). Teachers who take the time to learn about their students' activities, backgrounds, and learning styles can tailor their learning to meet the desires of a male or female student. This personalized method can lead to higher levels of student pride and educational success because students are to engage with teachers who show a genuine interest in their well-being. Emotional assistance is another critical part of teacher interaction (Markkanen, 2022). Teachers who show empathy and understanding can help students navigate and provide a safe space to express emotions and discuss non-public issues. This help is for students going through educational or social challenges because it can boost their self-esteem and inspire them to persevere. By fostering an unsettling classroom environment, teachers contribute to a beautiful school tradition that fosters inclusion and admiration. In addition, the cooperation of teachers plays a significant role in managing the classroom. Effective teachers set clear rules and expectations while maintaining a calm and inspiring demeanor. This balance allows them to create a grounded environment without being overly authoritative. When teachers interact respectfully and continuously with students, they can maintain order in the classroom, reduce disruption, and develop mastery journeys. Teachers

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with robust classroom management skills can quickly address behavior problems while reinforcing kind behavior, which is central to a more harmonious classroom experience. In addition to these factors, instructor interplay involves cooperation and teamwork.

Teachers inspire images of organizations and peer-to-peer mastering to foster community in the lecture room. This collaborative approach is no longer the most skillful because it allows students to share ideas and solve problems. However, it also builds social competence and teamwork (Akashee & El-Mneizel, 2020). Teachers who excel at this element of interaction create a classroom culture in which students feel valued and empowered to contribute to the way they learn. In addition, the interplay of teachers extends beyond the classroom to include relationships and the school network. Teachers who maintain an open verbal exchange with parents can update them on their toddler's progress and address any concerns (Li & Zhu, 2023). This joint relationship between teacher can lead to higher instructional consequences because they feel protected from their child's training and are much more likely to support mastery in the home. Teachers who actively interact with the faculty network can also build a network of guides, gain insights from colleagues, and contribute to high school-wide projects. Ultimately, the interplay of teachers is a complicated and dynamic thing in education that affects student learning, engagement, and classroom tradition. It includes clear communication, building dating, emotional support, school room management, collaboration, and networking. Effective interaction with the instructor fosters a welcoming and inclusive lecture room environment where students feel valued, influenced, and empowered to analyze. By cultivating robust interactions with students, teachers can create a lasting impact on their educational adventures and contribute to their academic fulfillment and personal growth (Maechel et al., 2022).

**Teacher's Learning Experience**

A teacher's mastery refers to the cumulative information, skills, and knowledge acquired through formal education, professional development, and realistic learning experiences. This connection to knowledge acquisition is critical to shaping teacher effectiveness in the classroom and fosters scholarly engagement, pride, and educational success. The breadth and depth of a teacher's knowledge entertainment in informing their learning philosophy, instructional strategies, and classroom management

techniques, which in the long run affects their world-class training. Formal education forms the muse of a teacher's learning. Most educators pursue levels in education or specific situations along with arithmetic, technology, or language arts to equip them with the foundational knowledge necessary for effective learning (Kositanurit et al., 2022). In addition to schools, many teachers associate with graduate studies, gaining knowledge or doctoral study programs to deepen their expertise and live by modern teaching studies and trends. This constant pursuit of information demonstrates a commitment to lifelong learning and professional growth. However, a teacher's acquisition of knowledge about joy is more comprehensive than formal training. Professional development is a critical aspect that includes workshops, seminars, meetings, and specialized training packages. These opportunities allow teachers to hone their skills, analyze new learning strategies, and communicate with colleagues. Professional improvement is precious in a rapidly changing educational landscape where generations, pedagogical theories, and guidelines constantly evolve. Teachers actively involved in professional development are likelier to adopt modern teaching practices and incorporate current educational tools into their classrooms. Hands-on teaching is the most extensive challenge in the instructor's learning journey. The classroom offers teachers a direct view of student behavior, study alternatives, and classroom dynamics (Germani et al., 2022). This hands-on experience allows teachers to refine their teaching strategies, expand classroom management strategies, and build relationships with students. As teachers gain more experience, they are increasingly prepared to handle diverse classrooms, cope with individual learning desires, and create inclusive and supportive environments.

Moreover, the teacher's acquisition of knowledge about entertainment consists of private growth and self-reflection. Reflective practices, which consist of journals or comments from colleagues, allow teachers to evaluate the effectiveness of their teaching and discover areas for improvement. This introspection encourages momentum and teachers to adapt and develop their processes entirely based on classroom feedback and results. Teachers who interact in reflective practices are more likely to extend innovative solutions to classroom problems and continually refine their learning techniques. In addition, the acquisition of entertainment knowledge extends to cultural competence and inclusivity. Teachers who are exposed to many cultures and backgrounds are better able to create an inclusive classroom environment. This cultural knowledge is

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crucial in brand-new multicultural classrooms where s come from many backgrounds and provide accurate studies (Jou et al., 2022). Teachers who understand and appreciate cultural differences can tailor their learning to be extra inclusive and foster an experience of belonging among all students. Collaborating with colleagues is another vital part of a teacher's learning pleasure. Teachers who paint together can present exceptional practices, exchange ideas, and offer mutual assistance. Shared mastery among teachers strengthens their collective know-how and fosters a sense of community within the learning environment. This collaboration regularly leads to advanced learning practices and an extra cohesive approach to school or district training.

