ABSTRACT

Charles William Brown, Jr., SERVICE QUALITY AS A PREDICTOR FOR ACADEMIC ENGAGEMENT, ACADEMIC PERFORMANCE, AND STUDENT SATISFACTION (Under the direction of Dr. Cheryl McFadden) Department of Educational Leadership, December, 2014.

Many factors have led to the focus on quality and services in higher education. With an increase in competition from other academic institutions, a reduction in state resources, and increased program and service demands, the value and quality of higher education has come under public scrutiny. This increased scrutiny provides an opportunity to examine more appropriate ways to effectively measure the professional delivery of service to students. Therefore, the purpose of this study was to examine the relationship between service quality in the classroom as a predictor of academic engagement, academic performance, and student satisfaction.

This study was founded on the established model of service delivery and the work of Parasuraman, Zeithaml, and Berry. The adapted SERVQUAL instrument was used to access the relationship between the variables satisfaction, academic engagement, and academic performance. The research participants were undergraduate business students enrolled in a leadership and professional development class. Data were gathered from 174 undergraduate students enrolled in a college of business at public university in the spring of 2014.

The results of the study were consistent with the literature published on the service delivery model and behavioral outcomes. Service quality in this study showed to have a significant positive relationship with satisfaction with the course satisfaction with the instructor and academic engagement. Likewise the service quality instrument SERVQUAL reported a significant positive relationship between each of the five dimensions and the two variables

student satisfaction and academic engagement. The third variable academic performance had no significant relationship with service quality or any of the 5 dimensions of SERVQUAL.

This study included various implications for academic administrators and instructors. These recommendations for instructors include improvement on the care, attention, and courtesy, ability to convey trust and confidence and their performance of instruction can increase student satisfaction. The same behavior changes that improve satisfaction along with improvements in timeliness of response and showing a willingness to help can increase a student's academic engagement. The recommendations for academic administrators included the use service quality measures independently or in combination with current student opinion of instruction. The study concluded with recommendations for future research.

SERVICE QUALITY AS A PREDICTOR FOR ACADEMIC ENGAGEMENT, STUDENT PERFORMANCE, AND STUDENT SATISFACTION

A Dissertation

Presented to

the Faculty of the Department of Educational Leadership

East Carolina University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

by

Charles William Brown, Jr.

December, 2014

SERVICE QUALITY AS A PREDICTOR FOR ACADEMIC ENGAGEMENT, STUDENT PERFORMANCE, AND STUDENT SATISFACTION

by

Charles William Brown Jr.

APPROVED BY:

DIRECTOR OF DISSERTATION: _____
Cheryl McFadden

COMMITTEE MEMBER: _____
Andrew Herdman

COMMITTEE MEMBER: _____
Paul Schwager

COMMITTEE MEMBER: _____
David Siegel

CHAIR OF THE DEPARTMENT OF EDUCATIONAL LEADERSHIP:

_____
William Rouse, Jr

DEAN OF THE GRADUATE SCHOOL:

_____
Paul Gemperline

DEDICATION

To my parents Charles and Linda Brown, while you may no longer be physically present in my life you have been with me on every step of this journey. I would like to thank you for your love and always believing in me. Thank you for instilling in me the value of education, commitment, and to finish what you start. It is my hope that I can pass along these qualities to your granddaughter Hadley Brown.

ACKNOWLEDGEMENTS

I would like to take this opportunity to thank some individuals who made this achievement possible. First, I would like to thank Dr. Cheryl McFadden for her dedication to her students. Her advice, guidance, and tough love was greatly needed and appreciated. Thank you for following through with a commitment that you made to me as you embarked on a new opportunity in your life. In starting this process there were many qualified individuals that I could have selected as a dissertation chair but without question I made the right decision, thank you. I would like to thank Dr. Andrew Herdman for challenging me to not just check the boxes but to understand the process of analyzing the data. Thank you for making yourself available whether it was meeting with me, returning phone calls at all hours, or responding to need help texts. I would also like to extend my gratitude to Dr. Siegel who first helped me uncover an idea that later turned into my dissertation. It was in your class that you challenged me to take this idea and develop it into a study I could be proud of. Lastly I would like to thank Dr. Schwager for stepping in and devoting your time to my education. Your authentic concern for my progress and encouragement whenever we passed in the halls was greatly needed and appreciated. To my committee thank you for believing in me.

I would like to thank the ECU College of Business for allowing me access to students and courses that made this study possible. To the students' who participated in my study I am grateful and appreciative of your time and openness for completing multiple surveys.

I would like to thank my family, Heather, Missy, Joseph and my in-laws Bob and Deborah for their love, encouragement, and support. To my wife, Misty Brown, thank you for the support and most of all patience as I spent many hours away from you and our family.

Whether you knew it or not your understanding of my time away, your love, and shouldering the extra responsibilities was greatly needed and will not be forgotten.

To my daughter, Hadley, thank you for reminding me every day what matters most. Thank you for allowing me the time that I should have been spending with you to follow through with my education. I hope that in time you to will come to understand that you can do anything you put your mind to. Love you to the moon.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE: INTRODUCTION

Background of Problem

Over the last three decades, institutions of higher education have become more competitive in recruiting students. Institutions of higher education have increased their focus on ways to create a competitive advantage in attracting and retaining students (Oldfield & Baron, 2000). The intensified competition within higher education is very similar to the environment surrounding the service sector, which is a component of the economy that focuses on the production of a service rather than a product. The response of many service organizations to creating a competitive edge is to focus on enhancing their service quality. Many service organizations are finding ways to implement continuous improvement programs such as total quality management. An important core principle in total quality management, and other service philosophies, is that organizations should continually assess customer perceptions of service quality. Only when data are collected and analyzed by the organization can they determine appropriate measures to improve their service and satisfy their customer base (Jensen & Artz, 2005).

Quality of service measures allow for organizations to achieve a fundamental priority of any business or service provider, which is to recruit and retain the customer. Universities viewed from the perspective of a business model are service providers. Their service is education and the students are the consumers (Wright, 2008). While Wright, 2008, acknowledges this view of the university and student relationship this perspective in not unproblematic. Many educators are resistant to the idea that quality management principles are appropriate to higher education (Mark, 2013). When applying a student-customer model to higher education many educators believe that measures of success or failure cannot occur because higher education is a completely

separate and distinct environment than the business environment. As educators their purpose is to educate not provide short-term results to meet the demands of the student to ensure satisfaction (James, 2001).

Institutions of higher education spend large amounts of money and time recruiting students and supporting services for retention. Over the past 30 years higher education has undergone dramatic changes with a restructuring of the university financial model and the financial burden being placed on the student. With these changes, a key concept higher education must focus on is creating a competitive advantage in an attempt to increase appeal and entice prospective students (Oldfield & Baron, 2000). While controversial, if colleges and universities are viewed like service providers, then they need to have the ability to comprehend a student's experience in order to make sure they are delivering a product that meets the student's expectations. One key area that universities have to focus their attention on is meeting the student's expectations as it pertains to the learning experience (Stodnick, & Rogers, 2008).

The ability to understand a customer's experience and expectations is an important factor for an effective delivery of a product. Customer's perceptions compare or contrast with their expectations when determining the quality of service or product and their overall satisfaction. Though the concepts of customer expectation and customer satisfaction are fairly well understood, there is still uncertainty regarding how the two are formed and how they interact (Meyer & Schwager, 2007). This study on service quality focuses on one portion of the overall student experience as defined by Petruzzellis, D'Uggento, and Romanazzi (2006) which is the quality of the classroom encounter.

Cuthbert (2010) stated that many universities take into consideration the value of service quality and the assessment of their quality of service. There are two driving forces behind this

trend in universities' focus on service quality. The first is that service quality literature has reported that word-of-mouth recommendations play a large role in a consumer's decision to select a service provide which when applied to concept of students as customers may influence their decision to choose a university (Abdullah, 2006). Secondly, both university quality assurance and assessment have become a common measure for various accreditation criteria in academia. The theories surrounding service quality report that universities who adopt a philosophy of continuous quality improvement may be more likely to develop high levels of student satisfaction, which result in increased customer loyalty and a decrease in costs associated with attracting new students (Douglas, McClelland, & Davies, 2008).

Armed with the knowledge that customer satisfaction is vital to success, organizations are aware that every decision made must have the best interest of their customers at its core (Ford & Heaton, 2001). Customer satisfaction has been defined as "a cognitive appraisal of the degree to which a product or service performs relative to a subjective standard" (Petrick, Morais, & Norman, 2001, p. 42). Customers perceive satisfaction as successful attainment of an individual pursuit or goal in consuming a product or utilizing a service. One major component included in determining successful attainment is if the experience was at least as good as it was supposed to be (Oliver, 2010). In the service industry, customer satisfaction is the key determinant of long-term financial success. Customer satisfaction as a determinant of long term-financial success is a key priority for most universities, though the term used to define this dynamic in academia is student retention (Ford & Heaton, 2001).

In the late 1960s, student ratings on the quality of instruction were developed due to student protests that identified themselves as customers (Centra, 1993). Today, the practice of utilizing student evaluation of instruction to inform on quality has become a widely accepted

mode of assessment at most institutions of higher education. Many researchers agree that student ratings are the single most valid means of gathering data for measuring teaching effectiveness and the quality of instruction (Thornton, Adams, & Sepehri, 2010). A review of the literature on student evaluation of instruction found that overall, this method of quality analysis was reliable and valid, and provided valuable information for instructors and administrators (Theall & Franklin, 2001). While student evaluation of instruction is a widely accepted method for assessing instruction, there are others that feel there should be additional measures applied to examine the professional delivery of service (e.g. instruction) in the classroom (Sahney, Banwet, & Karunes, 2004).

In the service industry one of the most common instruments for measuring service quality is the SERVQUAL scale (Tan & Kek, 2004). The SERVQUAL scale has been used in various service industries including tourism, recreational services, banking services, health care, and general service environments. This instrument has been the primary tool used by service organizations to measure the level of quality delivered to their customers for over 20 years (Hemsley-Brown & Oplatka, 2006). Although this tool is widely accepted and used often in the service industry, its use in higher education has been limited. With the emergence of customer-centric approaches being utilized in higher education, it is important to identify instruments that can measure the relationship between the quality of service delivered and the student (Stodnick, & Rogers, 2008).

The rising costs of education have forced institutions of higher education to take a more active role in examining a customer-centric approach as it relates to the university. As a result of increasing costs, students today show greater customer awareness than in previous years (Marginson 2006). The fundamental success of a service organization lies in the interaction

between the service organization and its customers. When applied to higher education one simplistic and controversial view of the service interaction is that the employees (e.g. the instructors) play an integral role as a liaison to the customers they serve, the students, and their employer, the university. One could draw a conclusion that the instructor may be the single most visible means by which the university can distinguish itself (Oldfield & Baron, 2000).

As students and their families continue to evaluate the cost and value of higher education, institutions need to be able to assess their quality of service to remain competitive. The current generation of students, more so than in the past, are seeing themselves as a consumer of universities, not solely students of an institution (Singleton-Jackson, Jackson, & Reinhardt, 2010). Student enrollment may be impacted if the quality of service is not satisfactory. As competition for students increases and retention numbers continue to be tied to funding, universities cannot afford to lose students to other institutions thus the focus on quality of service (Stodnick, & Rogers, 2008).

Better measures of the customers' voice through assessments of service quality may ultimately lead to an improved educational experience (student), increased professional development (instructor), higher university ranking (university itself), better-qualified graduates (community), and other benefits (Stodnick & Rogers, 2008). Studies have shown that there exists a positive relationship between customers' perception of service and their satisfaction with the service (Oldfield & Barron 2000). Despite the abundance of literature on student satisfaction of instruction, it is still unclear as to the relationship between student satisfaction of instruction and academic performance. Some have argued that academic performance is a precursor to satisfaction and dissatisfaction of instruction, while others report that satisfaction of instruction is a precursor to academic performance (Aldemir & Gulcan, 2004).

Studies have shown that high performing students have a greater degree of academic engagement. Efforts to increase students' academic engagement are widely perceived to be one key to improving the quality of the undergraduate educational experience (Kuh, 2003). Student engagement can be viewed as an outcome of a combination of intentions and successful academic and social integration within the university environment (Tinto, 2006). Academic engagement is viewed as a measure of student involvement with course related studies. Academic engagement is also defined as the amount of physical and psychological energy applied by the student in the academic environment (Axelson & Flick, 2010). Based on the literature, student engagement is generally considered to be among the better predictors of learning and personal development (Ahlfeldt, Mehta, & Sellnow, 2005). The fundamental belief that student engagement is a better predictor of learning and personal development is based on the concept that the more students study or practice a subject, the more they tend to learn about it. If students are engaged they are more likely to practice and receive feedback on their academic skills, such as writing and problem solving, which would correlate to higher academic achievement (Kuh, 2003).

