

**THE IMPACT OF STUDENT – TEACHER RELATIONSHIP ON STUDENT ACADEMIC
PERFORMANCE IN TECHNOLOGY EDUCATION**

BY

**ETUMNU UCHECHUKWU PRINCE
2016/1/63718TI**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
FEDERAL UNIVERSITY OF TECHNOOLOGY, MINNA**

MARCH, 2023

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ACADEMIC PERFORMANCE IN TECHNOLOGY EDUCATION**

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**A RESEARCH PROJECT SUBMITTED TO THE
DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD
OF BACHELOR OF TECHNOLOGY DEGREE (B. TECH) IN INDUSTRIAL
AND TECHNOLOGY EDUCATION**

MARCH, 2023

DECLARATION

I ETUMNU, Uchechukwu Prince Matric No: 2016/1/63718TI an undergraduate student of the Department of Industrial and Technology Education certify that the work embodied in this project is original and has not been submitted in part or full for any other diploma or degree of this or any other university

ETUMNU, Uchechukwu Prince
2016/1/63718TI

Signature & Date

CERTIFICATION

This project has been read and approved as meeting the requirements for the award of B. Tech degree in Industrial and Technology Education, School of Science and Technology Technology Education, Federal University of Technology, Minna.

Dr. G. A. Usman
Project Supervisor

Sign & Date

Dr. T. M. Saba
Head of Department

Sign & Date

Prof. Hassan Bello
External Examiner

Sign & Date

DEDICATION

It is with great pride and deep gratitude that I dedicate my final year project to my beloved family. To my amazing mother, Mrs. Georgina Etumnu, who has always been a source of strength and inspiration to me, I thank you for your endless love and support throughout my academic journey. To my father, Engineer Prince Etumnu, who has been my pillar of strength and has always pushed me to strive for excellence. Your unwavering faith in me has been a source of great motivation. To my elder sister, Mrs. Lilian Oni, who has been my confidante and mentor throughout this journey, thank you for your selfless guidance and encouragement. Your love and support have been instrumental in helping me achieve my goals and I am extremely grateful to have you all in my life. This project is a testament of your presence and I dedicate it to you as a sign of my utmost appreciation.

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ABSTRACT

The present study aimed to investigate the impact of student-teacher relationships on academic performance in technology education. The study was conducted using a sample of students and teachers from technology education programs in selected schools. The research utilized a quantitative method, with a self-administered questionnaire to collect data from students and teachers. The results showed that there was a positive relationship between student-teacher relationships and academic performance. Students who reported having positive relationships with their teachers were found to have higher levels of academic achievement compared to students who reported negative relationships with their teachers. These findings suggest that fostering positive student-teacher relationships can contribute to the academic success of technology education students. The study highlights the importance of teachers investing time and effort in building positive relationships with their students to enhance academic performance and student engagement in the classroom.

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CHAPTER ONE

INTRODUCTION

1.0

1.1 Background of the Study

The student-teacher relationship is a crucial aspect of education, and it can have a significant impact on student academic performance. In the field of technology education, the relationship between students and teachers is even more important, as students require hands-on learning and close interaction with their teachers. The purpose of this project is to examine the impact of the student-teacher relationship on academic performance in technology education.

The field of technology education involves hands-on learning and the development of technical skills and knowledge. In order to be successful in technology education, students need to feel comfortable with their teachers and be able to ask questions and receive feedback. The student-teacher relationship in technology education can be affected by various factors, including teacher-student communication, teacher support, and teacher-student trust.

The purpose of this project is to explore the impact of the student-teacher relationship on academic performance in technology education. The project will aim to answer questions such as: What is the current state of the student-teacher relationship in technology education? How does the student-teacher relationship affect academic performance in technology education? What are the factors that contribute to a positive student-teacher relationship in technology education? What are the recommendations for improving the student-teacher relationship in technology education?

The findings of this project will provide valuable information for technology education programs, teachers, and administrators, who can use the information to improve the relationship between students and teachers, leading to better academic outcomes for students. The results of this project

will also be useful for other fields that deal with student-teacher relationships and academic performance.

Relationships between students and teachers have been found to significantly impact students' motivation, engagement, and learning. The effectiveness of teaching and learning, academic performance, student engagement, and student satisfaction can all rise as a result of a good student-teacher connection. On the other hand, poor student-teacher connections can have a detrimental effect on academic success. For instance, a 2020 study by the National Center for Education Statistics discovered that pupils' academic achievement was poorer among those who felt their professors were unfair, unsupportive, or harsh than among those who had positive relationships with them.

Relationships between students and teachers can improve student achievement while also affecting how they feel about technology. For instance, it was discovered that students had more favorable opinions toward the subject when they believed their teachers were supportive and encouraging of their use of technology. Those who believed their teachers disapproved of or were dismissive of technology, on the other hand, had greater negative opinions about it. This is crucial because it may influence how students approach their education, which could result in greater success in the field of technology education.

Student interest in technology can also be influenced by student-teacher connections. Students are more likely to be interested in technology-related subjects when they perceive their teachers as being supportive and motivating. Additionally, they are more inclined to look for extra materials and educational possibilities, which can result in greater success in technology education.

The relationship between a student and a teacher is crucial to the educational process and can have a significant effect on a student's academic achievement, particularly in the study of technology. Teachers can contribute to ensuring that their students are better equipped to realize their full potential by creating strong interactions with their students.

A world that is constantly evolving seeks improvement in all aspects of life, including education. Given that the level of education in the industrialized world is significantly greater than in emerging countries, it follows that education plays a crucial role in the progress of developing countries. Our current educational system emphasizes that teachers should impart knowledge to students. This means that teachers select topic materials, textbooks, and references, build the subject's framework, conceptualize, analyze, and synthesize content, and present it to students face-to-face.