In summary, teacher learning is a multi-faceted journey that includes formal training, professional development, meaningful learning experiences, private boom, cultural competence, and collaboration. This comprehensive familiarization technique equips teachers with the skills and understanding to create effective and engaging classroom environments. Teachers can adapt to the changing academic environment by continually expanding their knowledge, incorporating revolutionary teaching techniques, and promoting student enjoyment and educational fulfillment. Ultimately, the acquisition of instructor experience is a dynamic and ongoing system that profoundly affects the excellence of the education they offer and the educational outcomes of their students (□□□□□ et al., 2023).

**Teacher's Innovation Skills**

The teacher's innovative skills include creatively and effectively adapting learning techniques, hiring technology, and developing accurate learning stories that enhance student engagement and learning outcomes. Innovation in learning involves a combination of creativity, adaptability, and a willingness to experiment with new techniques that go beyond traditional academic methods (Ibáñez et al., 2022). These skills are crucial in today's rapidly evolving academic landscape, where technology, pedagogical theories, and learner needs constantly change. One of the important components of teachers' innovative skills is to use the era to create attractive and interactive learning about the environment. Innovative teachers enrich their teaching methods by incorporating digital devices, multimedia resources, and online structures. This technology integration allows teachers to create dynamic classrooms that captivate with numerous learning styles. For example, a teacher can use an interactive software program to

demonstrate complex mathematical principles or digital truth to take students on digital discipline trips to improve their proficiency and retention of the material. Another essential of innovation is the ability to design innovative learning experiences from studies that resonate with students. Innovative teachers often use business-based learning, collaborative activities, and experiments to make mastery extra applicable and engaging. This approach encourages students to apply their know-how in realistic situations and promotes basic reasoning and problem-solving skills (Ibáñez et al., 2022). For example, a technology know-how instructor may assign students to build an operating model of a simple device, even though a history coach may arrange a classroom debate about a historical event. These activities no longer only have interactive students but also encourage teamwork and verbal exchange talents. In addition, teaching innovation means adapting teaching techniques to meet the diverse needs of students. Teachers with strong innovation competencies are flexible in their methods, adapting lessons and assessments to accommodate specific learning patterns and abilities. They can use differentiated instruction that allows students to learn at their own pace or implement flexible seating arrangements to sell a more inclusive and welcoming classroom environment. By embracing this flexibility, revolutionary teachers can create a classroom environment that encourages all students to participate and succeed. Collaboration and partnership are other factors in teachers' innovative abilities. Innovative teachers often collaborate with colleagues to share ideas and expand interdisciplinary initiatives that enrich learning. They can work with mother and father and the wider faculty community to create a support network for classroom learning. This collaborative spirit can lead to an exceptionally vibrant learning environment where innovation thrives and students benefit from an extra holistic approach to education. In addition to generation and creativity, teachers' innovative abilities include a commitment to continuous study and professional development. Innovative teachers stay well-informed about modern educational trends, research, and best practices. They attend workshops, seminars, and conferences to explore new strategies and gain input from other educators (Ezeanyagu et al., 2023). This constant pursuit of expertise ensures that revolutionary teachers remain at the forefront of instructional innovation, always ready to bring new ideas into the classroom. Finally, teachers' innovation competencies are rooted in a passion for learning and a genuine determination to encourage students. Innovative teacher are passionate about their subjects and willing to take risks to make learning exciting. This fervor regularly leads

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to the onset of accurate dating reviews that capture students' imagination and encourage them to discover new principles. A revolutionary instructor might transform a conventional school room into a hands-on laboratory of technological know-how or use storytelling to bring ancient events to life. This enthusiasm and creativity can spark a comparable enthusiasm in students and foster a lifelong love of learning. In summary, the innovative talent of coaches encompasses a wide range of attributes that include creativity, adaptability, technological proficiency, and collaborative thinking (Zhang, 2022). These capabilities enable teachers to create engaging and dynamic classroom environments that promote student engagement, satisfaction, and academic fulfillment. Innovative teachers constantly look for new ways to improve their teaching, whether through technology, full business-based mastery, or differentiated preparation. By cultivating these skills, teachers could have a long-term impact on the educational journeys of their students and prepare them for fulfillment in an unexpectedly shifting international environment (Yuan et al., 2023).

**Student's Satisfaction**

Student satisfaction is a multifaceted concept encompassing a student's essential satisfaction with their academic experience, including the pleasantness of instruction, classroom environment, relationships with teachers and peers, and educational success. This pride is an essential indicator of the effectiveness of instructional establishments, as it is closely associated with students' engagement, motivation, and success (Bulan & Engin, 2023). Several elements contribute to student delight and expertise. These factors are prime to selling profitable and practical knowledge. The foundation of student delight is excellent teaching and the relationship between teachers and students (Meng & Yang, 2022). Knowledgeable, engaging, and approachable teachers tend to create wonderful classroom surroundings that increase student pride. When teachers are obsessed with their issue and display a proper hobby in the well-being of their students, they construct a dating that encourages students to participate actively in elegance. This courting fosters a sense of trust and recognition and allows students to feel valued and stimulated to learn. The study room environment additionally performs a significant role in student satisfaction. Well-organized, inclusive, and stimulating classroom surroundings can affect students' attitudes toward gaining knowledge. Classrooms that encourage collaboration, creativity, and open communication have higher levels of student pleasure. For instance, flexible seating preparations,

institution projects, and interactive activities can contribute to more excellent, dynamic, and exciting knowledge of experience (Kositanurit et al., 2022).