One of the major challenges educators face in the classroom is engaging the students to be active learners. As the student population continues to evolve, the classroom environment must also evolve in order to engage the student. The changes in technology, social interactions, and methods of learning allow for the assumption that what was engaging to a student ten years ago is no longer the case. In higher education it has been shown in various studies that when students are actively engaged they participate more in the classroom and report a better understanding of course material. It is then important for educators to find ways of capturing student input to determine if engagement is occurring in their classroom (Ahlfeldt et al., 2005).

Statement of the Problem

Today, the practice of utilizing student evaluation of instruction has become a widely accepted mode of assessment at most institutions. For many, this is the primary means for assessing faculty and instructors on their teaching performance. In examining the literature, many researchers agree that student ratings are the single most valid means of gathering data for measuring teaching effectiveness (Thornton, Adams, & Sepehri, 2010). However, there exists a significant body of literature questioning the validity of student evaluation results as measure to improve instruction. Some of the problematic factors affecting validity that are outlined in the literature include the instructor's likeability, race, gender, grading, and the student's individual course load. Many institutions adopt and use student evaluations of teaching with little evidence that the evaluation and application actually measure or contribute to teaching quality (Nowell, Gale, & Handley, 2010). Many critics of student evaluations of instruction feel that the instruments used are too global in their questioning nor do they ask the correct questions. They also advise that other means of assessing faculty be included in overall evaluations (Wright, 2006).

The literature on service quality tells us that even though higher education may not have an objective way of measuring service quality, students are still evaluating the quality of service received (Wright, 2008). The literature on service quality is very clear that there is a positive relationship between service quality and satisfaction. Whether or not that satisfaction may or may not lead to higher performance is still debatable (Bean & Bradley, 1986). It is widely accepted that high performing students have a greater degree of academic engagement (Kuh, 2003). The problem addressed in this study is if service quality in the classroom can have an impact on student satisfaction, academic engagement and academic performance.

Purpose of the Study

The purpose of this study is to examine the relationship between service quality in the classroom as a predictor of academic engagement, academic performance, and student satisfaction. This study uses a service quality model to measure undergraduate students' perceptions of service quality in at East Carolina University (ECU), within its college of business. The service quality model measures the students' expectations versus the perceptions of their actual experience, with services delivered in their academic course. The study requires students to compare expectations with their experiences, as they perceive them, which will inform on their opinion of educational service quality.

The students' academic engagement is captured through a self-reported survey designed to measure on-task behaviors that signal a serious psychological investment in class work (Kuh, 2003). In addition to academic engagement, academic performance is identified as the student's final term course grade, which is used as an additional measure. A third variable, student satisfaction is examined as some literature reports that satisfaction may be a precursor to academic engagement. Academic engagement, academic performance and student satisfaction is analyzed with the students' score of opinion of educational service quality to determine if any relationship exists.

How Service Quality Is Measured

Service quality is measured by utilizing three principles that establish a construct through which service quality can be evaluated:

1. Service quality is more difficult for the consumer to evaluate than the quality of goods.
2. Service quality is based on consumers' perception of the outcome of the service and

their evaluation of the process by which the service was performed.

3. Service quality perceptions result from a comparison of what the consumer expected prior to the service and the perceived level of service received. (Kunz & Clow, 1998)

Service quality is a key-defining factor for an organization to set themselves apart from their competitors in the service industry. As consumers purchase goods and services, the quality of that purchase is an important factor. It is acknowledged that quality is important for the purchase of goods and service, though it is sometimes difficult to determine the quality of a service. Determining the quality of goods and determining the quality of a service differs drastically. Goods are tangible; they can be seen, held, and touched. In contrast, services are intangible. In this study, higher education is viewed as an intangible service. Measuring quality of service is different than measuring the quality of goods. The quality of goods can be measured objectively by using such indicators as the durability and longevity of products, and the number of product defects. Because of factors unique to services and to the delivery of service, the measurement of service quality has proven to be more difficulty (Falzon, 1990).

As a result of more research on service quality, improved measurement methods to assess such are available. The most widely used measure of service quality was developed through the combined efforts of Parasuraman, Zeithaml, and Berry (Fisk, Grove, & John, 2003). According to Parasuraman, Zeithaml, and Berry (1990), customers evaluate service encounters and the process of service delivery to form perceptions of service quality. Based on focus group interviews in Parasuraman et al.'s (1985) original service quality research, it was found that consumers clearly supported the notion that the key to ensuring good service quality is meeting or exceeding what consumers expect from the service. The focus groups provided the researchers with the understanding that the difference between high service and low service quality

depended on the consumers' expectation of the service. This demonstrated that measuring service quality, as perceived by the consumer, can be understood as the difference between customers' expectations and their perceptions.

Based on the above conceptual definition of service quality, Parasuraman, Ziethaml, and Berry (1988) developed SERVQUAL, a service quality model. SERVQUAL was designed as a scale to measure customer perceptions of service quality along five key dimensions:

1. Tangibles are the appearance of physical facilities, equipment, personnel, and communication materials.
2. Reliability is the ability to perform the promised service dependably and accurately.
3. Responsiveness is the willingness to help customers and provide prompt service.
4. Assurance is the knowledge and courtesy of employees and their ability to convey trust and confidence.
5. Empathy is the caring, individualized attention the firm provides its consumers. (Parasuraman et al., 1988)

The SERVQUAL instrument follows the principle that a customer perceives service quality as the difference between expectations and actual performance (Parasuraman et al., l988). The SERVQUAL instrument measures both customer expectations and perceptions of the organization's actual performance along the five dimensions of service quality. This allows for the data to show a customer's perceived service quality as an overall score, delineated by the five dimensions (Fisk et al., 2000).

Research Questions

This study is designed to measure whether quality of service has an influence on academic engagement in the College of Business at ECU. The research will examine quality of

service as a predictor for student satisfaction, academic engagement, and academic performance. The study focuses on five research questions:

1. What is the relationship between quality of service and student satisfaction?
2. What is the relationship between quality of service and academic engagement?
3. What is the relationship between quality of service and academic performance?
4. What is the relationship between the student's academic engagement based on the student's self-reported score and final grade?
5. Which, if any, of the five dimensions of SERVQUAL correlates with high levels of student satisfaction, academic engagement, and academic performance?

Significance of the Problem

Many factors have led to the focus on quality and services in higher education. With an increase in competition from other academic institutions, a reduction in state resources, and increased program and service demands, the value and quality of higher education has come under public scrutiny (Marginson, 2006). This increased scrutiny provides an opportunity to examine more appropriate ways to effectively measure the professional delivery of service to students (Nowell, Gale, & Handley, 2010). Using quality of service measures that have been widely accepted in service industries may provide higher education with the ability to accurately measure their level of service quality in the academic setting (Wright 2008).

As we explore the notion that higher education shares commonalities with the service industry we can begin to examine research findings and draw some assumptions (Petruzzellis, D'Uggento, & Romanazzi, 2006). Service marketing research demonstrates that it costs more financial resources to find new customers than to keep old ones. According to Zeithaml and Bitner (2000), attracting a new customer is five times as costly as retaining an existing one.

Depending on the industry, companies can increase profits from 25% to 85% simply by retaining just 5% more of their customer base. When customers leave a service provider for another it is likely that they are not satisfied with the provider's service and willing (eager) to share with other consumers about their dissatisfaction (Spector & McCarthy, 1995).

From a customer/student retention standpoint, it makes very good sense for higher education leadership to enhance its service delivery specifications and set high employee performance standards to improve service quality (Stodnick & Rogers, 2008). If improving the quality of service in an academic setting has a positive correlation to academic engagement, then measuring service quality has important implications to student's academic success. Considering that limited empirical research that has been conducted on the delivery of quality service in the classroom, this study will add insight to the overall implications of high service quality as it relates to student success.

Operational Definitions

Academic Engagement – Identified by on-task behaviors that signal a serious psychological investment in class work; these include attentiveness, doing the assigned work, and showing enthusiasm for this work by taking initiative to raise questions, contribute to group activities and help peers (Kuh, 2003).

Academic Performance – In this study this term is defined as the student's end of semester final grade.

Service Quality – Meeting or exceeding the expectations of customers (Falzon, 1990).

SERVQUAL – An instrument developed and refined by Parasuraman et al. (1988, 1991) for measuring service quality on a 7-point Likert scale from a customer's perspective. The survey

instrument was designed to measure service quality. For the purpose of this study, the instrument was modified for use in an educational setting.

Student Satisfaction – For the purpose of this study, student satisfaction is defined by students' levels of satisfaction with factors of quality found to be present in a classroom setting. Student satisfaction is sometimes seen as a short-term view derived from an overall evaluation of the personal educational experience by the student (Athiyaman, 1997). Consumer/student satisfaction leads to perceived service quality. The greater the level of satisfaction the greater the perceived service quality (Parasuraman et al, 1988).

Limitations

The study is limited to undergraduate students in 35 undergraduate business classes in a single southeast university. The results of this study may not be generalized to other groups, to students at other universities, or to students outside of the college of business. The findings from the questionnaire responses are based on self-reported data, which may not be independently verified. Self-reported data may also contain biases such as selective memory, attribution, and exaggeration. A limitation discovered after collecting data on academic performance was the grades were strongly right skewed. The clustering of final course grades could be attributed to multiple factors like grade inflation, grade clustering, or only high performing students participating in the study.

Assumptions

This study assumes that the students being surveyed are representative of students in a college of business. The assumption is made that participants will answer the questions honestly as their responses are anonymous and confidential. The participants are given the option to

withdraw from the study at any time. For this study, the assumption is made that higher education is an intangible service, which allows for the measurement of quality of service.

Delimitations

The study consists of undergraduate college students majoring in business at a single southeastern university. All of the students in the study are enrolled in a leadership development program embedded in a college of business curriculum. The leadership and development program consists of four courses focused on leadership and business skills needed to be competitive in the business profession. The purpose of the leadership development program is for students to develop practical leadership competencies such as strong oral and written communication skills applicable in a virtual or physical environment, as well as critical thinking and team building skills. Because of its focus, the leadership and development program is more of an applied learning environment than traditional lecture-based courses. This learning environment may be better suited for examining service quality in an academic environment.

Organization of the Dissertation

This dissertation is divided into five chapters. Chapter 1 provides an introduction and background of the study. Chapter 2 includes a review of the literature, focusing on an overview of service quality, service quality and its relationship with satisfaction, and student academic engagement. An explanation of the methodology and description of procedures used in the study are found in Chapter 3. The analysis of data collected is included in Chapter 4. Chapter 5 concludes the study with a summary of findings, conclusions, and recommendations for further study.

CHAPTER TWO: REVIEW OF THE LITERATURE

This chapter provides the theoretical basis for the study, supported by relevant literature, concepts, and instruments of service quality. The overall purpose of this study is to expand on the concept of service quality in higher education, along with its influence on students in the academic classroom setting. This chapter presents a review of the literature as it relates to the current study. It begins with a discussion of early literature focused on the service quality movement in the United States. This chapter will also discuss the theoretical and empirical evolution of service quality measurement, service quality as it relates to customer satisfaction, and finally, service quality and its role in higher education.

Service Quality Movement

The focus on quality began with the belief that quality was based on the physical aspect of a tangible product. During the early 1900s the primary means by which people evaluated the quality of a product was by determining if the final product deviated from the original standards outlined prior to production. If the product had no variations from the standard specifications, the product was believed to be of good quality (Tenner & DeToro, 1992). In the 1920s, Walter Shewart of Bell Laboratories was viewed as the pioneer of the total quality movement in the United States. Shewart developed the statistical process control, which measured the amount of variation in a finished product and documented the cause. It was Shewart's belief, in the 1940s, that the manufacturing industry could improve their products by applying quality control measures during the manufacturing process. Many manufacturing businesses at the time disagreed with improving quality during manufacturing and settled on fixing quality issues in the final product (Schneider & White, 2004).

In 1927, W. Edwards Deming was introduced to Shewart and was inspired by his contributions to statistical control in manufacturing processes. Deming himself was a statistician who was focused on statistical methods for improving industrial production and management. Shortly after their introduction, Deming followed and improved on the work of Shewart in the field of manufacturing quality control. Deming met much of the same resistance in the United States as Shewart had, in regards to improving quality during the manufacturing process, however, he was highly received in the manufacturing industry in Japan (Schneider & White, 2004).