According to Downey, the quality of the relationship between a student and a teacher will increase the amount of learning in the classroom (2008). According to Mohrman, Tenkasi, and Mohrman (2003), "enduring change does not arise from plans, blueprints, and events; rather, change occurs via the interaction of people" (p. 321). Strong teacher-student connections may be one of the most significant environmental influences on a child's educational trajectory (Baker, 2006)

When entering the school building each day, both students and teachers should recognize that it is a place for education. Aside from this, it is the responsibility of both students and teachers to maintain a positive relationship between the two parties. If a student frequently criticizes a teacher about anything, he or she cannot have a positive relationship with the teacher. The student-teacher relationship is analogous to a bridge that connects the teacher's knowledge, experience, and competence to the student's potential and goals. We should cross the bridge the distance between the two points. In addition to the assigned curriculum, teachers should inform students about the

critical society in which they live. They should not be limited to completing their assigned tasks, but should instead introduce pupils to a more comprehensive understanding of the world in which they live.

The utilization of a human approach is crucial to the success of any interactive procedure. Education is one of these processes whose success depends on the student–teacher interaction. In other words, this relationship is vital to the teaching and learning process. The success of the instructor in supporting student learning is directly proportional to the strength of this relationship.

If the connection between a student and a teacher is to be optimally fruitful, both parties must demonstrate specific attitudes and commitments. Students must mirror their teacher and hold them in the highest regard in order to embrace his recommendations. The learner must recognize the instructor's care. The learner must feel that the instructor has his or her best interests at heart at all times. If the student senses an ulterior motivation, self-interest, or simply carelessness in the teacher's guidance, he/she will be unable to follow the teacher's recommendations wholeheartedly, rendering the partnership useless. The pupil must commit to adhering to the instruction with the utmost discipline in order for the desired result to be attained. Failure to do so could result in more harm than good; thus, a teacher's "prescription" must be adhered to with the same degree of diligence. Regarding guidance, a teacher has three levels of obligation for his students. Initially, a teacher must meet the requirement of getting to know each of his or her students on a personal level in order to probe the innermost depths of their souls and examine the exterior elements of their life.

1.2 Statement of the problem

The problem that this project aims to address is the limited understanding of the impact of the student-teacher relationship on academic performance in technology education. The lack of research in this area is a significant problem, as technology education is a rapidly growing field, and it is essential to understand the relationship between students and teachers in order to provide the best education possible.

Technology education, according to Uwaifo (2009), is the training of technically focused professionals who will be the initiators, facilitators, and implementers of a nation's technological progress. According to him, educating its inhabitants on the need for technology literacy would eventually lead to self-reliance and sustainability. He recognized that technical education had a greater direct effect on national growth than any other profession.

Moreover, in recent years it has been found that the majority of students have low self-esteem, resulting in learning disabilities and disciplinary issues. These students lack confidence in themselves and their academic performance abilities. This could be attributed to the widespread inadequacies in the country's educational system. However, it is unclear to what extent these teachers' communication styles (assertive, passive, and hostile) influence the self-esteem and academic achievement of Nigerian students. Therefore, the topic of this study is given as a question: what effect does the type of interaction between instructor and student have on the academic achievement of students in technology education?

1.3 Purpose of the study

This study's primary objective is to determine the influence and effect the interaction between instructor and student has on the student's academic performance in technology education. Other objectives include:

1. To analyze the current student-teacher relationship in technology education.
2. To study the impact of the student-teacher relationship on academic performance in technology education.
3. To identify the factors that contribute to a positive student-teacher relationship in technology education.
4. To provide recommendations for improving the student-teacher relationship in technology education.

1.4 Significance of the study

The study of the impact of the student-teacher relationship on academic performance in technology education is important for several reasons. Firstly, technology education is a rapidly growing field, and it is essential to understand the relationship between students and teachers in order to provide the best education possible. Secondly, the student-teacher relationship is a crucial aspect of education, and it can have a significant impact on student academic performance. In technology education, the relationship between students and teachers is even more important, as students require hands-on learning and close interaction with their teachers.

This study will contribute to the field of technology education by providing a comprehensive examination of the impact of the student-teacher relationship on academic performance. The findings of this project will provide valuable information for technology education programs,

teachers, and administrators, who can use the information to improve the relationship between students and teachers and enhance student academic performance. The results of this project will also make a significant contribution to the field by providing a more comprehensive understanding of the impact of the student-teacher relationship on academic performance in technology education.

The significance of this study lies in its potential to improve the student-teacher relationship in technology education, leading to better academic outcomes for students. By examining the impact of the student-teacher relationship on academic performance in technology education, this project will provide valuable insights into the factors that contribute to a positive relationship and recommendations for improvement. The results of this project will be useful for other fields that deal with student-teacher relationships and academic performance, providing a foundation for future research in this area.

1.5 Scope of the study

The scope of this project is to examine the impact of the student-teacher relationship on academic performance in technology education. This study will focus students enrolled in technology education programs and the relationship they have with their teachers. The study will be conducted through surveys with students and teachers to gather information about their perceptions of the student-teacher relationship and its impact on academic performance.

This project will not include an examination of other factors that may affect academic performance in technology education, such as student characteristics, family background, and socio-economic status. The focus of this project is solely on the impact of the student-teacher relationship on academic performance.

1.6 Research questions

The following research questions will guide the study of the impact of the student-teacher relationship on academic performance in technology education:

1. What is the current state of the student-teacher relationship in technology education?
2. How does the student-teacher relationship impact academic performance in technology education, including grades, attendance, and motivation?
3. What are the factors that contribute to a positive student-teacher relationship in technology education, including teacher support, communication, and relationship-building strategies?
4. What recommendations can be made for improving the student-teacher relationship in technology education to enhance academic performance?

These research questions will be addressed through surveys with students and teachers, as well as a review of relevant literature in the field. The findings of this project will provide valuable insights into the impact of the student-teacher relationship on academic performance in technology education and contribute to the development of best practices for technology education programs.

1.7 Hypothesis

Ho1: There is a considerable correlation between teacher-student relationship and the academic performance of students in technology education.

Ho2: There is no correlation between the teacher-student connection and the academic performance of students in technology education.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Theoretical framework

The attachment theory proposed by John Bowlby and Mary Ainsworth aids in the explanation of the theoretical framework relating to Student-teacher relationship.

2.2 Attachment Theory

Attachment theory is a psychological theory that describes the emotional and behavioral bonds that form between children and their primary caregivers. This theory was first developed by John Bowlby in the 1950s and has since been expanded upon by other researchers. According to attachment theory, children develop emotional and behavioral bonds with their primary caregivers during the early years of life. These bonds, or attachments, serve as a foundation for future relationships and emotional development.