Additionally, a lecture room environment free from discrimination, bullying, or other bad influences creates a secure area where students can be cognizant of their studies without worry or tension. Student satisfaction is likewise influenced by the relevance and application of the curriculum (Sezer, 2021). When students see a clear connection between what they study in the lecture room and actual-world packages, they are much more likely to be satisfied with their schooling. Teachers who incorporate realistic examples, fingers-on sports, and actual-world situations into their instructions help students understand the cost of their schooling, mainly to multiply satisfaction. This relevance also contributes to an extra experience of reason and motivates students to interact more profoundly with the situation. Another critical factor of scholar pride is peer relationships. Positive interactions with classmates and a feeling of camaraderie can decorate the overall. Teachers can facilitate these relationships by encouraging group paintings, peer studying, and cooperative initiatives. When students feel linked to their peers, they are much more likely to participate in magnificence and engage with the material, leading to a more enjoyable study. Personal and educational achievements and a sense of fulfillment also contribute to student delight. When students achieve their academic desires and acquire a reputation for their efforts, they experience delight and motivation to hold their training. Teachers can guide this aspect of scholar satisfaction by presenting clean expectations, positive comments, and celebrating scholar fulfillment. This recognition can raise students' vanity, encourage them to tackle new challenges and increase their pleasure with educational enjoyment. In addition to those elements, scholar satisfaction is stimulated using the broader school environment and support systems. Schools that provide extracurricular activities, counseling services, and educational assistance applications offer extra resources contributing to a properly-rounded instructional revel. These support systems help students navigate educational and private challenges and make sure they have the equipment and steerage needed to prevail (□□□□□ et al., 2023). Schools that foster an experience of community and encourage scholar involvement in faculty-wide events frequently revel in higher stages of the pupil. In the end, pupil pleasure is a complex and dynamic assemble that reflects the scholar's typical revel in the academic surroundings. It is influenced with the aid of the best of teaching, the classroom environment, relationships with instructors

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and peers, the relevance of the curriculum, personal academic consequences, and the wider school surroundings. Understanding and addressing these elements is essential to developing a pleasing and engaging experience. Educators and faculties can increase student pleasure by specializing in these factors, leading to advanced academic effects and a more successful educational journey for all students (Ibáñez et al., 2022).

**Academic Achievement**

Academic achievement is a central topic in educational research, with numerous studies investigating the factors influencing student success. A key area of focus is teacher effectiveness. Studies show that teachers with strong pedagogical skills, positive student interactions, and engaging instructional practices can significantly improve student learning outcomes (Shi & Qu, 2022; Gebresilase & Zhao, 2023).

Student-related factors also play a crucial role. Intrinsic motivation, strong work ethic, and effective learning strategies are all associated with higher academic achievement (Wang & Eccles, 2013; Pintrich & Zusho, 2002). Additionally, students' belief in their ability to succeed (self-efficacy) significantly impacts their performance (Bandura, 1997).

Socioeconomic factors also come into play. Research suggests a correlation between lower socioeconomic status (S.E.S.) and lower academic achievement (Jencks et al., 1972). However, the issue is complex, with factors like family support potentially mitigating this effect (Hoover-Dempsey & Sandler, 1995). The use of technology in education and peer influence are additional areas of ongoing research, as they can positively or negatively affect academic achievement (Means et al., 2019; Wentzel, 2000).

Understanding these various factors is crucial for educators and researchers to develop effective strategies that promote academic success for all students.

**Synthesis of the Reviewed Literature and Studies**

Mediation within the educational context includes expertise in how unique variables persuade scholars about outcomes, including academic fulfillment and student satisfaction. Mediation analysis is a statistical approach used to understand the skewed effects of an unbiased variable on a given variable through a mediator. In training, mediation is often used to examine how teacher attributes influence scholar

effects through the mediator variable and scholar pride. For example, let us keep in mind the instructor-scholar interplay. A wonderful interplay can immediately affect student pride, especially in a study room environment conducive to and enhances learning (Feraco et al., 2023). However, the impact of teacher-scholar interplay on learning outcomes may additionally be mediated through scholarly enjoyment. When students are satisfied with their classroom experience, they are more likely to be engaged and motivated, which can improve their academic performance (Bulan & Engin, 2023).

Similarly, instructors' innovative abilities could have a mediated effect on educational outcomes. Teachers who creatively integrate technology, use multiple coaching methods, and foster a dynamic learning environment can significantly increase scholar satisfaction. In addition, this satisfaction boom can lead to improved motivation and participation, which translates into higher educational success (Ibáñez et al., 2022). In this scenario, a mediating factor—academic pride—plays a vital role in the courtship between teachers' innovation skills and academic performance. Additionally, teacher acquisition of knowledge about joy, including formal training, professional development, and classroom experience, can circularly impact instructional outcomes through student pride (Kositanurit et al., 2022). Teachers with giant mastery stories are likelier to create engaging instruction and effectively manage classrooms, leading to greater student satisfaction. This satisfaction may then mediate the relationship between coaches who delight in students' academic performance, thus demonstrating the centrality of mediation in educational research. The mediating impact of student pride is also evident within the influence of auditorium management and society. Teachers who maintain grounded and supportive environments in school classrooms tend to foster greater levels of student pride, which can lead to advanced educational outcomes (Markkanen, 2022). In this example, the mediator allows for an explanation of the mechanism through which instructor attributes influence instructional success.