Because of Deming's success in Japan, more United States based manufacturing and service companies began working with Deming in the 1930's. In the modern day, Deming is viewed as the preeminent authority on quality and quality improvement from the 20th century (Stamatis, 1996). Deming's success was based on the statistical control learned from Shewart, with the addition of his own improvements. In the quality and quality improvement literature, Deming's contributions are extremely important. His creation of the Fourteen Principles for Total Quality Management provided the foundation for a philosophy of quality improvement that has transformed American business (Deming, 1986). Deming's Fourteen Principles were grouped into six basic themes by Dill (1992):

1. It is imperative to practice continuous quality improvement if an enterprise is to hold or enhance its place in the market.
2. The emphasis should be on obtaining consistent quality in incoming resources through careful management of suppliers.
3. There should be active participation of all members of an organization's productive workforce in the improvement of quality.

4. There should be the importance of meeting customer needs as the fundamental basis for the improvement of goods and services.
5. The need for cooperation and coordination serves as the basic way in which an enterprise can improve its quality.
6. Quality improvement comes not from inspection but from design; that is, the establishment of procedures which make it impossible for bad quality to be undetected and encourage the primary aim of continuous quality improvement. (p. 2)

The work of Shewart, Deming, and others in the quality improvement field began to drive the manufacturing and service sectors in the United States, and to infuse quality control into their business models. While their work spurred the quality movement in the United States, the strongest motivation for United States companies to embrace quality control measures was the survival of their businesses and to retain a competitive edge (Stamatis, 1996). Starting around the 1960s, Japan was on the leading edge of infusing quality control into their manufacturing processes. Due to the seemingly higher quality of their products, Japanese companies became a strong competitor to American manufacturers. American companies began to see that in order to remain competitive they must develop strategies to compete with Japan's domination of the markets, which resulted in integration of quality improvement measures in their manufacturing processes (Marchese, 1992).

In the 1980s, service businesses began to dominate the United States economy. This shift created a divide within the quality focused community. Most of the research on quality up to this time focused on the production of the product without focusing on the customer experience. Quality researchers at that time felt that the same principles that were applied to product quality could be generalized to the service industry. However, when applying product quality to the

service industry, researchers found it difficult to do so successfully. They found the concept of service quality to be vague, unclear, and indefinable (Feigenbaum, 2004). One individual who is credited with developing the first process by which service quality was incorporated into quality management was Juran (1974). Juran identified the process of integrating service quality in quality management as total quality management. Juran's concept of quality was when a product and its features met the needs of customers, which then provided satisfaction to that customer (Juran & Godfrey, 1999). His key principle of total quality management, the Pareto Principle, is centered on the concept of internal customer service. The Pareto Principle is the belief that a business must take into consideration the view of the customer through all stages of production.

Keeping abreast of trends in the total quality movement, Deming joined Juran in Japan just after World War II to support the Reconstruction efforts. Deming's work in statistical quality control to measure product and service quality was so highly regarded by the Japanese that they named their national quality award the Deming Prize. In the 1980s, Deming returned to the United States and introduced his principles for statistical quality control that he had implemented in Japan (Feigenbaum, 2004). Ford Motor Company was one of the first manufacturers that embraced Deming's principles in 1983. Ford Motor Company was experiencing multi-billion dollar losses due to poor quality products and believed that Deming could create a quality movement that would turn the company around. Deming helped Ford Motor Company by focusing on quality, but also on improving management. In 1993, his work with Ford Motor Company led him to publish 'The New Economics for Industry, Government, and Education." This document outlined his pioneering work in the Fourteen Key Principles for Total Quality Management for transforming business effectiveness. These fourteen principles transformed American business. Collectively, they can be grouped into six fundamental themes (Dill, 1992):

1. It is imperative to practice continuous quality improvement if an enterprise is to hold its place in the market.
2. The emphasis should be on obtaining consistent quality in incoming resources through careful management of suppliers.
3. There should be active participation of all members of an organization's productive workforce in the improvement of quality.
4. Meeting customer needs should be the fundamental basis for improving goods and services.
5. Cooperation and coordination should be the basic way in which an enterprise can improve its quality.
6. Quality improvement comes not from inspection, but from design. That is, the establishment of procedures which make it impossible for bad quality to be undetected and encourage the primary aim of continuous quality improvement (p. 47).

The concept of total quality control paralleled Deming's work, and was pursued by Armand Feigenbaum in the United States at General Electric during the years of 1958-1968. Total quality control is the process of integrating a system of quality development, quality maintenance, and quality improvement into various work groups, which allowed for the most economical outcomes that would lead to customer satisfaction (Feigenbaum, 2004). In his work, Feigenbaum showed executives at General Electric that an extensive amount of effort and resources was expended in correcting mistakes. Mistakes led to increased costs, and ultimately those costs were leveed on the consumer, which negatively impacted consumer satisfaction. Feigenbaum argued that for total quality control to be successful it had to start at the beginning

of the manufacturing process; that it must be infused through every level of the company where decision-making drove product development (Fisk, Grove, & John, 2003). With top executives playing a key role in the total quality control process, this set an example to the rest of the company that quality was of upmost importance. This would create a trickle-down effect where quality becomes institutionalized and thus is a constant consideration for all employees. Feigenbaum's work on total quality control was instrumental in identifying the link between executive involvement in quality improvement initiatives and customer satisfaction and retention (Feigenbaum , 2004).

The quality movement continued to evolve building on the foundations established by Deming (1986), Juran (1999), Feigenbaum (2004), and others. Many strategies, statistical approaches, and procedures have been applied during the quality movement in an effort to deliver a quality product. The one commonality among the various methods of quality control is the belief that quality must be implemented at every level of decision-making as it guides development of a good or delivery of a service. By creating an organization-wide process of total quality management, one can deliver a product that exceeds quality expectations and satisfies the customer.

Theoretical Foundations of Service Quality

Many researchers including Parasuraman et al. (1991), Carman (1990), and Bolton and Drew (1991), agree that service quality is an abstract concept, which has led to considerable debate about how best to conceptualize this phenomenon (Centra, 2003). Lewis and Booms (1983) were the first researchers who attempted to define service quality. Their definition was a "measure of how well the service level delivered, matches the customer's expectations" (Lewis & Booms, 1983, p. 100). Based on this definition, and similar definitions developed by

previously mentioned researchers, there is broad consensus that service quality is an attitude of overall judgment about service superiority. Zeithaml et al. (1990) also concluded that service quality is the customer's perception of the degree of success or failure in meeting expectations. Service providers must be able to comprehend a customer's experience in order to make sure they are delivering a product that meets the customer's satisfaction (Parasuraman et al., 1991). The work of Parasuraman et al. (1985, 1988a, 1988b, 1991) significantly advanced the concepts and principals of service quality measurement. Parasuraman et al. (1985) identified three underlying themes in service quality. The first theme is that service quality is more difficult for the consumer to evaluate than the quality of goods. The second is that service quality perceptions result from a comparison of consumer expectations with perceptions of actual service performance. The third theme holds that quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery (Parasuraman et al., 1985).

Service quality models based on empirical research assess the differences between perceptions and expectations utilizing the disconfirmation theory, which is a key foundation in the literature regarding satisfaction. Webster and Hung (1994) believed that these models focus greatly on the consumer's perceptions of service. They surmised that quality is ultimately what the customer says it is, therefore companies must capture an accurate and up-to-date view of the customer's perceptions to assess the quality of service being delivered. In measuring product quality or service quality, Webster and Hung's research demonstrated that the most important piece of the customer satisfaction puzzle involves understanding how consumers think, feel, and behave.

Oliver (1980) studied quality through the expectation disconfirmation model and found that customers compare their satisfaction with their expectations of performance as it pertains to a given product or service. If the perceived performance is greater than expectations, then positive disconfirmation occurs and customer satisfaction increases. The opposite is true if the service performance is below what was expected. Negative disconfirmation would result which might lead to a decrease in consumer satisfaction.

Other scholars consider service quality based on the outcome of the service encounter and customer satisfaction as a response to service quality. Researchers who view service quality and satisfaction from this perspective typically measure service quality using customer evaluations of five variables; tangibles, reliability, empathy, assurance, and responsiveness (Zeithaml et al., 1990). This is the basis of the service delivery gap model, whereby customer expectations and perceptions of service quality are gathered before and after a service experience. Consistent with the disconfirmation model, perceptions greater than expectations signal satisfactory service quality; perceptions less than expectations indicate unsatisfactory service quality (Parasuraman, Berry, & Zeithaml, 1985, 1988; Zeithaml et al., 1993). The prevailing measurement technique adopted by the majority of researchers today analyzes customer perceptions using only post-service measurements, relying on this singular measure to explain the service delivery gap. This study will evaluate service quality perceptions in a higher education environment using the methodology of post-service measurements.

The Relationship between Satisfaction and Service Quality

In the modern consumer environment, retailers, or those in the service industry, do not have to be convinced that the customer is their top priority. The business world has evolved in favor of the consumer whereby the buyer of a service or good, not the provider, is in control. In

the modern day, many organizations have adopted the rule “if you do not take care of your customer, somebody else will” (Blanchard, 1997, p. 15). In order for organizations to be successful and remain so they must view customer satisfaction as the ultimate goal. In the service industry “there’s no higher achievement than to satisfy the customers whom an organization has committed itself to serving” (Customer Satisfaction, 2002, p. 1).

Determining exactly what makes a customer satisfied is one of the most important challenges facing businesses. Customer satisfaction has been defined as “a cognitive appraisal of the degree to which a product or service performs relative to a subjective standard” (Petrick et al., 2001, p. 42). Satisfaction derived from purchasing and consuming products or services forms a connection with the offered product or service, therefore the experience of acquiring and/or consuming drives post-buying changes in behavior, repeated buying, and brand loyalty. Customers have certain expectations, and if their expectations are not met then the organization has created dissatisfied customers. One statistic that reinforces just how important expectations are demonstrates that 68% of customers do not continue a relationship with a service provider because of indifferences communicated by the owner, manager, or employee (Dubrovski, 2001).

In the literature regarding service quality there are two main themes that are persistent-service quality and satisfaction. The literature on service quality and satisfaction exhibits disagreement regarding the relationship between the constructs of service quality and customer satisfaction. Although disagreements stem from the fact that satisfaction studies and quality studies utilize two different research theories, there is one commonality. Both theories include consumer perceptions and expectations as the main antecedent constructs. Controversy in the literature regarding the relationship between service quality and customer satisfaction fall into one of three categories. The first includes scholars that claim that service quality is a product of

the service encounter. Their position is that customer satisfaction is tied to prior expectations and satisfaction is a response to service quality in the form of disconfirmation (Oliver, 1980). The second includes researchers who propose that customer satisfaction and service quality are separate and distinct constructs but they share a number of similar qualities. The third and final position consists of scholars that make no distinction between the two (Parasuraman et al., 1993).

A wealth of literature documents customer satisfaction research that has been conducted utilizing service quality measures (Oliver, 1980; Oliver & DeSarbo, 1988; Zeithaml et al., 1993). Many organizations have implemented customer satisfaction and service quality measures interchangeably when assessing the quality of their service (Cronin & Taylor, 1992). Others have not distinguished between customer satisfaction and service quality when assessing their effectiveness. Models of satisfaction often focus on comparing customer expectations to the observed service delivered (Oliver, 1980), frequently referred to as the service quality gap (Parasuraman et al., 1993). Perceptions of service quality are built on prior expectations of what consumers believe should occur, in contrast to the actual quality of service delivery (Boulding et al., 1993).

Investing human and capital resources into service quality improvement does not necessarily assure satisfaction or profitability. Increasing consumer satisfaction and profitability can be directly influenced by reevaluation of the organization's strategic plan and the effectiveness of how the company operates (Parasuraman, Zeithaml, & Berry, 1985). In an effort to determine the effectiveness of an organization's service quality initiatives, customers' perceptions are gathered and measured. This measurement provides the information necessary for effective decision-making, management of performance, and proper allocation of resources,

which assist in creating a strategic plan that can improve the chances of assuring customer satisfaction and profitability.

Institutions of higher education are showing more of a commitment to student satisfaction evidenced by student-centered verbiage in mission statements, university goals and vision, and marketing efforts (Elliott & Shin, 2002). In the context of education, student satisfaction generally refers to how favorable a student's subjective evaluation is of the various outcomes and experiences associated with education. Since satisfaction is based on experience, student satisfaction is constantly being influenced by the students' overall experiences (Oliver, 1980). The student's classroom and academic experience is not independent of all other experiences on campus. Although the academic experience is viewed as playing a larger role than it has in the past, it is but one of many factors impacting overall student satisfaction.