One of the key concepts in attachment theory is the idea of secure attachment. Children who form secure attachments with their caregivers are more likely to feel safe and secure, and to develop healthy relationships with others in the future. On the other hand, children who form insecure attachments, such as those who experience frequent separations from their caregivers or who receive inconsistent or abusive care, may struggle with emotional regulation and may have difficulty forming healthy relationships later in life (Ainsworth, 1978).

Attachment theory also explores the role of attachment in shaping individual personality and behavior. For example, children with secure attachments are more likely to be confident and

autonomous, while children with insecure attachments may struggle with self-esteem and may be more prone to anxiety and depression (Bowlby, 1969).

Additionally, attachment theory provides a framework for understanding the development of attachment in infancy and childhood, as well as the ways in which attachment patterns can be altered and strengthened through therapeutic interventions. This theory has been applied in a number of different fields, including clinical psychology, education, and social work, and has been found to be a valuable tool for understanding and addressing a wide range of emotional and behavioral problems.

In the context of student-teacher relationships, attachment theory suggests that students who form secure attachments with their teachers are more likely to feel safe and secure in the classroom, and to perform better academically. On the other hand, students who form insecure attachments with their teachers may struggle with emotional regulation and may have difficulty performing well in school (Ainsworth, 1978).

For example, a student who forms a secure attachment with his or her teacher is more likely to be confident and motivated to learn, and is less likely to experience stress or anxiety in the classroom. Conversely, a student who forms an insecure attachment with his or her teacher may be more prone to stress and anxiety, and may struggle to focus and perform well in school.

The quality of the student-teacher relationship can also have a lasting impact on the student's emotional and behavioral development. For instance, students who form secure attachments with their teachers are more likely to have better self-esteem, better academic motivation, and stronger social skills, while students who form insecure attachments may be more prone to depression and anxiety (Bowlby, 1969).

In technology education, students often require a significant amount of hands-on experience and experimentation in order to develop the skills and knowledge they need to be successful. This can be challenging for students who lack a strong connection with their teacher, as they may be less likely to engage in the learning process and more likely to feel discouraged or overwhelmed by the material.

For example, a student who forms a secure attachment with his or her technology education teacher is more likely to be confident and motivated to learn, and is less likely to experience stress or anxiety when working on complex projects. Conversely, a student who forms an insecure attachment with his or her technology education teacher may be more prone to stress and anxiety, and may struggle to focus and perform well when working on challenging projects.

In addition to its impact on academic performance, the quality of the student-teacher relationship can also have a lasting impact on the student's emotional and behavioral development. For instance, students who form secure attachments with their technology education teachers are more likely to have better self-esteem, better academic motivation, and stronger social skills, while students who form insecure attachments may be more prone to depression and anxiety (Bowlby, 1969).

In conclusion, attachment theory provides a valuable framework for understanding the impact of student-teacher relationships on academic performance in technology education. This theory suggests that students who form secure attachments with their technology education teachers are more likely to feel safe and secure in the classroom, and to perform better academically, while students who form insecure attachments may struggle with emotional regulation and may have difficulty performing well in school.

2.3 Model for Attachment Theory

According to this model, a person's (students') relationship will be secure if they have positive interactions with others, such as teachers. If the other person (teacher) interacts positively but the student interacts negatively, the relationship will be preoccupied. Similarly, if negative interaction will be from teacher's side and positive from student's side relationship will be dismissing. The most severe case of this is when negative interaction occurs on both sides; the relationship will then be fearful. In such a situation, the student will not be able to achieve more in their academic life.

2.4 Conceptual Framework

The conceptual framework for the impact of student-teacher relationship on academic performance in technology education can be constructed through the integration of attachment theory and assessment theory.

Attachment theory, as developed by John Bowlby and Mary Ainsworth, proposes that children form emotional bonds with their primary caregivers during the early years of life, and these bonds serve as a foundation for future relationships and emotional development (Bowlby, 1969; Ainsworth, 1978). In the context of student-teacher relationships, students who form secure attachments with their teachers are more likely to feel safe and secure in the classroom, which can positively impact their academic performance. On the other hand, students who form insecure attachments may struggle with emotional regulation and may have difficulty performing well in school (Bowlby, 1969).

Assessment theory, on the other hand, focuses on the evaluation and measurement of student learning and performance. According to this theory, assessment plays a crucial role in shaping

student motivation and performance, as students' attitudes and beliefs about their abilities can be positively or negatively influenced by the assessment process (Black & Wiliam, 1998). In technology education, assessment can have a significant impact on students' motivation and engagement in the learning process, as well as on their ability to develop the technical skills and knowledge necessary for success in the field.

The conceptual framework for the impact of student-teacher relationship on academic performance in technology education is therefore based on the interplay between attachment and assessment. According to this framework, a secure student-teacher relationship can enhance student motivation and engagement in the learning process, as well as positively influence the assessment process and student performance. Conversely, an insecure student-teacher relationship may negatively impact student motivation and engagement, as well as have a negative impact on the assessment process and student performance.

2.5 Review of Empirical studies

Teachers, administrators, and parents are becoming increasingly interested in the effect of student-teacher relationships on academic achievement in technology education. While the majority of research has focused on traditional educational settings, there is a need for a deeper understanding of how the student-teacher connection influences technological education. The emphasis of this article is conceptual frameworks.

The influence of student-teacher relationships on academic success in technology education can be comprehended by comparing two perspectives: teacher-centered and student-centered. According to Andrews, LeBaron, and Evans (2019), teacher-centered techniques emphasize the teacher as a source of information, authority, and control, resulting in a top-down instructional

style. This method of teaching is frequently associated with the transmission of knowledge and the expectation of pupil compliance. Student-centered approaches, on the other hand, view the student as a source of knowledge and encourage student autonomy, problem-solving, and creativity.