**METHODOLOGY**

**Research Design**

This study employs a quantitative research design, precisely a descriptive approach, to examine the relationships between teacher attributes, student satisfaction, and academic achievement. The design was chosen to collect and analyze numerical data

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systematically, providing objective insights into the phenomena being investigated. A quantitative approach is appropriate as it allows for testing hypotheses, identifying patterns, and establishing relationships between variables.

The study employs Structural Equation Modeling (SEM) to analyze data, following a two-stage process as described by Bagozzi et al. (1998). The first stage validates the measurement model by testing the reliability and validity of the questionnaire, while the second stage examines the structural relationships among latent variables. This robust analytical method ensures a comprehensive evaluation of the connections between teacher attributes, student satisfaction, and academic achievement.

**Respondents/Participants**

The study targets Grade 10 students from six public high schools in District II of Manila. These students were chosen because they represent a critical stage in education where the impact of teacher attributes and satisfaction on academic performance is highly relevant.

Table 1

| School Name | Population | Sample |
|---|---|---|
| A | 314 | 25 |
| B | 1,275 | 103 |
| C | 429 | 35 |
| D | 349 | 28 |
| E | 1,359 | 100 |
| F | 648 | 53 |

**Sampling**

The sampling process uses simple random sampling to ensure that each student in the target population has an equal chance of being selected. This method enhances the study's external validity by allowing the findings to be generalized across the broader population.

The total population consists of 4,374 students across six schools. Using Cochran's formula, the sample size was determined to be 600, distributed proportionally across the schools based on their student population. This sample size ensures statistically reliable results while maintaining feasibility.

**Instruments of the Study**

The primary research instrument is a researcher-made questionnaire developed based on an extensive literature review. The questionnaire assesses teacher attributes, including interaction, learning experience, and innovation skills, as well as student satisfaction and academic achievement.

The instrument uses a Likert scale ranging from "strongly agree" to "strongly disagree" to quantify perceptions and experiences.

Validation Process:

1. Expert Review: The questionnaire was reviewed by an advisor, four master teachers, and one Ph.D. holder in Mathematics Education to ensure content validity and alignment with the study objectives.
2. Pilot Testing: The questionnaire was tested with a subset of the target population to assess clarity, reliability, and response time.
3. Reliability Testing: Cronbach's Alpha was used to ensure internal consistency. Results showed high reliability:

- Student Satisfaction: 0.856
- Teacher Interaction: 0.788
- Teacher Learning Experience: 0.799
- Teacher Innovation Skills: 0.723

**Data Gathering Procedure**

1. Development of the Questionnaire: The instrument was created, validated, and refined based on expert feedback and pilot testing.
2. Obtaining Permission: Formal approval was secured from the Department of Education and school principals.
3. Questionnaire Administration: The questionnaires were distributed manually to students, accompanied by clear instructions and informed consent forms to ensure understanding and voluntary participation.
4. Data Collection: Completed questionnaires were collected, and responses were digitized for analysis. Confidentiality and anonymity were maintained throughout.

**Ethical Considerations**

Ethical guidelines were strictly followed, including compliance with the Data Privacy Act of 2012 (Republic Act No. 10173) in the Philippines. Key considerations include:

- Informed Consent: Participants and their guardians were informed about the study's purpose, methods, and their rights, including the right to withdraw at any time.

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- Anonymity: No personally identifiable information was collected to ensure participant anonymity.
- Confidentiality: Data was stored securely and used solely for research purposes.
- Permission: Approval was obtained from the Department of Education and school administrators to ensure institutional compliance.

## RESULTS AND DISCUSSION

The section provides a comprehensive analysis of the findings, discussing the statistical significance of the relationship and the implication of the educational practices.

Table 2. *Students' Assessment of The Teachers' Attributes in Terms of Teacher Interaction*

| Teacher Interaction | Median | Verbal Interpretation |
|---|---|---|
| My teacher actively encourages and values my participation in class discussions. | 5.00 | Very Satisfactory |
| My teacher provides helpful and timely feedback on my assignments and assessments. | 5.00 | Very Satisfactory |
| My teacher takes the time to have one-on-one conversations with me to understand my individual learning needs. | 5.00 | Very Satisfactory |
| My teacher creates a welcoming and inclusive classroom environment where everyone feels comfortable expressing their ideas. | 5.00 | Very Satisfactory |
| My teacher uses various teaching strategies to make sure all students can understand and engage with the material. | 5.00 | Very Satisfactory |
| My teacher acknowledges and celebrates my achievements, which motivates me to perform better. | 5.00 | Very Satisfactory |
| My teacher promotes collaboration and teamwork by assigning group projects and facilitating group discussions. | 4.00 | Satisfactory |
| My teacher constantly seeks ways to improve their teaching and actively incorporates student feedback. | 5.00 | Very Satisfactory |
| My teacher listens attentively to my questions and concerns, making me feel heard and valued. | 5.00 | Very Satisfactory |
| My teacher provides opportunities for me to ask questions and seek clarification, ensuring that I fully understand the topic. | 5.00 | Very Satisfactory |
| **Grand Median:** | **5.00** | **Very Satisfactory** |

The assessment of teacher attributes in District II of Manila public high schools reveals a remarkably positive perspective from Grade 10 students regarding their interactions with teachers. The evaluation across various dimensions of teacher-student Interaction consistently yielded a grand median score of 5.00, classified as "Very Satisfactory." This unanimous approval indicates that students perceive their teachers as highly effective in fostering a supportive and engaging learning environment. Specific areas highlighted include active encouragement of participation, timely and helpful feedback, personalized attention to individual learning needs, and promoting an inclusive and welcoming classroom atmosphere. These results suggest a strong alignment between teaching strategies and student engagement, which is crucial for enhancing learning outcomes.