Research on student satisfaction and service quality includes various models for measuring the two constructs. While it is important to understand that satisfaction and service quality are two different concepts, researchers make the point to clarify that they are still related (Zeithaml & Bitner, 2000). Parasuraman et al. (1988) provides some clarification on the relationship between satisfaction and service quality when he reports that "perceived service quality is a global judgment, or attitude, relating to the superiority of the service, whereas satisfaction is related to a specific transaction" (p. 16). As to their application in higher education, Athiyaman (1997) indicates that student satisfaction is an overall attitude constructed on short term specific transactions, while perceived student service quality is an attitude developed from various service encounters that lead to a more complete assessment. Each class a student enrolls in and attends is a separate transaction that leads to a service encounter.

Athiyaman's research showed that based on this model, each class or service encounter resulted in student satisfaction/dissatisfaction, which created the construct for perceived service quality.

The majority of studies on student satisfaction in higher education identify student satisfaction as a dependent variable for the purpose of evaluating success of the institution and institutional programs. Compared with other outcome variables in educational studies, it has been proven that student satisfaction is not an ambiguous indicator. Student satisfaction measures indicating successful communication transactions between students and staff, professors, administrators, and instructors demonstrate important measures of quality and the success of an institution or program (Thurmond et al., 2002). Studies on student satisfaction have linked student satisfaction with persistence, retention, word of mouth marketing, and commitment. Student satisfaction studies demonstrate that students are primary stakeholders in higher education and thus their input is essential to university success (Bok, 2009).

Service Quality Measurement SERVQUAL

Delivering quality service is considered an essential strategy for success and survival in today's competitive environment (Zeithaml, Parasuraman, & Berry, 1990). Crosby (1979, p. 14) defined quality as "conformance to requirements" and "doing it right the first time," while Juran defined quality as "those product features which meet the needs of customers and thereby provide satisfaction" (Juran & Godfrey, 1999, p. 2.1). A variety of research approaches are available to capture the quality of service being delivered. These include traditional satisfaction surveys, tracking customer complaints, and market and employee surveys (Grapentine, 1998). These methods are supplemented with other approaches to glean service quality data including mystery shoppers, focus groups, and customer advisory panels. Early efforts at measuring and

quantifying the results of service quality data to identify improvement came from the private sector (Juran, 1999).

Service quality has been more challenging and elusive to measure than product quality. In their groundbreaking research on service quality, Parasuraman, Zeithmal, and Berry (1985) employed gap analysis to the provisioning of services. They offered a framework for measuring service quality, which identified the gap between customer expectations and their perception of how a service was performed (Gupta & Chen, 1995). The goal of any service organization seeking to improve their service quality, aimed to close or narrow the gap. Previous research on service quality focused primarily on the desired expectations of customers (i.e. what a customer feels a service provider should provide), overlooking the importance of actual service performance to customer satisfaction. Current research supports the utilization of multi-expectation standards in service quality models (Parasuraman, Zeithmal, and Berry, 1994).

Parasuraman, Berry, and Zeithmal (1991) tested the multi-expectation model for a variety of service organizations including banking, credit card, repair and maintenance, and long-distance telephone services. The attitudes of individual customers toward these service organizations reflected their successful and unsuccessful experiences with the organization. Parasuraman, Berry, and Zeithmal (1991) found that despite the service organization measured, customers shared similar criteria in evaluating their service quality. These criteria initially fell into ten key dimensions:

1. Tangibles
2. Reliability
3. Responsiveness
4. Competence

5. Courtesy
6. Credibility
7. Access
8. Security
9. Communication
10. Understanding the customer (p. 42).

Through the use of extensive factor analysis, the ten dimensions were later consolidated into five dimensions (Parasuraman et al., 1991):

1. Tangibles—the appearance of physical facilities, equipment, personnel, and communication materials.
2. Reliability—the ability to perform the services accurately and dependably.
3. Responsiveness—the willingness to help customers and the ability to provide prompt service.
4. Assurance—the knowledge and courtesy of employees and their ability to convey trust and confidence.
5. Empathy—the caring, individualized attention provided to the customer (p. 45).

This early exploratory research formed the foundation for the SERVQUAL instrument (Parasuraman, Zeithaml, & Berry, 1988). The SERVQUAL is a conceptual model that defines service quality from the customer's vantage point. It consists of 22 similarly worded questions measuring customer expectations compared to customer perceptions of service quality (Parasuraman, Zeithaml, & Berry, 1985, 1988). Parasuraman, Zeithaml, and Berry (1988) identified five gaps within an organization, which could lead to service quality deficiencies perceived by customers:

1. Marketing Information Gap—discrepancy between customer expectations and management perceptions of customers' service expectations.
2. Standards Gap—discrepancy between management perceptions of customer expectations and service quality specifications.
3. Service Performance Gap—discrepancy between service quality specifications and the service actually delivered.
4. Communications Gap—discrepancy between communications to customers describing the service and the service actually delivered.
5. Service Quality Gap—discrepancy between customer service expectations and perceptions (p. 32).

Researchers have modified the SERVQUAL model to measure service quality in higher education institutions. Boulding et al. (1993) found that the higher a student's perception was of the institution's service quality, the more apt that student would be to recommend the university and donate money. Schwantz (2012) compared traditional and non-traditional students' perceptions of the service quality provided by faculty and support staff, and found that students consistently ranked faculty higher in every SERVQUAL measure. This finding was attributed to the students' belief that faculty were knowledgeable and the information received from them was credible and trustworthy.

Hampton (1993) applied a modified SERVQUAL to determine if student satisfaction with professional services encompassing the quality of education, teaching, social life, campus facilities, effort to pass courses, and student advising was linked to students' evaluation of service quality. He found that student satisfaction was directly dependent on the quality of

service provided, and therefore concluded that gap analysis was an effective measure of service quality for professional services in higher education.

Higher Education, Service Quality, and SERVQUAL

While this study utilizes a model that identifies students as customers it is important to understand that this perspective is not fully accepted in the higher education literature. Many educators are resistant to the idea that quality management principles are appropriate to higher education. The resistance for the most part stems from a perception that a customer focus is potentially damaging to the learning process (Mark, 2013). When applying a student-customer model to higher education many educators believe that measures of success or failure cannot occur because higher education is a completely separate and distinct environment than the business environment. In business, the principle that the customer is always right carries little merit to educators as their purpose is to educate not provide short-term results to meet the demands of the student to ensure satisfaction (James, 2001).

Another argument contradicting the view of students as customers is that students lack the appropriate knowledge of what is required to make themselves into successful learners. It is assumed in business customers that they have the knowledge and ability to make a decision on if the product is correct or defective. Students on the other hand are not able to fully come to a decision during the educational process on if the information they are receiving is correct or incorrect. This belief shows that there is a considerable difference between what a student desires and what they actually need (Pittman, 2000).

A third critic of the student customer model is the paradigm shift in authority and responsibility between student and educator. If educators treat students as customers this would facilitate a transfer of power to students and would lead them to blame the institution for their

own personal failures. Students would attribute individual failures to faults in the curriculum or instruction and educators become more vulnerable to negative evaluations, no longer being able to impose high standards. Educators may feel the need to lower standards in order to not receive lower student evaluations which have been used as a measure for promotion and tenure (Courtney & Courtney, 2006). A final criticism for applying the student-customer model to higher education relates to the students ultimate outcome, their degree. The conferring of a degree by a university does not fit into the characteristics of a customer purchasing a product for two key reasons. First it is a fundamental principle in higher education that they are not in the business of selling a degree. Secondly, once a student has been granted their degree they then cannot sell their degree; it is not transferable (George, 2007).

Institutions of higher education currently employ a variety of measures to gauge service quality. These include student's ratings on the quality of instruction, students' overall satisfaction with their education, achievement of learning outcomes, the student's willingness to recommend the university to others, graduates' pass rate on licensing and professional exams, admissions to graduate and professional schools, and findings of alumni surveys (Sahney, Banwet, & Karunes, 2004). Frequently, these measures of institutional quality are defined predominantly by the institutions themselves and are of limited importance to students. Often, institutional quality measures focus primarily on areas that contribute to institutional prestige; for example, test scores of incoming freshman, levels of research expenditures, and numbers of national academy faculty and national student scholars. Since many of these measures of institutional quality does not meaningfully capture the success or failure of service quality as it relates to student experience, therefore it cannot serve as authoritative data to impact or drive service quality improvement (Mavondo & Zaman 2000).

Mavondo and Zaman (2000) found that due to the changing landscape of higher education, traditional models for measuring university success are shifting. In this changing environment, service quality has become a hot topic of research. With more non-traditional students attending universities, the stereotype of the typical college student continues to change. This shift in dynamics poses a challenge to universities seeking to determine the needs and wants of a mixed population of traditional and non-traditional students. Jensen and Artz (2005) confirmed this finding in their study. They reported that students view themselves as customers more so than in the past. Non-traditional students, and some traditional students, view higher education the same way that they view other forms of commercial exchange. Consequently, they are every bit as demanding in terms of the product purchased and the service rendered and therefore have high expectations for delivery of that product (Jensen & Artz, 2005).

This new breed of consumer-student demands the same high quality in their education that they do from commercial businesses; they expect convenience, stellar service, and low costs (Haworth & Conrad, 1997). Their evaluation of these qualities in both sectors is similar as well. Students are constantly comparing education providers to find those that meet their needs and demands (Jensen & Artz, 2005). This is especially true as it relates to the student's emphasis on cost analysis. Ever increasing tuition costs encourage students to compare institutional offerings to determine which educational provider can meet their need at the most reasonable price (Wright & O'Neill, 2002).

Cuthbert (1996) believes that higher education, like other service industries, is dependent on the impact the provider has on the customer. This interaction creates a competitive advantage for universities to distinguish themselves from other institutions. In addition to a competitive advantage, studies have shown that service providers who are better able to provide a high level

of quality service will experience customer loyalty and satisfaction. Theories surrounding this concept report that universities that adopt a philosophy of continuous quality improvement are more likely to develop high levels of student satisfaction. The result is an increase in customer loyalty and a decrease in costs associated with attracting new students. This demonstrates the criticality of measuring the level of service an institution delivers to its students (DeShields, Kara, & Kaynak 2005).

Use of the SERVQUAL instrument in higher education began by examination of its ability to measure student's perceptions of a university's service quality. Cuthbert's (1996) research sought to test the reliability of the five SERVQUAL dimensions, however the data showed very weak results. Because of its disappointing performance, the SERVQUAL items were subjected to exploratory factor analysis. The analysis led to seven factors, which did not resemble the original five. Cuthbert concluded from these results that using the SERVQUAL scale to measure university service quality seemed inadequate. One criticism of this research points to the lack of analysis conducted to determine the ability of SERVQUAL to predict student satisfaction, or any similar dependent variable (Stodnick & Rogers, 2008). Oldfield and Baron (2000) replicated the study four years later, using SERVQUAL to measure student perceptions of a college of business' faculty. Through an application of exploratory factor analysis, the researchers found that three factors emerged:

1. Requisite: essential items that allow students to fulfill their study obligations;
2. Acceptable: items that are preferable rather than essential to student development; and
3. Functional: items outside the control of the instructor and primarily derived from university rules (Oldfield & Baron, 2000, p. 93).

Similar to Cuthbert's study, Oldfield and Baron did not perform an analysis to test the relationship between these factors and student outcome measures. In a study conducted in India, SERVQUAL was used to measure student perceptions of service quality in higher education. Hughey, Chawla, and Khan's (2003) factor analysis suggested that the SERVQUAL items were uni-dimensional. Hughley et al. (2003) suggested that the SERVQUAL items could be used in quality implementation to the student services offered in order to improve the university's services. Again, no tests were conducted to indicate whether any SERVQUAL items can be predictive in nature (Stodnick & Rogers, 2008).

Stodnick and Rogers (2008) sought to rectify the lack of evaluation on determining if SERVQUAL can be predictive in the evaluation of service quality, and dependent variables such as student performance or outcomes. They conducted a study using SERVQUAL to measure the student's perception of service quality in a classroom environment. The study aimed to investigate whether the SERVQUAL scale can be used as a reliable and valid instrument in a university classroom setting. Their first research question sought to determine whether the SERQUAL scale exhibits predictive validity in relationship to student satisfaction and learning measures. The second research question attempted to compare the reliability and validity of the SERVQUAL scale to an established student evaluation scale. The final research question focused on examination of the SERVQUAL scale to determine if it was free of grade expectation bias.