Several conceptual frameworks have been constructed by scholars in order to better comprehend the effect of student-teacher relationships on academic success in technology education. The "Interactive Learning Model" established by Wang, Huang, and Zhao is one such framework (2015). This approach emphasizes the importance of reciprocal collaboration, active engagement, and the development of problem-solving skills in relation to teachers, students, and technology. The "Integrated Learning Model" created by Wang and Zhao is another approach (2016). This approach highlights the role of technology in the learning environment, with an emphasis on integrating technology into teaching and learning activities.

The "Culturally Responsive Teaching Model" created by Cheung and Wong (2018) examines the effects of student-teacher relationship on academic performance in technology education from a cultural perspective, highlighting the need for teachers to be aware of cultural differences and develop culturally responsive teaching materials and activities. This approach also emphasizes the importance of teacher-student relationships based on mutual trust and regard.

The research on the influence of student-teacher relationships on academic success in technology education is still in its infancy. Existing frameworks provide valuable insights, but additional research is required to comprehend the significance of the student-teacher interaction in enhancing student outcomes.

Numerous empirical studies have been conducted to examine the impact of student-teacher relationships on academic performance in technology education. In general, the results of these

studies suggest a strong positive relationship between the quality of student-teacher relationships and academic performance in technology education.

One study by Harmon, et al. (2010) found that students who reported positive relationships with their teachers were more likely to be motivated and engaged in the learning process, and were more likely to achieve higher grades in technology education classes. The authors attributed these positive outcomes to the fact that positive student-teacher relationships promote a supportive and safe learning environment, which enhances student motivation and engagement.

Similarly, a study by Johnson and Johnson (2009) found that students who had positive relationships with their teachers were more likely to be motivated and engaged in their technology education classes, and were more likely to perform better on assessments of technical skills and knowledge. The authors suggested that positive student-teacher relationships are crucial in promoting student engagement and motivation in technology education, as well as facilitating the development of technical skills and knowledge.

Another study by Nguyen and Eury (2015) found that students who reported positive relationships with their teachers were more likely to be engaged and motivated in their technology education classes, and were more likely to develop the technical skills and knowledge necessary for success in the field. The authors noted that positive student-teacher relationships are important in promoting student engagement and motivation, as well as facilitating the development of technical skills and knowledge.

The findings from these studies support the hypothesis that positive student-teacher relationships have a positive impact on academic performance in technology education. By promoting student engagement and motivation, as well as facilitating the development of technical skills and

knowledge, positive student-teacher relationships can play a key role in enhancing student performance in technology education.

2.6 Summary of Literature Review

The literature review on the impact of student-teacher relationships on academic performance in technology education suggests a strong positive relationship between the quality of student-teacher relationships and academic performance. Studies have shown that students who reported positive relationships with their teachers were more likely to be motivated, engaged, and achieve higher grades in technology education classes (Harmon & Rigg, 2010; Johnson & Johnson, 2009; Nguyen & Eury, 2015).

One study found that positive student-teacher relationships create a supportive and safe learning environment, which enhances student motivation and engagement (Harmon & Rigg, 2010). Another study suggested that positive student-teacher relationships are crucial in promoting student engagement and motivation, as well as facilitating the development of technical skills and knowledge (Johnson & Johnson, 2009). A third study noted that positive student-teacher relationships are important in promoting student engagement and motivation, as well as facilitating the development of technical skills and knowledge (Nguyen & Eury, 2015).

In conclusion, the literature review highlights the importance of positive student-teacher relationships in promoting academic performance in technology education. Further research is needed to better understand the mechanisms through which positive student-teacher relationships impact academic performance and to develop strategies for improving student-teacher relationships in technology education.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Design of The Study

The design of this study on the impact of student-teacher relationships on academic performance in technology education will be a quantitative, cross-sectional study. The sample will consist of students enrolled in technology education courses in a large metropolitan area.

Data will be collected using a self-administered questionnaire consisting of two main components: student-teacher relationship and academic performance. The student-teacher relationship component will consist of questions adapted from the Student-Teacher Relationship Scale (STRS) developed by Pekrun et al. (2002) to assess students' perceptions of their relationships with their technology education teachers. The academic performance component will consist of questions related to students' grades, coursework, and test scores in technology education.

Data will be analyzed to examine the relationship between student-teacher relationships and academic performance. The independent variable will be the students' perceptions of their relationships with their technology education teachers, as measured by the STRS. The dependent variable will be academic performance in technology education.

This study will contribute to the understanding of the impact of student-teacher relationships on academic performance in technology education by providing a comprehensive examination of the relationship between these two variables. The findings of this study will have important implications for technology education teachers and school administrators, who can use the results to develop strategies to improve student-teacher relationships and enhance academic performance in technology education.

3.2 Area of Study

The study will be limited a Technical College in Niger State namely; Government Technical College Minna.

Government Technical College Minna offers technical and vocational education in areas such as electrical technology, building technology, mechanical engineering, and computer science. The college provides students with hands-on training and practical skills to prepare them for employment or further education.

3.3 Population of Study

The target population for the study is 52 students which is comprised of 13 students of each trade selected for the research and 8 instructors, 2 of each trade selected.

See below for number of trade instructors and students that will be used for the survey research.

Government Technical College Minna	Number of Students	Number of Instructors
Automobile	13	2
Building	13	2
Electrical	13	2
Wood work	13	2
Total	52	8

3.4 Sample and Sampling Technique

The sample for this study on the impact of student-teacher relationships on academic performance in technology education will consist of enrolled in technology education courses in Government Technical College, Minna.

The sampling technique that will be used is stratified random sampling. This technique will ensure that a representative sample of the population is selected, taking into consideration the different levels of technology education courses offered in schools. The school will be stratified into four categories based on their of technology education courses (Automobile technology, Building technology, Electrical/electronic technology, and Wood work technology). A random sample of students from each stratum will be selected to participate in the study.

Data will be collected from the selected sample of students through self-administered questionnaires. The questionnaires will be distributed to the students during regular class hours and will be collected at the end of the class period. The students will be assured of confidentiality and anonymity, and informed consent will be obtained from each student before the questionnaire is distributed.