Table 3. *Grade 10 Students' Assessment of Teacher Attributes in Public High Schools in District II of Manila in Terms of Teacher Learning Experience*

| Teacher Learning Experience | Median | Verbal Interpretation |
|---|---|---|
| My teacher's continuous learning and professional development positively impact their instructional practices, benefiting my learning experience. | 5.00 | Very Satisfactory |
| My teacher's expanded knowledge and expertise contribute to their ability to explain complex concepts clearly, enhancing my understanding. | 5.00 | Very Satisfactory |
| My teacher's ongoing learning experiences inspire them to provide engaging and practical classroom experiences. | 5.00 | Very Satisfactory |
| My teacher's exposure to innovative teaching methodologies benefits my learning experience | 5.00 | Very Satisfactory |
| My teacher's application of research-based strategies enhances my engagement and learning outcomes | 5.00 | Very Satisfactory |
| My teacher's participation in professional learning communities and collaboration with colleagues positively influences my learning experience. | 5.00 | Very Satisfactory |
| My teacher's reflective practices, influenced by their learning experience, help tailor their instruction to meet my needs. | 5.00 | Very Satisfactory |
| My teacher's understanding of assessment and feedback techniques supports my growth and academic improvement. | 5.00 | Very Satisfactory |
| My teacher's enthusiasm for learning inspires and motivates me to be more engaged in the classroom. | 5.00 | Very Satisfactory |
| My teacher's learning experience contributes significantly to my satisfaction and academic performance | 5.00 | Very Satisfactory |
| **Grand Median:** | **5.00** | **Very Satisfactory** |

The assessment data on teacher learning experiences from Grade 10 students in District II of Manila reveal a consistently high valuation, with a grand median score of 5.00, described as "Very Satisfactory." This uniform excellence in scores underscores the students' perception that their teachers' continuous professional development and advanced pedagogical methods significantly enhance the learning environment. Students recognize the direct benefits of their teachers' ongoing education, including improved clarity in explaining complex concepts, application of innovative teaching methods, and practical assessment and feedback techniques. This positive feedback loop suggests that the teachers' commitment to personal and professional growth profoundly impacts students by providing more engaging, understandable, and tailored educational experiences.

Table 4. *Grade 10 Students' Assessment of Teacher Attributes in Public High Schools in District II of Manila in Terms of Teacher Innovation Skills*

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| Teacher Innovation Skills | Median | Verbal Interpretation |
|---|---|---|
| My teacher's effective incorporation of technology and digital tools enhances learning and makes it more interactive. | 5.00 | Very Satisfactory |
| My teacher's creativity in designing innovative teaching strategies for activities makes learning exciting. | 5.00 | Very Satisfactory |
| My teacher's willingness to explore new approaches and methodologies creates a dynamic and engaging classroom environment. | 5.00 | Very Satisfactory |
| My teacher's implementation of project-based learning fosters my problem-solving skills. | 5.00 | Very Satisfactory |
| My teacher's dedication to staying updated with educational trends ensures that our learning experiences are relevant. | 5.00 | Very Satisfactory |
| My teacher's adaptability in customizing instructional materials suits different learning styles. | 5.00 | Very Satisfactory |
| My teacher's interdisciplinary approaches make connections across subjects, providing a holistic learning experience. | 5.00 | Very Satisfactory |
| My teacher's collaboration with colleagues fosters an environment of continuous learning. | 5.00 | Very Satisfactory |
| My teacher's encouragement of self-directed learning promotes innovation and critical thinking skills. | 5.00 | Very Satisfactory |
| My teacher's commitment to fostering a growth mindset and learning from mistakes encourages classroom innovation. | 5.00 | Very Satisfactory |
| **Grand Median:** | **5.00** | **Very Satisfactory** |

| Student's Satisfaction | Median | Verbal Interpretation |
|---|---|---|
| My teacher relates new conceptual knowledge to the previous concept in a meaningful manner. | 5.00 | Very Satisfactory |
| My teacher enables us to explain basic mathematical concepts | 5.00 | Very Satisfactory |
| My teacher encourages us to define the concept in the correct mathematical language | 5.00 | Very Satisfactory |
| My teacher highlights the importance of the mathematical concept and how to use it correctly | 5.00 | Very Satisfactory |
| My teacher directs us to determine hypotheses and the necessary values in mathematical problem | 5.00 | Very Satisfactory |
| My teacher presents open-ended life problems that can be solved in different ways. | 5.00 | Very Satisfactory |
| My teacher guides us to the method of determining necessarily suitable strategies to solve problems effectively | 5.00 | Very Satisfactory |
| My teacher asks us to discuss and explain how the procedures work in solving the problem and helps us to justify the solution method | 5.00 | Very Satisfactory |
| My teacher asks us to explain the concept in connection with the solution and guides us to assess the solutions | 5.00 | Very Satisfactory |
| My teacher connects strategies and methods to more appropriate and efficient procedures | 5.00 | Very Satisfactory |
| **Grand Median:** | **5.00** | **Very Satisfactory** |

The assessment of teacher interaction in public high schools among Grade 10 students in District II of Manila reveals an overwhelmingly positive perception. The data shows that all but one attribute received a "Very Satisfactory" verbal interpretation, with each maintaining a median score of 5.00. This suggests that teachers in this district are highly effective in fostering engaging and inclusive classroom environments. The attribute of promoting collaboration and teamwork through group projects and discussions received a slightly lower interpretation, "Satisfactory," indicating a potential area for further development. However, the grand median score of 5.00 underscores the overall effectiveness of teacher-student interactions, indicating a solid foundation for student engagement and success.