Stodnick and Rogers (2008) sample for their research consisted of six undergraduate Operations Management courses at a large southwestern university. These courses included four sections of Introduction to Operations Management, one section of Purchasing, and one section of Production Planning and Control. Students enrolled in each of the courses were surveyed.

Although individual responses were anonymous, descriptive statistics of the students enrolled in the courses were calculated. The total population size was 264, of which 58% were male and 42% female. Eighty-eight percent of the population were students from the School of Business, 7% from the Engineering School, 2% from Arts and Sciences, and 3% divided among the other schools and/or undecided. Ninety-eight percent of the population were undergraduate students composed of 74% seniors, 23% juniors, and 1% sophomores, while 2% of the population were post-graduate students. The research method used by Stodnick and Rogers (2008) was an anonymous online survey. Every student in each of the six classes was asked to voluntarily fill out a survey at the end of the semester. The questions included in the survey were the thirty-four questions used to measure the six instructor rating constructs of the Brightman Scale, and the 19 questions used to measure the five SERVQUAL dimensions. All of these items were measured on a 5-point Likert scale.

The results of this study revealed that the SERVQUAL instrument is reliable and shows both convergent and divergent validity. The study also tested the SERVQUAL's ability to be a predictive instrument. The data showed predictive validity, with a positive relationship between individual dimensions of SERVQUAL and two measures of student satisfaction. Stodnick & Rogers (2008) clarified that the results of the study cannot be generalized and future studies should be conducted in various settings within academic departments to validate the findings (Stodnick & Rogers, 2008).

Academic Engagement

Furrer and Skinner (2003) state in order for a student to be academically engaged they must possess the following actions: active involvement in their academics, pursuing an academic goal, be committed, and attention is given to the process of learning. During these actions the

student must exhibit persistence, flexibility, and be focused on the exchanges surrounding their academic environment (Furrer & Skinner 2003). Behaviors exhibited by students when they are engaged in the classroom include active note taking, engaging in class discussion, following course procedures, and asking or answering questions (Chapman, 2003).

Research has shown that academic engagement is an important factor for student learning (Fredricks, Blumenfeld, Friedel, & Paris, 2004). Theories suggest that the construct of academic engagement is not one dimensional but multi-dimensional, consisting of three perspectives: cognitive, behavioral, and emotional (Fredricks et al., 2004). These perspectives have been utilized in various studies to determine the student's motivation, attitudes, personal conduct, interests, values, and persistence. These various studies have produced results that point to a correlation between engagement and academic achievement or success (Finn & Rock, 1997). The relationship between academic engagement and academic success is so strong that many researchers have considered academic engagement as a proxy for student academic achievement. Brophy and Good (1986) exemplify this relationship when they state, "results of studies conducted over the past 20 years have repeatedly shown that one of the best predictors of student achievement is the opportunity for the learner to be actively engaged in instruction" (p. 40). Pace (1990), an early researcher on student engagement, provided insight on the importance of student engagement and measures for determining the student's level and quality of effort in learning. His findings were later verified by the works of Astin (1996) in his research on student involvement. The studies conducted by Pace (1990), and later Astin (1996), consistently showed that quality of effort and the level of involvement of college students correlated with academic achievement, personal development, intellectual development, and persistence to graduation.

Researchers of student engagement have continued to report on similarities between the concepts of engagement, involvement, and quality of effort (Furrer & Skinner, 2003).

Engagement may also have a strong relationship to other factors that are known to directly impact student learning, such as motivation. Studies have shown that motivation affects engagement in academic tasks, and the higher the level of engagement the higher the level of motivation and interest (Singh, Granville, & Dika, 2002). Tagg (2003) also identified connections between engagement and intrinsic motivation. His studies found that when instructional methods were utilized to actively engage the student, the student's level of intrinsic motivation increased. By creating a classroom experience that implemented challenging learning activities, the dynamic forced students to be engaged in the outcome, which resulted in deeper learning. Additional benefits of engagement can be found when students go beyond what is required of them. When an engaging environment is created in the classroom students tend to do more work than is required, or initiate discussions which showed a higher level of intrinsic motivation (Fincham, Hokoda, & Sanders, 1989).

The National Survey of Student Engagement (NSSE) is an ongoing research campaign in the United States used to assess the extent to which colleges and universities are participating in educational practices that are strongly associated with high levels of learning and personal development. NSSE data focuses on how students use resources for learning. The survey examines the environment of college students and is intended to foster thinking and discussion regarding collegiate quality (Kuh, 2001). The first NSSE report emphasized the important link between effective educational practices and collegiate quality by featuring five benchmarks of effective educational practice. These benchmarks were created using student responses to 40 key items from the original survey. The benchmarks include: level of academic challenge, active and

collaborative learning, student interactions with faculty members, enriching educational experiences, and supportive campus environment (Kuh, 2001; National Survey, 2000). Results of this survey showed that there exists a strong correlation between effective educational practices and student engagement. Considering the results of the national survey, and previous findings in the literature, conclusions can be inferred that when students are engaged in the classroom there is a higher likelihood for academic achievement (Kuh, 2001).

Summary

Since the early 1900s, the concept of quality and quality control has played a major role in the business sector (Schneider & White, 2004). Starting in the 1980s, due to the growth of service businesses in the United States economy, quality control began to move from focusing solely on product quality control in the manufacturing industry to service quality. Parasuraman, Zeithaml, and Berry (1994) found that measuring service quality was much more difficult than measuring the quality of goods. They found that when applying product quality measures to the service industry, service quality could not be determined. They determined that the concept of service quality was vague, unclear, and indefinable. Zeithaml et al. (1990) concluded that placing a higher emphasis on the customer's perception of success or failure in meeting their expectations resulted in a more successful measurement of service quality. They found that in order to more clearly understand service quality, service providers must be able to comprehend a customer's experience in order to make sure they are delivering a product that meets the customer's satisfaction (Parasuraman et al., 1991). In the service industry, understanding the customer's experience allows for an organization to offer a better product, thus understanding and measuring service quality becomes an imperative factor for all organizations that are driven by the need to survive and remain competitive (Hu, Kandampully, & Juwaheer, 2009).

Studies have shown that service providers who are better able to provide a high level of quality service will experience customer loyalty and satisfaction. Theories surrounding this concept support the dynamic such that universities adopting a philosophy of continuous quality improvement are more likely to develop high levels of student satisfaction and retention? This demonstrates the criticality of measuring the level of service an institution of higher education delivers to its students (DeShields et al., 2005). Currently institutions of higher education employ a variety of measures to gauge service quality, however oftentimes these measures focus primarily on areas that contribute to institutional prestige; for example test scores of incoming freshman, levels of research expenditures, and numbers of national academy faculty and national student scholars. While these measures create and justify improvements to the university, other measures of service quality may lead to a better understanding of the student experience and support an environment of improvement specifically focused on the student experience (Mavondo & Zaman 2000).

One measure that that has shown to be an indicator of student success is academic engagement. Various studies have produced results that point to a correlation between student engagement and academic achievement or success (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). Research has shown that academic engagement is an important factor for student learning (Furrer &Skinner, 2003). Theories suggest that the construct of academic engagement is not one dimensional but multi-dimensional, consisting of three perspectives: cognitive, behavioral, and emotional (Fredricks et al., 2004). Studies have shown that a classroom experience with multi-dimensional learning activities results in an increase in students' academic engagement.

CHAPTER THREE: METHODS

The purpose of this study is to examine the relationship between service quality in the classroom as a predictor of academic engagement, academic performance, and student satisfaction. This chapter will explain the methodology adopted for the study. It will describe the research design of the study and clarify the process for data collection. This chapter will also provide details regarding the procedures and measurements used to analyze the collected data.

Research Design

The research questions for this study were answered through electronic survey research methodology. According to Andrews, Nonnecke, and Preece (2003), there are primarily two forms of electronic survey methods used to conduct research. These two methods for conducting electronic research are asynchronous email surveys (Kiesler & Sproull, 1986) and synchronous web-based surveys (Kehoe & Pitkow, 1996). The criteria for effective electronic survey design supports multiple platforms and browsers, prevents multiple submissions, has the ability to present questions in a logical or adaptive manner, provides multiple opportunities for saving the work in long questionnaires, collects both quantified selection option answers and narrative question answers, and provides feedback upon completion of the survey (Yun & Trumbo, 2000).

Email surveys allow for most of the criteria of effective electronic survey design. Email surveys can provide the development of question scales and multiple choice answers for both qualitative and quantitative studies with reduction of question bias through correct and unambiguous wording. Informed consent information, explanation of ratings, multiple rating scale formats, and demographic questions can all be administered through email survey (Andrews et al., 2002). In comparison, synchronous web-based surveys have been found to have various advantages over email survey. Synchronous web-based surveys have the ability to

automatically verify and store survey responses using database technology and a hypertext markup language user interface. When using email surveys the subject's responses must be attached as a word-processed document, which requires the researcher to manually transfer and enter the data into a storage location. In email survey methods, the data in the word-processed document is not as secure as it would be in a synchronous web-based survey, which can allow for tampering of data and breaches of confidentiality. While email survey design does have disadvantages not found in synchronous web-based surveys, it is believed that when conducting electronic surveys a combination of the two methods is most effective (Andrews et al., 2003).

Research Questions

This research addressed the following questions about the relationship between quality of service and academic engagement, student satisfaction, and academic performance in the College of Business at ECU:

1. What is the relationship between quality of service and student satisfaction?
2. What is the relationship between quality of service and academic engagement?
3. What is the relationship between quality of service and academic performance?
4. What is the relationship between the student's academic engagement based on the student's self-reported score and final grade?
5. Which if any of the five dimensions of SERVQUAL correlates with high levels of student satisfaction, academic engagement, and academic performance?

Null Hypotheses

The following null hypotheses are derived from the research questions and were tested for the purpose of this study.

1. There is no statistically significant relationship between quality of service and student satisfaction.
2. There is no statistically significant relationship between quality of service and academic engagement.
3. There is no statistically significant relationship between quality of service and academic performance.
4. There is no statistically significant relationship between the student's academic engagement based on the student's self-reported score and academic performance.
5. There is no statistically significant correlation between the five dimensions of SERVQUAL and student satisfaction.
6. There is no statistically significant correlation between the five dimensions of SERVQUAL and academic engagement.
7. There is no statistically significant correlation between the five dimensions of SERVQUAL and academic performance.

Variables

The study includes the independent variable *service quality* and three dependent variables: *academic engagement*, *academic performance*, and *student satisfaction*. In this study the independent variable *service quality* is defined as the level to which the service delivered did not meet, met, or exceeded the expectations of the customer (Falzon, 1990). *Academic engagement* is identified by on-task behaviors that signal a serious psychological investment in class work; these include attentiveness, completing the assigned work, and showing enthusiasm for this work by taking the initiative to raise questions, contribute to group activities and help peers (Kuh, 2003). *Academic performance* in this study is defined as the student's end of

semester final grade. For the purpose of this study, *student satisfaction* is defined by students' levels of satisfaction with factors of quality found to be present in a classroom setting. Student satisfaction is sometimes seen as a short-term view derived from an overall evaluation of the personal educational experience by the student (Athiyaman, 1997). Consumer/student satisfaction leads to perceived service quality. The greater the level of satisfaction, the greater the level of perceived service quality (Parasuraman et al., 1988).

Study Population

The students in the study consisted of undergraduate college students majoring in business at East Carolina University. East Carolina University (ECU) is located in Greenville, North Carolina in Pitt County with a population of 84,000 residents within the city limits and 168,148 within the county. ECU's Carnegie Classification is a public Doctoral/Research University (Carnegie Foundation, 2014). The 2012 mission of ECU is "to serve as a national model for public service and regional transformation by:

- Preparing our students to compete and succeed in the global economy and multicultural society,
- Distinguish ourselves by the ability to train and prepare leaders,
- Creating a strong sustainable future for eastern North Carolina through education, research, innovation, investment, and outreach,
- Saving lives, curing diseases, and positively transforming health and health care, and
- Providing cultural enrichment and powerful inspiration as we work to sustain and improve quality of life" (Carnegie Foundation, 2014, p. 1).