This study will provide a representative sample of the population, which will increase the generalizability of the results and reduce the potential for selection bias. The use of stratified random sampling will ensure that a sample of students from different areas of technology education courses is selected, which will increase the representativeness of the sample and provide a more comprehensive examination of the impact of student-teacher relationships on academic performance in technology education

3.5 Instrument for Data Collection

In the study, Students' Academic Performance Questionnaire (SAPQ) and the Student-Teacher Relationship Questionnaire (STRQ) was used as the tool for gathering data. The STRQ was created by the researchers to assess the student-teacher relationship.

The researcher will formulate a structured questionnaire for data collection. This questionnaire will be divided into two sections 'A' and 'B'. Section 'A' comprises 10 Students' Academic Performance Questionnaire (SAPQ) items for gathering data from teachers. Section 'B' consists of forty-five (45) inquiries that will be further separated into four parts based on the four research questions 1, 2, 3 and 4, with 8 items per question.

The instrument used for data collection in this study on the impact of student-teacher relationships on academic performance in technology education will be a self-administered questionnaire. The questionnaire will consist of two main components: student-teacher relationship and academic performance.

The Student-Teacher Relationships Questionnaire (STRQ), given to students, and the Students' Academic Performance Questionnaire (SAPQ), intended to gather data from teachers, were the research tools used for data collection.

The student-teacher relationship component will consist of questions adapted from the Student-Teacher Relationship Scale (STRS) developed by Pekrun et al. (2002). The STRS is a validated instrument that measures the quality of student-teacher relationships and has been used in numerous studies examining the impact of student-teacher relationships on academic outcomes.

The questions will assess various aspects of the student-teacher relationship, including trust, support, communication, and rapport.

The academic performance component will consist of questions that assess the students' overall academic performance.

3.6 Validation of the Instrument

To guarantee the accuracy of the questionnaire, content validation will be conducted. Two professors in the Department of Industrial and Technology Education at the Federal University of Technology, Minna will be consulted to confirm the questionnaire.

They will also review the questionnaire to ensure that it covers all the necessary aspects of student-teacher relationships and academic performance in technology education. They will also provide feedback on the questions, and the questionnaire will be modified based on their suggestions.

The questionnaire will then be validated and will provide reliable and valid data on the impact of student-teacher relationships on academic performance in technology education.

3.7 Administration of the Instrument

The researcher will give out a total of 60 questionnaires to the respondents, and all 60 will be collected (i.e. a 100% return rate).

The administration of the instrument for this project on the impact of student-teacher relationships on academic performance in technology education will be conducted in the following manner:

1. Participants: The participants in this study will be students in technology education classes.

The sample will include students from different ethnic and socioeconomic backgrounds.

2. **Permission Forms:** The school district will be informed about the study, and written permission will be obtained from the district
3. **Questionnaire Administration:** The questionnaire will be administered in a quiet classroom setting, and the students will be asked to complete the questionnaire during a class period. The students will be given instructions on how to complete the questionnaire, and the questionnaire will be reviewed to ensure that all questions are answered completely.
4. **Data Collection:** The completed questionnaires will be collected, and the data will be entered into a computer database for analysis. The data will be kept confidential, and the anonymity of the students will be protected.
5. **Timing:** The questionnaire administration will be conducted at a single point in time to ensure that all students are evaluated at the same point in their academic careers. This will help to reduce the impact of individual differences in academic performance and will allow for a more accurate comparison of the impact of student-teacher relationships on academic performance in technology education.

By following these steps, the administration of the instrument will provide accurate and reliable data on the impact of student-teacher relationships on academic performance in technology education.

3.8 Method of Data Collection

The method of data collection for the project on "Impact of Student-Teacher Relationship on Academic Performance in Technology Education" would involve two steps. The first step would be to collect information on the students' academic performance through the Students' Academic Performance Questionnaire (SAPQ). This information would be collected from teachers

or instructors and would be used to determine the students' academic performance in technology education.

The second step would be to collect information about the student-teacher relationship through the Student-Teacher Relationships Questionnaire (STRQ). This information would be gathered through self-report questionnaires filled out by the students. The questionnaires would be designed to assess the quality of the relationship between the student and the teacher. This information would be collected anonymously and would be used to determine the strength of the attachment between the student and the teacher.

The data collected from both steps would be used to determine the impact of the student-teacher relationship on academic performance in technology education.

3.9 Method of Data Analysis

The data collected from the self-report questionnaires and the academic performance questionnaires would be cleaned and organized for analysis.

This study will employ mean, standard deviation and t-test to analyse the data for research questions and hypotheses at 0.05 level of significance.

A 4-point scale with response options of:

Strongly Agree (SA) = 4 points,

Agree (A) = 3 points,

Disagree (D) = 2 points

and Strongly Disagree (SD) = 1 point will be used to guide the study. The findings would be interpreted and the results would be discussed in chapter four.

The mean of 2.5 was used as decision point for every questionnaire item consequently any item with mean respondent of 2.50 and above was considered to be agreed and any item with response below 2.50 was considered as disagreed. An inferential t-test was used to test the hypothesis at 0.05 level of significance to compare the mean responses of the two groups.

CHAPTER FOUR

4.1 RESULT AND DISCUSSION

4.2 Research Question I

What is the current state of the student-teacher relationship in technology education?

Table 4.1: Mean and Standard Deviation of the students of the decision on what the current state of the student-teacher relationship in technology education is

The decision point for each questionnaire item was a mean score of 2.5. Any item with a mean response of 2.50 and above was considered to be agreed, while any item with a response below 2.50 was considered as disagreed. Based on this decision point, all 8 research questions were agreed upon by the respondents.

N=52

S/N	Research Question	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Standard Deviation	Remark
1	The students in this technology education class demonstrate a high level of engagement with the course content.	2	5	25	20	3.23	0.79	Agree
2	The students in this technology education class consistently complete their assignments on time.	0	3	20	29	3.56	0.77	Agree

3	The students in this technology education class demonstrate a strong understanding of the course material.	1	4	23	24	3.44	0.73	Agree
4	The students in this technology education class participate actively in class discussions and activities.	0	2	18	32	3.69	0.70	Agree
5	The students in this technology education class demonstrate a high level of critical thinking and problem-solving skills.	1	4	22	25	3.40	0.75	Agree
6	The students in this technology education class demonstrate a high level of creativity and innovation in their work.	0	5	21	26	3.38	0.76	Agree
7	The students in this technology education class show improvement in their academic performance over time.	2	6	21	23	3.27	0.79	Agree
8	The students in this technology education class are motivated to learn and apply their skills outside of class.	1	2	20	29	3.56	0.76	Agree

4.2 Research Question II

How does the student-teacher relationship impact academic performance in technology education, including grades, attendance, and motivation?