Table 5. *Grade 10 Students' Assessment of their Own Satisfaction with their Educational Experience*

The Grade 10 students in District II of Manila have expressed high satisfaction with their educational experience, particularly regarding their teachers' approach to teaching and problem-solving in mathematical contexts. According to Table 5, every assessed attribute has a median score of 5.00, corresponding to a verbal interpretation of "Very Satisfactory." Overall, positive feedback from all aspects shows that students believe their teachers effectively connect new concepts to previous knowledge, promote accurate mathematical language, assist with problem-solving techniques, and relate theoretical ideas to real-life situations. This sequence of reactions implies that these educators excel in their knowledge of the subject and in creating a learning atmosphere that prioritizes critical thinking and practical problem-solving abilities.

Table 6. *Frequency and Percentage Distribution of the Students in terms of Academic Achievement*

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| Academic Performance | Frequency | Percentage (%) |
|---|---|---|
| 90 – 100 (Outstanding) | 319 | 90.1 |
| 85 – 89 (Very Satisfactory) | 35 | 9.9 |
| **Total** | **354** | **100.0** |

Diagram 6 below gives an idea of academic achievement among students broken into two performance groups: "Outstanding" (90-100) and "Very Satisfactory" (85-89). The frequency data reveals that out of 354 students, only 9.9% (319 students) had an "Outstanding" achievement, while the most significant number, 90.1% (35 students), was found in the category of "Very Satisfactory." This shows that although most students are doing well academically, only some reach the topmost level regarding their academic achievements. Such a pattern can suggest a need for focused support to strive for higher performance or demonstrate that most learners meet requirements without standing out.

**Table 7.** *Significant Effect Between Teachers' Attributes and Students' Satisfaction*

| Direct Effect | Standard Beta | Standard Error | Z | P |
|---|---|---|---|---|
| TI→SS | 0.732 | 0.075 | 5.202 | 0.000 |
| TLE→SS | 0.348 | 0.060 | 3.869 | 0.000 |
| TIS→SS | 0.273 | 0.050 | 3.312 | 0.001 |

Table 7 displays the notable impacts of different teacher characteristics on student contentment within an academic setting. The table showcases three characteristics: Teacher Interaction (TI), Teaching and Learning Environment (TLE), and Teaching Instructional Strategies (TIS). The typical beta coefficients indicate a significant positive relationship between these characteristics and student contentment. In particular, TI has the most powerful impact on student happiness, with a beta of 0.732 and a Z-value of 5.202, showing a strong and significant connection (p = 0.000). Likewise, TLE and TIS show substantial direct impacts on student satisfaction, with beta coefficients of 0.348 and 0.273 and corresponding p-values of 0.000 and 0.001. These findings suggest that teacher engagement is crucial in increasing student contentment, with teaching and learning environments and instructional methods following closely behind. The relevance of these relationships emphasizes the importance of nurturing positive teacher-student interactions and establishing a conducive learning environment to enhance student satisfaction.

Jou, Mariñas, and Saflor (2022) delve deeper into how teacher characteristics influence student contentment and educational success, focusing on cognitive aspects that impact K-12 students in a modular distance learning setup during the COVID-19 crisis. This research underscores that successful educational experiences rely heavily on effective communication, Interaction, and instructional strategies. The results indicate that student satisfaction and engagement can increase when teachers have strong interaction skills and use various teaching methods. The results in Table 7 highlight the critical impact of Teacher Interaction, supporting the study's findings that stress the importance of teachers actively engaging with students to foster a positive learning environment. This method promotes student satisfaction and can enhance academic success in traditional and online learning environments.

**Significant Effect Between Student's Satisfaction and Students' Academic Achievement**

**Table 8.** *Significant Effect Between Student's Satisfaction and Students' Academic Achievement*

| Direct Effect | Standard Beta | Standard Error | Z | P | Interpretation |
|---|---|---|---|---|---|
| SS→AA | 0.001 | 0.719 | 0.009 | 0.993 | Not significant |

The analysis of the direct effect between students' satisfaction (SS) and academic achievement (AA) shows a minimal impact, with a standard beta (β) of 0.001, indicating a fragile association. The statistical significance of this relationship, as reflected by the Z-value of 0.993 and a P-value above conventional significance levels, suggests that the direct effect of student satisfaction on academic achievement might not be significant. This outcome implies that satisfaction might play a role in a broader educational context, but it does not directly translate into academic performance in this specific study setting. The substantial standard error relative to the beta value further underscores this effect's potential instability or irrelevance in the context examined.

The finding that student satisfaction (SS) has a minimal and statistically insignificant direct effect on academic achievement (AA) aligns with some previous research. For instance, a 2017 study on university students found similar results. This suggests that student satisfaction might not directly drive academic performance.

One explanation could be the study's focus. It concentrated on in-class satisfaction, overlooking factors like student motivation, study habits, or external support systems, which can significantly impact achievement. Additionally, the research design captured only some of the picture. The relationship between satisfaction and achievement could be more complex, with other variables playing an indirect role.

Finally, the context might be a factor. This relationship

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may vary depending on the educational level, subject matter, or school culture. Future research could explore these possibilities by examining the mediating role of additional variables, investigating different educational settings, and identifying the aspects of student satisfaction that hold the most weight for academic performance—gaining a more comprehensive understanding.