ECU is the third largest of seventeen degree-granting public institutions that make up the University of North Carolina system. ECU is accredited by the Commission on Colleges of the

Southern Association of Colleges and Schools to award baccalaureate, master's, and doctoral degrees. ECU is designated as an academic health center by the Association of American Health Centers (East Carolina University, 2012). The College of Business at ECU enrolls approximately 2,800 undergraduate students annually. ECU's College of Business is an accredited business school by the Association to Advance College Schools of Business. Over the past six years, the ECU College of Business has been recognized by the Princeton Review as one of the best business schools in the United States (East Carolina University College of Business Annual Report, 2012).

The governing body for ECU is its own Board of Trustees, which answers directly to the University of North Carolina Board of Governors. The university is responsible for offering 75 departmental certificates, 102 baccalaureate degree programs, 77 master's degree programs, 4 first professional programs, and 16 doctoral programs. For the 2011-2012 academic year there were 27,000 full time enrolled students with the demographics of 23% minorities and 77 % white non-Hispanics. ECU confers more than 5,800 degrees annually. It holds an alumni population of approximately 140,000. ECU employs approximately 5,600 people with faculty numbering more than 2,000. The university carries out its mission with an annual budget of $750 million (East Carolina University, 2012)

All of the students in the study were enrolled in a traditional, seated leadership development program embedded in the College of Business curriculum. The leadership and development program consists of four courses focused on leadership and business skills needed to be competitive in the business profession. The purpose of the Leadership Development Program is for students to develop practical leadership competencies including strong oral and

written communication skills applicable in a virtual or physical environment, critical thinking and team building skills.

Instrumentation

The instrument used in the study to measure quality of service is a modification of SERVQUAL (Parasuraman et al., 1985). The original SERVQUAL was a 44item questionnaire developed to measure consumer expectations and perceptions of service quality. SERVQUAL measures expectations and perceptions of quality along five dimensions of service quality (Berry et al., 1988a). These five service quality dimensions are tangibles, reliability, responsiveness, assurance, and empathy.

For this study the SERVQUAL instrument that was administered is an adapted SERVQUAL by Stodnick and Rogers (2008). Stodnick and Rogers (2008) created an adapted SERVQUAL instrument for their study of quality of service in a classroom environment. The Stodnick and Rogers adapted SERVQUAL instrument was developed by selecting 18 of the original 44 questions based on their appropriateness and wording for an academic setting. The 18 questions were categorized in the five dimensions of service quality. Four questions were included under each tangibles, assurance, and empathy, while three questions were grouped under reliability and responsiveness.

Like Stodnick and Rogers' (2008) study, for use in this research each of the five dimensions of service quality definitions were refined to work in an academic setting. Assurance is defined as performing services in a professional and knowledgeable manner, which creates student confidence. Empathy is the ability to communicate care and understanding through the use of student-centered policies and procedures. Reliability is defined as delivering a dependent and accurately performed service. The fourth dimension, responsiveness, is the eagerness and

commitment to be of service and to act in the best interest of the student. The final dimension, tangible, refers to any material associated with service delivery including physical facilities, equipment, and appearance of personnel (Stodnick & Rogers, 2008).

Student engagement was measured in this study using a modified job engagement survey created by Rich et al. (2010). Rich et al. (2010) created the job engagement survey to capture three dimensions of workplace engagement: physical, cognitive, and emotional energies. The researchers built the survey by first identifying existing scales and items that measured the three dimensions as defined by one of the experts on job engagement (Kahn, 1990). In Kahn's (1990) work on engagement he identified physical engagement as being physically involved with a task, cognitive engagement as being cognitively vigilant and emotionally engaged when a person is emotionally connected to their work and to others in their service to work. In order to best capture the three dimensions as outlined by Kahn (1990), Rich et al., (2010) modified three existing scales. To measure physical engagement the researchers utilized Brown and Leigh's (1996) measure of work intensity. Emotional engagement was developed through the use of Russell and Barrett's (1999) research on core affect. Finally cognitive engagement came from Rothbard's (2001) measure of engagement. The final product of Rich et al. (2010) work in developing a survey was an 18-item instrument that utilized six questions for each of the three dimensions. The 18-item instrument was modified to reflect language that is acceptable in an academic classroom setting.

The remaining variables were measured through researcher developed questions. Student satisfaction was captured through two questions added to the survey: overall satisfaction with the course and overall satisfaction with the instructor. The following six questions were administered

to determine the demographics of the study population: gender, race/ethnicity, age, student classification, academic major, and leadership and professional development course.

Instrument Validity and Reliability

The Stodnick and Rogers (2008) study tested the modified SERVQUAL scale by measuring the five individual dimensions for reliability using two different methodologies: corrected item to total correlation (CITC) and Cronbach alpha. The CITC method proposes that each item within a dimension or construct should be highly correlated with the dimension or construct. It is recommended that each item within the scale should have a CITC value that exceeds .4 (Kerlinger, 1986). Reliability is considered to be excellent when the Cronbach Alpha is greater than or equal to 0.9 and good at greater than or equal to 0.7 and less than 0.9 (Hinkle et al., 2003). In addition to testing the reliability of the modified SERVQUAL scale and its dimension, tests were conducted on its convergent and divergent validity. Convergent validity was tested by examining the structure of eigenvalues. Divergent validity was measured for each dimension by calculating the Cronbach alpha minus average interscale correlation (AVISC) value (Stodnick & Rogers, 2008). The results of the analysis are found in Table 1.

The Rich et al. (2010) study tested their instrument by administering a pilot test of their 18-item job engagement scale to a convenience sample of 117 full-time employed individuals. The response rate for the pilot test was 84 participants, a 72% response rate. The data was examined through an exploratory factor analysis using principal axis factoring with an oblique rotation. The results of the exploratory factor analysis led the researchers to remove three factors with eigenvalues greater than 1.00. In examining the variances the researchers found that the largest amount of variance was in the emotional engagement factor at 57%, followed by physical at 11.46%, and cognitive at 6.26%. With the exception of one item, which was later modified,

Table 1

Factor Development of the SERVQUL Scale

Factor (No. of Items	Cronbach Alpha	First Eigenvalue	Second Eigenvalue	Minimum Factor Loading	Percent Var. Explained	Alpha-AVISC
Assurance (4)	.89	2.9	.6	.776	74.0	.42
Empathy (4)	.94	4.0	.4	.834	79.8	.48
Responsiveness (3)	.92	2.6	.2	.932	86.5	.46
Tangibles (4)	.82	2.8	.6	.769	69.8	.53
Reliability (3)	.92	2.6	.3	.903	85.9	.43

factor loading of items to their corresponding dimension were greater than .71 and no cross-loading greater than .30. Each dimension showed reliability with the internal consistency reliabilities ranging from .89 to .94. It was also found to have strong correlations among the scales with a r value of .63-.74 which support their aggregation to an overall job engagement scale which was reliable for internal consistency at .95.

Data Collection Procedures

Permission to conduct this study was obtained from the University and Medical Center Institutional Review Board. In addition, permission was requested and obtained from the instructors of the study participants. The instructors viewed the survey prior to distribution and were notified of the date the survey was distributed to the students. The structure and administration of the survey was based on the Dillman (2002) electronic survey methodology, which allowed for a combined methodology of email and synchronous web-based survey. The survey structure was designed to keep the instrument simple. The survey questions and length were designed to be as short as possible. This decreased the subjects' time required to complete the survey, which in turn helped to increase the response rate (Dillman, 2002). The administration of the survey began with a brief email letter to the subjects informing them of their selection for the study. Included in the letter was an introduction about the researcher, the purpose of the survey, an explanation about the survey, and a statement to the respondents that the information they provide is anonymous and will not be linked back to them upon completion of the study. An electronic survey was created using Qualtrics, a web-based survey research software. The link to the Qualtrics survey was sent to the subjects via their provided email address the following day with instructions for completion. Anonymity was accomplished by providing a link in the email which points to the Qualtrics survey where all responses are

submitted. The link was emailed to the 941 participants by way of the university e-mail account system. The email addresses of the participants were obtained from the instructors prior to distribution.

One week following the initial survey, a reminder email was sent with another link to the survey to subjects who have failed to respond. A second and third reminder with an attached survey was sent two weeks and three weeks after the initial mailing to non-responders. After the third reminder the researcher discarded the subjects who failed to respond.

The first survey was administered at the midpoint of the semester during week 8 of the course. This survey gathered demographics and measure the independent variable service quality. A follow up survey was administered to the 329 respondents who completed the first survey at week 12 of the course. This survey measured the dependent variables, academic engagement and student satisfaction. In order to identify and code the two surveys, respondents were asked to give their university provided identification code. Under the university system each student is given a banner identification number which replaces their social security number as their identifier for course registration. This identification was selected for the study so that the dependent variable, student performance, could be captured following the end of their course term. The researcher followed the same reminder protocol that was administered for the first survey. After the third reminder 206 respondents completed the second survey. The researcher then matched the two surveys using the students' banner ids. Thirty-two subjects either failed to provide complete data or provided questionable data. Questionable data in this study were responses that selected the same value for each question across the entire survey instrument. The 32 subjects and their responses were excluded and the data analyses were conducted with 174 cases which provided a response rate of 18%.

Data Analysis

Descriptive and inferential statistics were used to analyze the data collected. The researcher used the Statistical Package for the Social Sciences (SPSS) (2011), version 20, to analyze the data set. Multiple linear regression, a statistical method where dependent variables are predicted using one or more independent variables, was utilized to answer the research questions presented (Hinkle et al., 2003). An alpha level of .05 was used for this study. The alpha level is the probability of making a Type I error which means rejecting the null hypothesis when it is true. This alpha level is commonly used in social science research (Hinkle et al., 2003).

For the multiple regression analysis to be applied correctly, data must meet three assumptions of: (a) normality; (b) linearity; and (c) homoscedasticity. To adhere to normality, regression assumes that variables have normal distributions (Osbourne & Waters, 2002). Second, linearity refers to the assumption of a linear relationship between the independent (service quality) and dependent (academic engagement, student satisfaction, and academic performance) variables. Osbourne and Waters (2002) assert that linearity is best assessed through the "examination of residual plots of the standardized residuals as a function of standardized predicted values" (p. 47). The final assumption homoscedasticity is the assumption that the standard deviations of conditional distributions are equal (Hinkle et al., 2003). Homoscedasticity is best measured by the construction of a histogram comparing the residuals verses the dependent variables (Osbourne & Waters, 2002).

After the three assumptions are met, a multiple linear regression analysis was conducted to address the research questions. One important step in regression analysis is controlling for extraneous sources of variance in the dependent variable not attributable to our study focus, service quality. The most commonly used method for mitigating this influence is identifying

possible extraneous variables and coding them as control variables when conducting multiple regression (Kalof, Dan, & Dietz, 2008). In this study the following variables will be used as control variables: gender, race/ethnicity, age, student classification, academic major, and leadership and professional development course.

As recommended by Norušis (2008), before building the multiple regression model the researcher examined the descriptive statistics and correlation values of the data. An analysis of the descriptive statistics allowed for the researcher to identify incomplete data records and identify irregular data points. In addition to this step an evaluation of the Pearson r correlation values among the variables is important to identity predictors that were strongly related. This aided the researcher in interpreting the results and determining which predictor variables are kept for the final model (Norušis, 2008).

Hinkle, Wiersma, and Jurs (2003) suggested a four-step process to conduct a multiple regression analysis. Step one is to determine the regression model, yielding the regression coefficients and regression constant. The coefficients and constant are estimated using the ordinary least squares method. The prediction equation is built from the coefficients and constant. Steps two in the process involves determining the multiple correlation coefficient (R or multiple R) and the proportion of shared variance (R^2). This step assists in examining how well the model predicts the observed values. Multiple R ranges from zero to one and represents the correlation coefficient between observed values from the data set and values predicted by the newly generated model (Hinkle et al., 2003). The proportion of shared variance (R^2) is “the proportion of variability in the dependent variable that is attributable to the regression equation” (Norušis, 2008, p. 245).

The third step in the process involves testing the multiple R for statistical significance (Hinkle et al., 2003). Testing the multiple R for statistical significance was done in the overall F test for the model. This F test assessed the null hypothesis that the population value for multiple R was equal to zero. Finally, step four in the process is determining the significance of the individual predictor variables (Hinkle et al., 2003). This step was assessed by evaluating the significance level of the coefficients generated for each predictor variable. This step was done in an ANOVA test of the individual coefficients generated by SPSS. The ANOVA tests the null hypothesis that, in the population, the value of each individual coefficient is zero. If the observed significance level was less than alpha of .05 for any of the predictor variables, the null hypothesis was rejected. This allowed the researcher to conclude if there was a linear relationship between academic engagement, academic performance and student satisfaction, and the individual predictor variable of service quality (Norušis, 2008).