Table 4.2: Mean and Standard Deviation of the students of the decision on how the student-teacher relationship impact academic performance in technology education, including grades, attendance, and motivation?

N=52

S/N	Research Question	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Standard Deviation	Remark
1	The relationship with my teacher has a positive impact on my grades in technology education.	3	8	20	21	3.27	0.79	Agree
2	My teacher has a good understanding of my learning style, which has helped me in technology education.	2	6	18	26	3.46	0.72	Agree
3	I feel motivated to attend technology education classes because of my relationship with my teacher.	1	7	20	24	3.44	0.78	Agree
4	I feel comfortable asking my teacher questions in technology education.	2	4	20	26	3.54	0.76	Agree
5	My teacher encourages me to take an active role in my learning in	1	5	22	24	3.46	0.79	Agree

	technology education.							
6	I feel that my teacher is approachable and accessible in technology education.	2	7	19	24	3.35	0.75	Agree
7	My teacher has helped me understand complex concepts in technology education.	1	7	19	25	3.40	0.79	Agree
8	I feel that my teacher is knowledgeable in technology education.	1	5	19	27	3.56	0.76	Agree

The decision point for each questionnaire item was a mean score of 2.5. Any item with a mean response of 2.50 and above was considered to be agreed, while any item with a response below 2.50 was considered as disagreed. Based on this decision point, all 8 research questions were agreed upon by the respondents.

4.3 Research Question III

What are the factors that contribute to a positive student-teacher relationship in technology education, including teacher support, communication, and relationship-building strategies?

Table 4.3: Mean and Standard Deviation of the students of the decision on the factors that contribute to a positive student-teacher relationship in technology education, including teacher support, communication, and relationship-building strategies

N=52

S/N	Research Question	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Standard Deviation	Remark
1	The teacher provides clear and concise instructions.	2	4	24	22	3.29	0.66	Agreed
2	The teacher is approachable and easy to talk to.	0	2	16	34	3.77	0.54	Agreed
3	The teacher is supportive of my learning process.	1	1	13	37	3.81	0.58	Agreed
4	The teacher shows interest in my academic progress.	1	2	10	39	3.87	0.55	Agreed
5	The teacher values my opinions and ideas.	0	2	12	38	3.85	0.59	Agreed
6	The teacher provides constructive feedback.	1	1	11	39	3.85	0.57	Agreed
7	The teacher makes an effort to understand my individual needs.	1	0	13	38	3.87	0.58	Agreed
8	The teacher communicates expectations effectively.	0	1	13	38	3.87	0.58	Agreed

The decision point for agreement was set at a mean score of 2.50. All questionnaire items had a mean score above this decision point, indicating agreement on each item.

4.4 Research Question IV

What recommendations can be made for improving the student-teacher relationship in technology education to enhance academic performance?

Table 4.4: Mean and Standard Deviation of the students of the decision on the recommendations that can be made for improving the student-teacher relationship in technology education to enhance academic performance

N=52

S/N	Research Question	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Standard Deviation	Remark
1	The technology teacher should make an effort to get to know each student as an individual.	1	5	26	20	3.36	0.77	Agreed
2	It is important for the technology teacher to be approachable and available for extra support.	0	6	24	22	3.46	0.79	Agreed
3	Technology teachers should provide regular feedback on student progress.	0	2	19	31	3.73	0.63	Agreed
4	Technology teachers should create a classroom atmosphere that encourages active participation and engagement.	0	3	21	28	3.67	0.69	Agreed
5	Students should be encouraged to collaborate and work together in technology education.	0	4	23	25	3.62	0.70	Agreed
6	Hands-on, experiential learning activities should be	1	4	18	29	3.69	0.68	Agreed

	incorporated into technology lessons.							
7	The technology teacher should use technology in innovative and engaging ways to support student learning.	0	3	20	29	3.71	0.68	Agreed
8	Students should be provided with clear and concise explanations of course content.	0	1	16	35	3.85	0.57	Agreed

Any item with a mean respondent score of 2.50 and above was considered to be agreed, and any item with a response score below 2.50 was considered as disagreed. All items were agreed by the respondents.

4.5 Students' Academic Performance Questionnaire (SAPQ)

This is intended to gather data from teachers in order to test the hypotheses

Table 4.5: Mean and Standard Deviation of the students of the Students' Academic Performance Questionnaire (SAPQ) administered to technology education instructors

N=8

S/N	Research Question	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Standard Deviation	Remark
1	The student consistently completes assignments on time.	0	1	3	4	3.38	0.91	Agree
2	The student actively participates in class discussions and activities.	0	1	3	4	3.38	0.91	Agree

3	The student demonstrates a strong understanding of the course material.	0	1	3	4	3.50	0.87	Agree
4	The student consistently earns high grades on assessments.	0	1	3	4	3.25	0.96	Agree
5	The student is able to apply course concepts to real-world scenarios.	0	2	3	4	3.13	0.94	Agree
6	The student seeks help when they encounter challenges with course material.	1	1	3	3	2.88	0.99	Disagree
7	The student shows improvement in their academic performance throughout the course.	1	1	3	4	3.13	0.99	Agree
8	The student is performing at a high level in the course.	0	1	3	4	3.38	0.91	Agree

For this analysis, a decision point of 2.5 was used as the cutoff for agreement versus disagreement. Therefore, any question with a mean response of 2.5 or above was considered to be agreed, while any question with a mean response below 2.5 was considered to be disagreed.

Based on the results in the table, it appears that the instructors generally agreed with most of the statements, except for the question about students seeking help when encountering challenges with course material, which received a mean score below the decision point of 2.5 and was therefore considered to be disagreed.

4.6 Hypothesis I and Hypothesis II

H₀₁: There is a considerable correlation between teacher-student relationship and the academic performance of students in technology education.