Table 9. *Significant Effect Between Teachers' Attributes and Student's Academic Achievement*

| Direct Effect | Standard Beta | Standard Error | Z | P |
|---|---|---|---|---|
| TI→AA | 0.062 | 0.581 | 0.634 | 0.526 |
| TLE→AA | 0.054 | 0.470 | 0.869 | 0.385 |
| TIS→AA | -0.026 | 0.432 | -0.413 | 0.680 |

Table 8 illustrates the significant effect, or lack thereof, between student satisfaction (SS) and students' academic achievement (AA). The direct impact between these two variables is almost zero, with a standard beta of 0.001. This minuscule coefficient suggests that student satisfaction has little to no direct effect on academic achievement. The associated standard error of 0.719 and a Z-value of 0.009 support this conclusion, indicating that the result is statistically insignificant (p-value of 0.993).

Tinto's (1993) model suggests student satisfaction might be an outcome, not a cause, of academic achievement. Students who perform well might be more satisfied, creating a feedback loop. This aligns with the possibility that other factors directly influence achievement.

Germani, Germani, and D'Amico (2022) investigate the relationship between teachers' support for student autonomy and its impact on motivation, achievement, and well-being. Their study indicates that while teacher support can boost students' motivation and well-being, it does not always directly lead to improved academic outcomes. This aligns with the data from Table 9, where no substantial evidence links student satisfaction with academic achievement. This suggests that other elements, such as teaching quality, student engagement, and intrinsic motivation, might be more critical in influencing academic success. The research highlights that educational success is complex and multidimensional, requiring a blend of various supportive factors to encourage both satisfaction and academic excellence.

Table 10. *Mediating Effect of Students' Satisfaction Between Teachers' Attributes and Students' Academic Achievement*

| Indicators | p-values | Verbal Interpretation | Remarks |
|---|---|---|---|
| Teacher's Innovation Skills | 0.248 | Failed to Reject Ho | Not Significant |
| Teacher's Interaction | 0.000 | Reject Ho | Significant |
| Teacher's Learning Experience | 0.002 | Reject Ho | Significant |

The data in Table 10 illustrates the mediating effect of students' satisfaction on the relationship between teachers' attributes and students' academic achievement. Specifically, the p-values indicate the significance of various teacher attributes on student satisfaction. Teacher's innovation skills, with a p-value of 0.248, do not significantly influence student satisfaction, as indicated by the failure to reject the null hypothesis (Ho). In contrast, teachers' interaction and learning experience, with p-values of 0.000 and 0.002, significantly impact student satisfaction, leading to rejecting the null hypothesis. This suggests that while innovative teaching methods alone may not enhance student satisfaction, effective teacher-student Interaction and positive learning experiences play crucial roles in increasing student satisfaction, which could positively influence academic achievement.

Table 1. *Academic Performance*

| Indicators | p-values | Verbal Interpretation | Remarks |
|---|---|---|---|
| Teacher's Innovation Skills | 0.365 | Failed to Reject Ho | Not Significant |
| Teacher's Interaction | 0.742 | Failed to Reject Ho | Not Significant |
| Teacher's Learning Experience | 0.329 | Failed to Reject Ho | Not Significant |

The data in Table 10 examines the direct impact of teachers' attributes on students' academic performance. The p-values for teacher's innovation skills (0.365), teacher's Interaction (0.742), and teacher's learning experience (0.329) all indicate that these attributes do not have a statistically significant effect on academic performance, as evidenced by the failure to reject the null hypothesis (Ho) for each attribute. This suggests that, while these teacher characteristics may influence other aspects of the educational experience, such as student satisfaction (as shown in Table 9), they do not directly translate to measurable improvements in academic performance. This highlights the complexity of educational outcomes and implies that factors beyond teacher attributes may play a more critical role in determining students' academic success.

Table 12. *Academic Performance*

| Indicators | p-values | Verbal Interpretation | Remarks |
|---|---|---|---|
| Student's Satisfaction | 0.517 | Failed to Reject Ho | Not Significant |

Table 12 presents the analysis of the impact of students' satisfaction on their academic performance. The p-value of 0.517 indicates that the relationship between student satisfaction and academic performance is not statistically significant, as the null hypothesis (Ho) cannot be rejected. This suggests that, within the scope of this study, students' satisfaction with their teachers' attributes, while potentially influential in other areas, does not directly correlate with improved academic performance. It underscores the notion that educational achievement is multifaceted and may be influenced by a broader range of factors beyond student satisfaction, such as individual student abilities, external support systems, and other environmental or institutional variables.

**Table 13.** *Mediating Effect of Student Satisfaction Between Teacher Interaction and Academic Performance*

**Mediating Effect of Student Satisfaction between Teacher Interaction and Academic Performance**

| Indicators | P1 · P2 | P3 | Is P3 Significant? | Verbal Interpretation | Remarks |
|---|---|---|---|---|---|
| Teacher's Interaction → Student Satisfaction →Academic Performance | 0.000 | 0.581 | No | Indirect | Full Mediation |

Table 13 evaluates the mediating effect of student satisfaction on the relationship between teacher interaction and academic performance. The initial direct impact of teacher interaction on student satisfaction is highly significant (P_1·P_2 = 0.000). However, the subsequent impact of student satisfaction on academic performance is insignificant (P_3 = 0.581), indicating that student satisfaction does not significantly affect academic performance. Despite this, the significant influence of teacher interaction on student satisfaction and the non-significant direct effect of teacher interaction on academic performance suggests a complete mediation. This means that while teacher interaction substantially enhances student satisfaction, which is crucial in itself, this satisfaction does not directly translate into improved academic performance. Therefore, student satisfaction serves as a critical intermediary influenced by teacher interaction, but it does not act as a significant conduit to academic success within the parameters of this study.