Summary

The purpose of this study is to examine the relationship between service quality in the classroom as a predictor of academic engagement, academic performance, and student satisfaction. The participants in this study are enrolled in a traditional, seated leadership development program embedded in the College of Business curriculum at ECU in Greenville, NC. Electronic survey research was used to collect the data of the 400 students in this study. Path analysis methodology will be administered to test seven null hypotheses regarding quality of service in an academic setting as it relates to academic engagement, student satisfaction, and academic performance.

CHAPTER FOUR: RESULTS

This chapter provides a summary of the collected surveys and presents the results of the data analyses in four sections. The first section of the chapter provides a summary of the demographic profile of the respondents. Within the second section, the descriptive statistics for the study variables are provided. In the third section the results of the data analyses are reported and the research questions are addressed. The last section of the chapter includes a summary of the research findings.

Demographic Profile of Respondents

A total of 329 business students, enrolled in the Leadership Development Program, participated in the first survey on demographics and student perception of service quality in the classroom. The 329 participants were sent the second survey on academic engagement with 206 subjects completing the survey. Thirty-two subjects either failed to provide complete data or provided questionable data. Questionable data in this study were responses that selected the same value for each question across the entire survey instrument. The 32 subjects and their responses were excluded and the data analyses were conducted with 174 cases. There were 86 male respondents and 88 female respondents. One hundred thirty eight respondents were Caucasian/non-Hispanic. The ages of the respondents were 67 for age 22 or older, 37 for age 20, 36 for age 19, 27 for age 21, and seven for age 18. Table 2 includes the demographic profile of the study subjects.

In the academic demographics the majority of respondents were 61 juniors (35% of total population).The majority of the respondents were Management majors (30% of total population). The respondents were asked to indicate which Leadership Development Program course experience they were using to complete the survey since it was possible some respondents were

Table 2

Demographics

Variable	N	%
Gender		
Male	86	49.4
Female	88	50.6
Total	174	100
Race Ethnicity		
Caucasian/non-Hispanic	138	79.3
Black, African-American, or African Asian	5	2.9
Hispanic	10	5.7
Other	3	1.7
Total	174	100
Age		
18	7	4
19	36	20.7
20	37	21.3
21	27	15.5
22 or Older	67	38.5
Total	174	100

enrolled in multiple Leadership Development course in the same semester. The majority of the respondents indicated BUSI 1200 (43% of the total population). Table 3 includes the demographic profile of the study subjects.

Descriptive Statistics

The 18 item Survey of Student Engagement instrument was administered to capture the subject's perceived engagement in a course within three dimensions of engagement: physical, cognitive, and emotional. Physical engagement was captured in questions 1 through 6, cognitive engagement was captured in questions 7 through 12, and emotional engagement was captured in questions 13 through 18. The results of the Survey of Student Engagement are located in Table 4. The breakdown of the subjects' response for the Survey of Student Engagement by physical, cognitive, and emotional engagement is located in Figure 1-3.

The 18 item SERVQUAL instrument was administered to capture the subject's perception of service quality in an academic setting. The 18 questions were categorized in the five dimensions of service quality. The dimension tangibles, assurance, and empathy each consisted of four questions, while the dimensions reliability and responsiveness each consisted of three questions. Empathy was captured in questions 1 through 4, assurance was captured in questions 5 through 8, responsiveness was captured in questions 9 through 11, reliability was captured in questions 12 through 14, and tangibles was captured in questions 15 through 18. The results of the SERVQUAL survey are located in Table 5. The breakdown of the subjects' response for the SERVQUAL survey by empathy, assurance, responsiveness, reliability, tangibles, and overall service quality is located in Figure 4-8. The results of the descriptive analysis show that for each of the SERVQUAL items at least 75% the respondents scored the item Agree or Strongly Agree.

Table 3

Academic Demographics

Variable	N	%
Academic Classification		
Freshman	27	15.5
Sophomore	37	21.3
Junior	61	35.1
Senior	49	28.2
Total	174	100
Academic Major		
Accounting	46	26.4
Finance	34	19.5
Management	52	29.9
Management Information Systems	7	4
Marketing & Supply Chain Management	35	20.1
Total	174	100
Course		
BUSI 1200	75	43.1
BUSI 2200	60	34.5
BUSI 3200	14	8
BUSI 4200	25	14.4
Total	174	100

Table 4

Survey of Student Engagement

Item	Strongly Disagree	%	Disagree	%	Neither Agree nor Disagree	%	Agree	%	Strongly Agree	%	Total
Question 1	2	1.1	8	4.6	16	9.2	98	56.3	50	28.7	174
Question 2	3	1.7	9	5.2	18	10.3	79	45.4	65	37.4	174
Question 3	2	1.1	11	6.3	23	13.2	92	52.9	46	26.4	174
Question 4	0	0	3	1.7	4	2.3	70	40.2	97	55.7	174
Question 5	0	0	4	2.3	5	2.9	68	39.1	97	55.7	174
Question 6	0	0	12	6.9	33	19	81	46.6	48	27.6	174
Question 7	4	2.3	11	6.3	31	17.8	90	51.7	38	21.8	174
Question 8	4	2.3	18	10.3	37	21.3	89	51.1	26	14.9	174
Question 9	3	1.7	7	4	28	16.1	89	51.1	47	27	174
Question 10	0	0	0	0	21	12.1	88	50.6	65	37.4	174
Question 11	0	0	3	1.7	10	5.7	105	60.3	56	32.2	174
Question 12	3	1.7	18	10.3	51	29.3	74	42.5	28	16.1	174
Question 13	3	1.7	7	4	38	21.8	99	56.9	27	15.5	174
Question 14	2	1.1	4	2.3	25	14.4	105	60.3	38	21.8	174
Question 15	1	0.6	4	2.3	26	14.9	108	62.1	35	20.1	174
Question 16	2	1.1	17	9.8	59	33.9	70	40.2	26	14.9	174
Question 17	1	0.6	4	2.3	22	12.6	111	63.8	36	20.7	174
Question 18	0	0	6	3.4	29	16.7	104	59.8	35	20.1	174

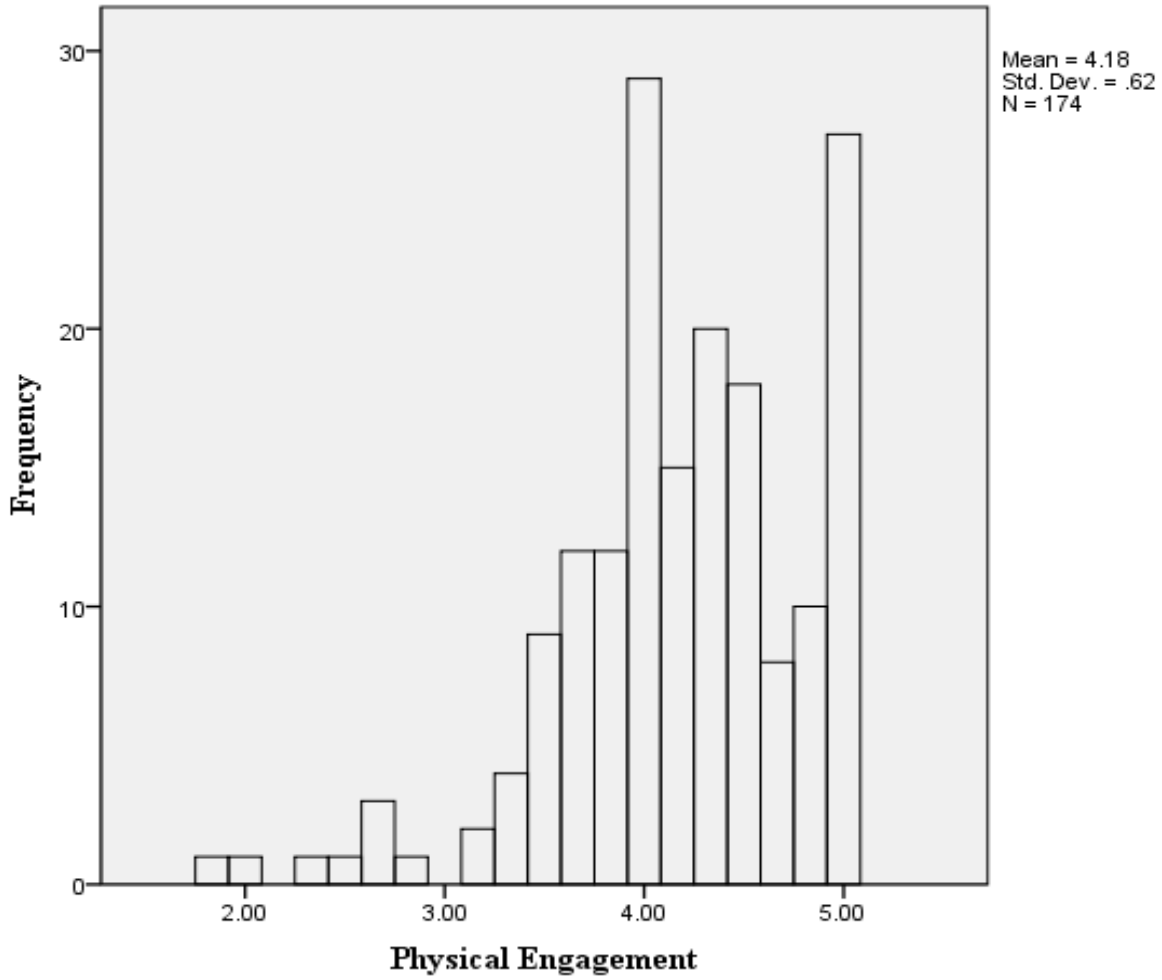

Figure 1. Physical engagement dimension.

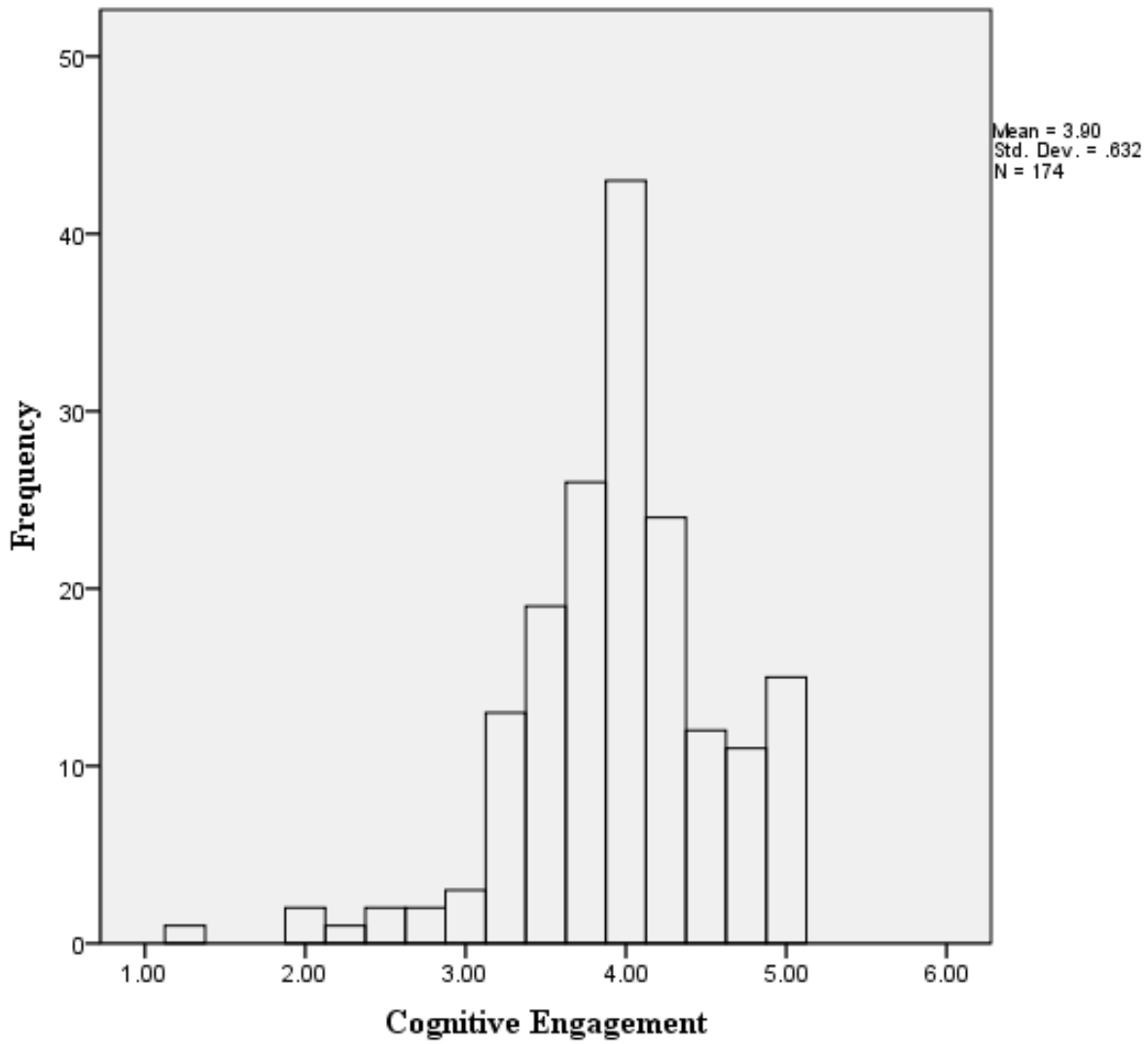

Figure 2. Cognitive engagement dimension.