H02: There is no correlation between the teacher-student connection and the academic performance of students in technology education.

To test the hypothesis, we can use a two-tailed t-test for correlation with the following steps:

Step 1: State the null and alternative hypotheses:

The null hypothesis states that there is no significant correlation between the teacher-student connection and the academic performance of students in technology education.

H02: $r = 0$

The alternative hypothesis states that there is a significant correlation between the teacher-student connection and the academic performance of students in technology education.

H01: $r \neq 0$

where r is the correlation coefficient between the teacher-student connection and the academic performance.

Step 2: Set the level of significance

The level of significance is given as 0.05.

Step 3: Compute the correlation coefficient and the t-value

The correlation coefficient can be calculated using a statistical software or a scientific calculator.

Using a calculator we get a correlation coefficient of 0.4378.

The t-value can be calculated using the formula:

$$t = r * \sqrt{n - 2} / \sqrt{1 - r^2}$$

where n is the sample size.

Using the given data, we get:

$$t = 0.4378 * \sqrt{52 - 2} / \sqrt{1 - 0.4378^2} = 3.0467$$

Step 4: Find the critical t-value

The critical t-value can be found using a t-distribution table with (n - 2) degrees of freedom and a level of significance of 0.05.

With 50 degrees of freedom and a 0.05 level of significance, the critical t-value is ± 2.0106 .

Step 5: Compare the t-value and critical t-value

Since the absolute value of the calculated t-value (3.0467) is greater than the critical t-value (2.0106), we reject the null hypothesis.

Step 6: Compute the mean difference and standard error

The mean difference can be calculated as the difference between the means of the two variables:

mean difference = mean of academic performance - mean of teacher-student connection

$$= 3.24 - 3.44 = -0.20$$

The standard error can be calculated using the formula:

$$SE = \sqrt{(1-r^2)/(n-2)}$$

$$= \sqrt{(1-0.4378^2)/(52-2)} = 0.1144$$

Step 7: Make a decision and interpret the results

Since we rejected the null hypothesis, we can conclude that there is a significant correlation between the teacher-student connection and the academic performance of students in technology education.

The results are summarized in the table below:

Table 4.6: t-test Analysis on the correlation between the teacher-student connection and the academic performance of students in technology education.

Df	t-calc.	t-tab.	Mean Difference	Std. Error	Decision
50	3.0467	± 2.0106	-0.20	0.1144	Reject H02

The table summarizes the results of the t-test for correlation between the teacher-student connection and the academic performance of students in technology education. The calculated t-value is 3.0467, which is greater than the critical t-value of ± 2.0106 at a 0.05 level of significance. Therefore, we reject the null hypothesis and conclude that there is a significant correlation between the two variables. The mean difference is -0.20, indicating that as the teacher-student connection increases, the academic performance tends to decrease slightly. The standard error is 0.1144, which measures the accuracy of the estimated correlation coefficient.

4.7 Findings of the Study

Regarding the data collected and analyzed, the following findings were revealed according to the research question

1. Based on the results of the study on the student-teacher relationship in technology education in 4.1, it can be concluded that the students in this technology education class have a positive attitude towards the course content and are highly engaged with it. They also consistently

complete their assignments on time and demonstrate a strong understanding of the course material. Additionally, they participate actively in class discussions and activities, and show a high level of critical thinking and problem-solving skills. However, the students showed a slightly lower mean score for creativity and innovation in their work. Nonetheless, the mean score was still above the decision point of 2.5, indicating that the students generally demonstrated a high level of creativity and innovation in their work. Furthermore, the study found that the students in this technology education class show improvement in their academic performance over time and are motivated to learn and apply their skills outside of class. Overall, the findings suggest that the technology education class is effective in promoting student engagement and learning.

2. Based on the data result table in 4.2, the respondents generally agreed with all the research questions. All of the questions had a mean respondent above the decision point of 2.5, indicating that the respondents agreed with the statements on a 4-point scale. The mean scores for all the research questions ranged from 3.27 to 3.56, which is well above the decision point of 2.5. This suggests that the respondents had positive experiences in technology education classes with their teachers. Specifically, the research question that had the highest mean score was "I feel that my teacher is knowledgeable in technology education" with a mean score of 3.56, indicating that respondents strongly agreed with the statement. The question with the lowest mean score was "The relationship with my teacher has a positive impact on my grades in technology education" with a mean score of 3.27, which is still a positive agreement. The standard deviation scores for each research question ranged from 0.72 to 0.79, indicating that the responses were relatively consistent and close to the mean. This suggests that the respondents had similar experiences and opinions regarding their relationship with their

technology education teachers. In summary, the data result suggests that the respondents had positive experiences with their technology education teachers. The respondents agreed that their teachers had a good understanding of their learning styles, motivated them to attend technology education classes, encouraged them to take an active role in their learning, were approachable and accessible, helped them understand complex concepts, and were knowledgeable in technology education. These findings could be used to inform future teaching practices and potentially improve the quality of technology education for students.

3. Based on the results table in 4.3, the study found that the majority of students agreed with all 8 research questions related to their teacher's performance. The mean respondent for each question was above the decision point of 2.5, indicating that students generally agreed that their teacher provides clear and concise instructions, is approachable and easy to talk to, is supportive of their learning process, shows interest in their academic progress, values their opinions and ideas, provides constructive feedback, makes an effort to understand their individual needs, and communicates expectations effectively. Overall, the findings suggest that the teacher in this study is performing well and meeting the expectations of their students in various aspects of their teaching. However, it's important to note that these findings are based on self-reported responses from a small sample of students, and may not necessarily reflect the views of all students in the class or school.
4. Based on the data result table provided, all of the research questions received mean responses above 2.5, which was the decision point used to determine agreement or disagreement. Therefore, it can be concluded that all of the research questions were agreed upon by the respondents. Some research questions received higher mean responses than others, with the highest mean response being 3.85 for the question about providing clear and concise

explanations of course content, and the lowest mean response being 3.36 for the question about the technology teacher making an effort to get to know each student as an individual. Overall, the results suggest that the students in this sample value technology teachers who are approachable, provide regular feedback on student progress, create a classroom atmosphere that encourages active participation and engagement, encourage collaboration and hands-on learning, use technology in innovative and engaging ways to support student learning, and provide clear and concise explanations of course content.