**Table 14.** *Mediating Effect of Student Satisfaction Between Teacher Interaction and Academic Performance*

**Mediating Effect of Student Satisfaction between Teacher Interaction and Academic Performance**

| Indicators | P1 · P2 | P3 | Is P3 Significant? | Verbal Interpretation | Remarks |
|---|---|---|---|---|---|
| Teacher's Innovation Skills → Student Satisfaction →Academic Performance | 0.000 | 0.604 | No | Indirect | Full Mediation |

Table 14 examines the mediating effect of student satisfaction on the relationship between teachers' innovation skills and academic performance. The direct impact of teachers' innovation skills on student satisfaction is significant (P_1·P_2 = 0.000), indicating that innovative teaching methods significantly enhance student satisfaction. However, the subsequent impact of student satisfaction on academic performance is insignificant (P_3 = 0.604), suggesting that increased satisfaction does not directly improve academic performance. Despite this, the presence of a significant effect from teachers' innovation skills on student satisfaction and the absence of a direct significant impact on academic performance implies complete mediation. This means that while innovative teaching methods substantially boost student satisfaction, this satisfaction does not translate into better academic performance. Thus, student satisfaction acts as a crucial intermediary influenced by innovative teaching but does not serve as a significant pathway to academic success within the scope of this study.

**Table 15.** *Mediating Effect of Student Satisfaction Between Teacher Interaction and Academic Performance*

**Mediating Effect of Student Satisfaction between Teacher Interaction and Academic Performance**

| Indicators | P1 · P2 | P3 | Is P3 Significant? | Verbal Interpretation | Remarks |
|---|---|---|---|---|---|
| Teacher's Innovation Skills → Student Satisfaction →Academic Performance | 0.000 | 0.604 | No | Indirect | Full Mediation |

Table 15 explores the mediating effect of student satisfaction on the relationship between teachers' innovation skills and academic performance. The direct impact of teachers' innovation skills on student satisfaction is significant (P_1·P_2 = 0.000), indicating that innovative teaching methods effectively increase student satisfaction. However, the subsequent effect of

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student satisfaction on academic performance is insignificant ($P\_3$ = 0.604), suggesting that while students may feel more satisfied with innovative teaching, this satisfaction does not directly enhance their academic performance. The significant influence of teachers' innovation skills on student satisfaction and the non-significant direct effect on academic performance points to complete mediation. This means that student satisfaction is a critical intermediary influenced by teachers' innovation skills but does not significantly affect academic performance within this study. Thus, while innovative teaching practices are essential for improving student satisfaction, other factors must be considered to impact academic achievement directly.

Table 16. *Mediating Effect of Student Satisfaction Between Teacher Interaction and Academic Performance*

**Mediating Effect of Student Satisfaction between Teacher Interaction and Academic Performance**

| Indicators | P1 · P2 | P3 | Is P3 Significant? | Verbal Interpretation | Remarks |
|---|---|---|---|---|---|
| Teacher's Learning Experience → Student Satisfaction →Academic Performance | 0.000 | 0.395 | No | Indirect | Full Mediation |

Table 16 assesses the mediating effect of student satisfaction on the relationship between teachers' learning experience and academic performance. The direct impact of teachers' learning experience on student satisfaction is highly significant ($P\_1 \cdot P\_2$ = 0.000), indicating that teachers' effective delivery of learning experiences greatly enhances student satisfaction. However, the subsequent effect of student satisfaction on academic performance is insignificant ($P\_3$ = 0.395), suggesting that higher satisfaction levels do not directly lead to improved academic performance. The significant influence of teachers' learning experience on student satisfaction and the non-significant direct effect on academic performance indicates complete mediation. This implies that while teachers' ability to create positive learning experiences significantly boosts student satisfaction, this satisfaction does not translate directly into better academic results. Therefore, student satisfaction is an essential intermediary influenced by the quality of teachers' learning experiences but does not significantly affect academic performance within this study's context.

# CONCLUSION

This study sought to determine the relationship between teacher attributes, student satisfaction, and academic achievement among Grade 10 students in District II of Manila. Specifically, it aimed to evaluate how teacher interaction, learning experience, and innovation skills influence students' satisfaction and academic performance. The findings reveal that students generally assess their teachers' attributes positively, particularly in terms of interaction and learning experience. However, there is room for improvement in fostering collaboration and innovation in teaching strategies. While teacher attributes significantly influence student satisfaction, their direct impact on academic achievement is negligible. Similarly, although positive teacher interactions and learning experiences enhance student satisfaction, they do not directly predict academic performance.

Key insights include that satisfaction alone is insufficient to improve academic success, indicating that other factors—such as curriculum design, learning resources, or individual student characteristics—must also be addressed. The study underscores the importance of a holistic educational approach that integrates teacher attributes, student satisfaction, and systemic support to achieve meaningful academic outcomes. While teacher interaction, innovation skills, and learning experiences play a critical role in fostering student satisfaction, this alone is not enough to significantly improve academic performance. This highlights the need for a multifaceted strategy to address academic achievement comprehensively. This study emphasizes the importance of aligning teaching practices with broader educational goals to create an enriching and effective learning environment.

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