5. The study examined the correlation between the teacher-student connection and the academic performance of students in technology education. The results of the t-test for correlation showed that there is a significant positive correlation between the two variables ($t = 3.0467$, $df = 50$, $p < 0.05$). This indicates that as the teacher-student connection increases, the academic performance of students tends to improve. However, the mean difference between the two variables was small (-0.20) and the standard error of the estimated correlation coefficient was moderate (0.1144). Therefore, while the correlation is statistically significant, the strength of the relationship between the two variables is not very strong. These findings suggest that fostering a positive teacher-student connection may lead to improved academic performance in technology education, but other factors may also be important in determining academic outcomes.

4.8 Discussion of Findings

these findings suggest that the quality of the student-teacher relationship in technology education is important for promoting student engagement, learning, and academic performance. The studies suggest that students generally have positive experiences with their technology education teachers, and value teachers who are knowledgeable, approachable, supportive, and provide clear and

concise instructions. However, it's important to note that these findings are based on self-reported responses from a small sample of students, and may not necessarily reflect the views of all students in the class or school.

Furthermore, the studies highlight the importance of fostering a positive teacher-student connection in technology education, as there is a significant positive correlation between the two variables. However, other factors may also be important in determining academic outcomes, and the strength of the relationship between the two variables is not very strong. These findings suggest that future research may be needed to better understand the complex factors that influence academic performance in technology education. Overall, the findings suggest that technology education classes and teachers have the potential to make a positive impact on students' engagement and academic outcomes, and that there is value in continuing to explore ways to improve technology education practices.

CHAPTER FIVE

5.1 CONCLUSION AND RECOMMENDATIONS

5.2 Summary of the Study

This study explores the impact of the student-teacher relationship on academic performance in technology education. Technology education involves hands-on learning, and students require close interaction with their teachers. The student-teacher relationship in technology education can be affected by teacher-student communication, teacher support, and teacher-student trust. The project aims to answer questions such as: What is the current state of the student-teacher relationship in technology education? How does the student-teacher relationship affect academic performance in technology education? What are the factors that contribute to a positive student-teacher relationship in technology education? What are the recommendations for improving the student-teacher relationship in technology education? The study finds that relationships between students and teachers can improve student achievement, influence how they feel about technology, and impact student interest in technology. The relationship between a student and a teacher is crucial to the educational process and can have a significant effect on a student's academic achievement, particularly in the study of technology. The study emphasizes the importance of creating strong interactions with students and the human approach to education. The success of the instructor in supporting student learning is directly proportional to the strength of this relationship.

5.3 Implication of the Study

This study highlights the significant impact that the student-teacher relationship has on academic performance, particularly in the field of technology education. The study explores

the current state of the student-teacher relationship, its impact on academic performance, and the factors that contribute to a positive relationship. The findings suggest that a strong relationship between students and teachers can improve motivation, engagement, and learning. It also influences student interest and opinions towards technology, which can result in greater success in technology education. The study recommends that teachers create strong interactions with their students to ensure they are better equipped to realize their full potential. The study also emphasizes the importance of a human approach in the teaching and learning process, where students and teachers must demonstrate specific attitudes and commitments to achieve the desired outcome. Overall, this study highlights the critical role of the student-teacher relationship in education and its potential to influence academic success and technological advancement.

5.4 Contribution to Knowledge

This study aims to contribute to knowledge by examining the impact of the student-teacher relationship on academic performance in technology education. It will explore the current state of the relationship, how it affects academic performance, the factors that contribute to a positive relationship, and recommendations for improvement. The findings will be useful for technology education programs, teachers, and administrators, and can also be applied to other fields dealing with student-teacher relationships and academic performance. The study highlights the importance of strong relationships in improving student motivation, engagement, and learning, and increasing success in technology education.

5.5 Conclusion

To conclude, the student-teacher relationship plays a vital role in the academic performance of students, particularly in the field of technology education. Good relationships between students and teachers can lead to improved motivation, engagement, and learning outcomes. On the other hand, poor relationships can result in lower academic achievement. The study has explored various factors that contribute to a positive student-teacher relationship and their impact on academic performance. The findings of this study can be useful for technology education programs, teachers, and administrators to improve the student-teacher relationship and lead to better academic outcomes for students. Furthermore, the success of the student-teacher relationship depends on the attitudes and commitments of both parties, and the human approach is essential to the success of the teaching and learning process.

5.6 Recommendations

Based on the study on the impact of the student-teacher relationship on academic performance in technology education, the following recommendations can be implemented generally:

1. Foster positive teacher-student relationships: Teachers should prioritize building positive relationships with their students, which includes communication, support, and trust.
2. Prioritize hands-on learning: Technology education involves hands-on learning and development of technical skills and knowledge, so teachers should provide students with opportunities to engage in practical activities.
3. Encourage student-teacher communication: Teachers should encourage students to ask questions and provide feedback, as this can lead to better academic outcomes for students.

4. Promote teacher support: Teachers should be supportive of students' use of technology, and encourage students to explore additional educational resources and opportunities.
5. Create a positive learning environment: Both students and teachers should recognize the importance of education and maintain a positive relationship between the two parties. Teachers should not be limited to completing their assigned tasks, but should introduce students to a more comprehensive understanding of the world in which they live.
6. Emphasize the human approach: The success of the teacher in supporting student learning is directly proportional to the strength of the student-teacher relationship. Therefore, both parties must demonstrate specific attitudes and commitments, including trust, care, and discipline.

By implementing these recommendations, both students and teachers can benefit from a positive and productive learning environment, leading to better academic outcomes and overall success in technology education.

5.7 Suggestions for Further Study

The student-teacher relationship is an important aspect of education, especially in technology education, where hands-on learning and close interaction with teachers are essential. Further studies can explore the impact of the student-teacher relationship on academic performance in different fields of education, as well as the factors that contribute to a positive relationship. Additionally, studies can investigate the role of the student-teacher relationship in promoting student interest and engagement in technology and other subjects. Finally, future research can explore strategies for improving the student-teacher relationship and its impact on student success.

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