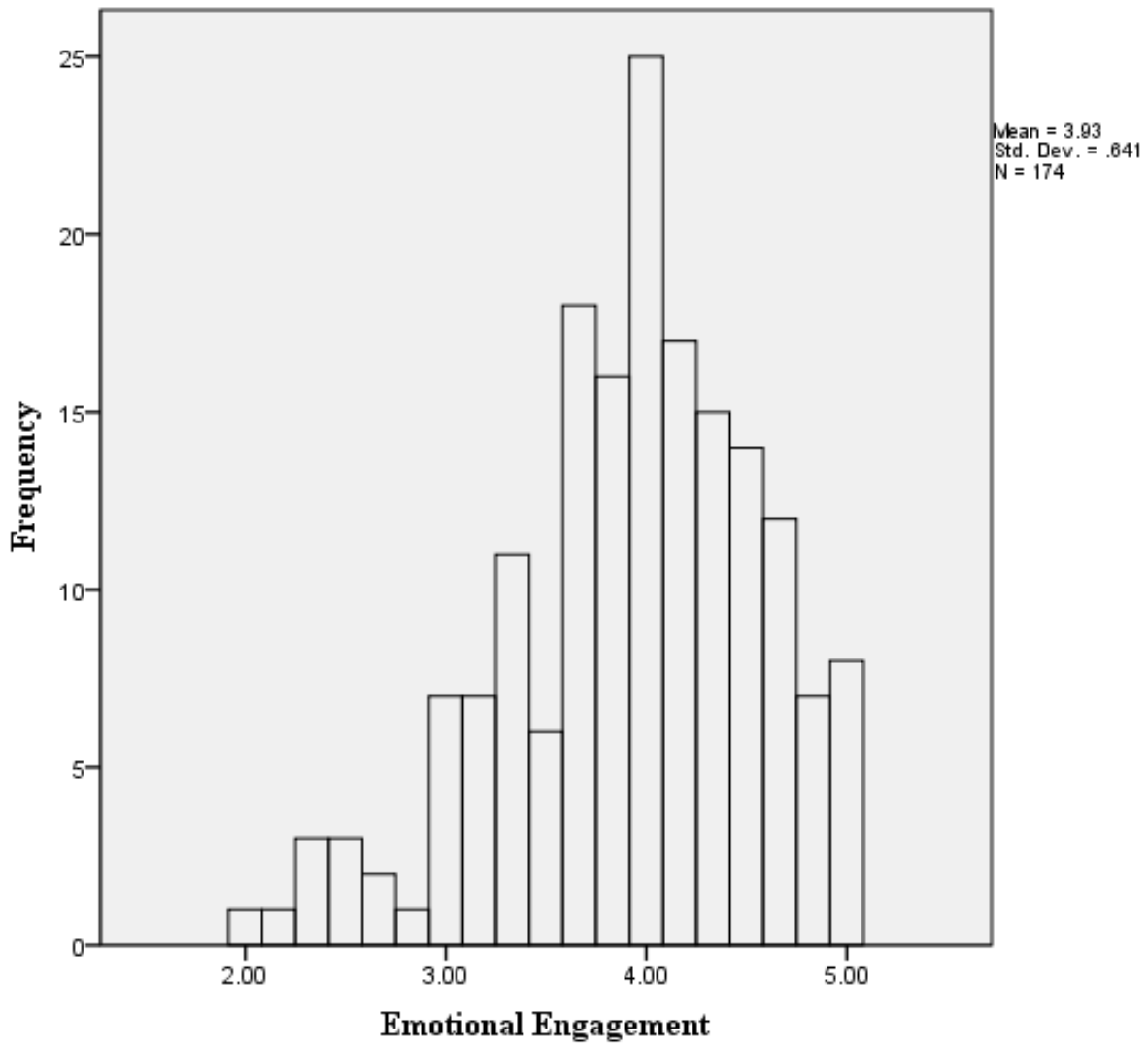

Figure 3. Emotional engagement dimension.

Table 5

SERVQUAL Survey

Item	Strongly Disagree	%	Disagree	%	Neither Agree nor Disagree	%	Agree	%	Strongly Agree	%	Total
Question 1	2	1.1	2	1.1	5	2.9	69	39.7	96	55.2	174
Question 2	2	1.1	7	4	18	10.3	76	43.7	71	40.8	174
Question 3	3	1.7	3	1.7	3	1.7	54	31	111	63.8	174
Question 4	2	1.1	3	1.7	3	1.7	59	33.9	107	61.5	174
Question 5	2	1.1	0	0	4	2.3	41	23.6	127	73	174
Question 6	5	2.9	2	1.1	11	6.3	62	35.6	94	54	174
Question 7	2	1.1	3	1.7	9	5.2	74	42.5	86	49.4	174
Question 8	2	1.1	1	0.6	7	4	49	28.2	115	66.1	174
Question 9	2	1.1	1	0.6	10	5.7	69	39.7	92	52.9	174
Question 10	2	1.1	9	5.2	30	17.2	58	33.3	75	43.1	174
Question 11	2	1.1	1	0.6	4	2.3	46	26.4	121	69.5	174
Question 12	2	1.1	3	1.7	12	6.9	74	42.5	83	47.7	174
Question 13	2	1.1	0	0	13	7.5	61	35.1	98	56.3	174
Question 14	2	1.1	2	1.1	11	6.3	68	39.1	91	52.3	174
Question 15	2	1.1	11	6.3	38	21.8	72	41.4	51	29.3	174
Question 16	3	1.7	9	5.2	39	22.4	79	45.4	44	25.3	174
Question 17	2	1.1	4	2.3	24	13.8	88	50.6	56	32.2	174
Question 18	1	0.6	4	2.3	20	11.5	80	46	69	39.7	174

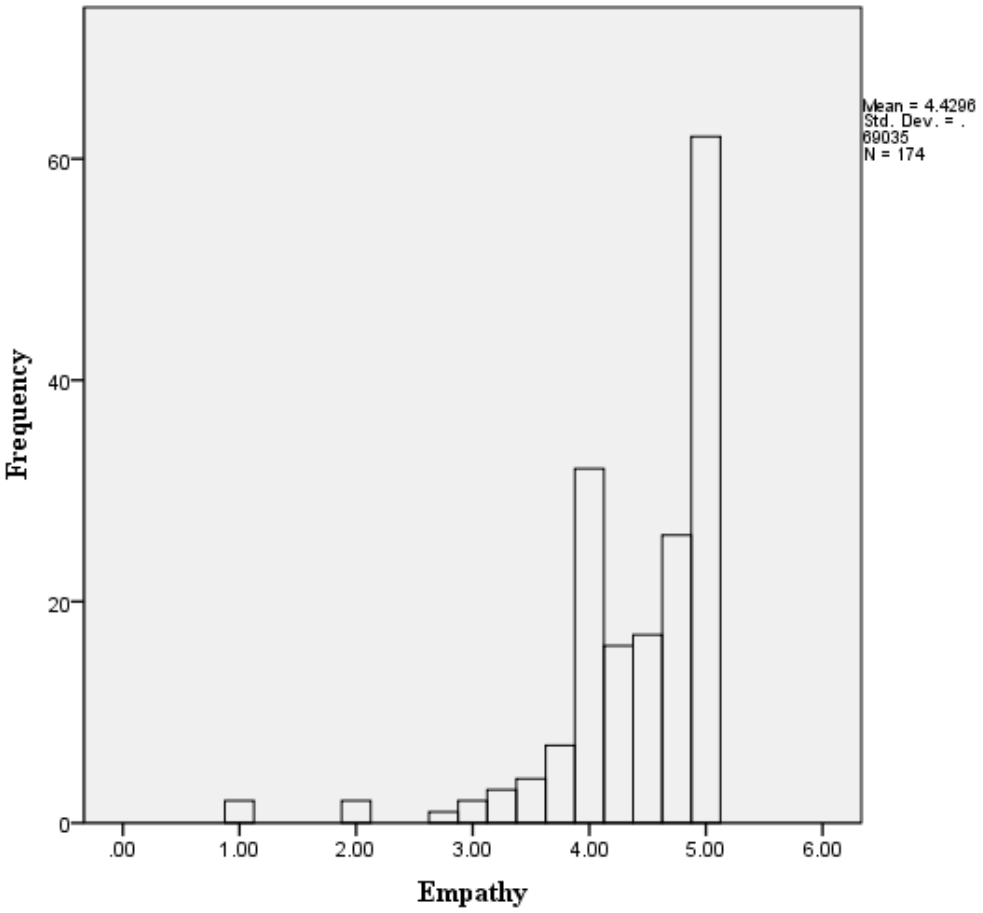

Figure 4. SERVQUAL empathy dimension.

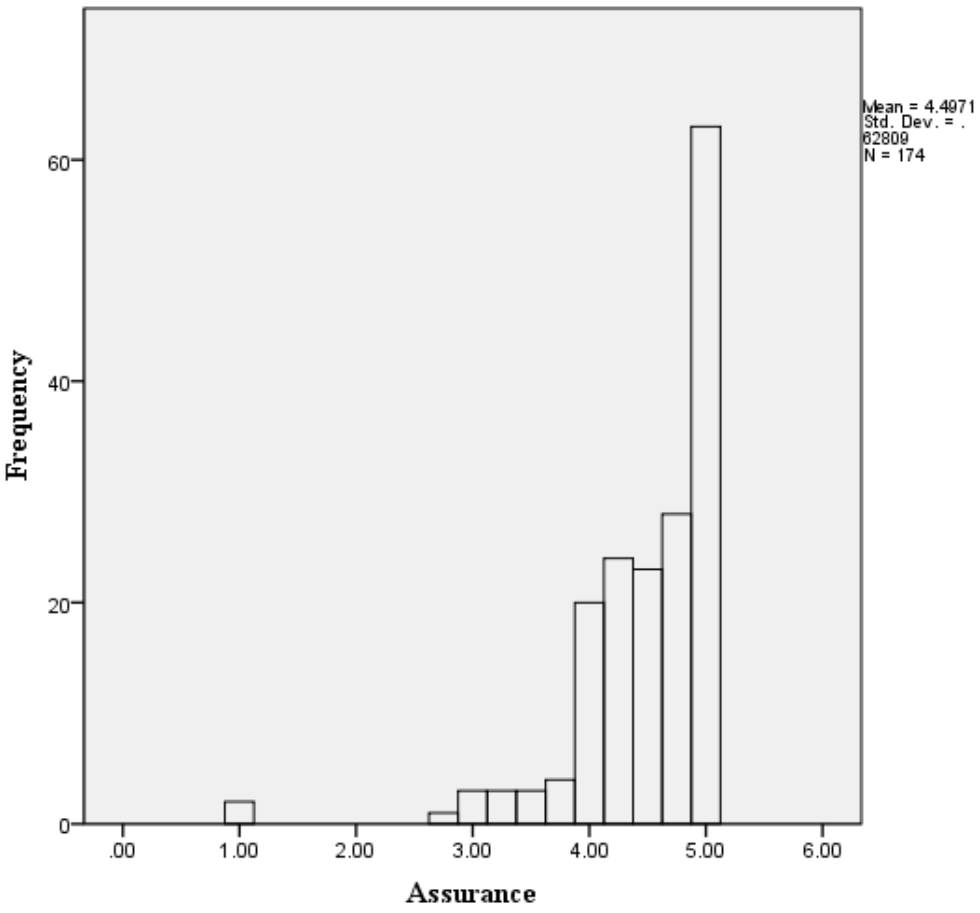

Figure 5. SERVQUAL assurance dimension.

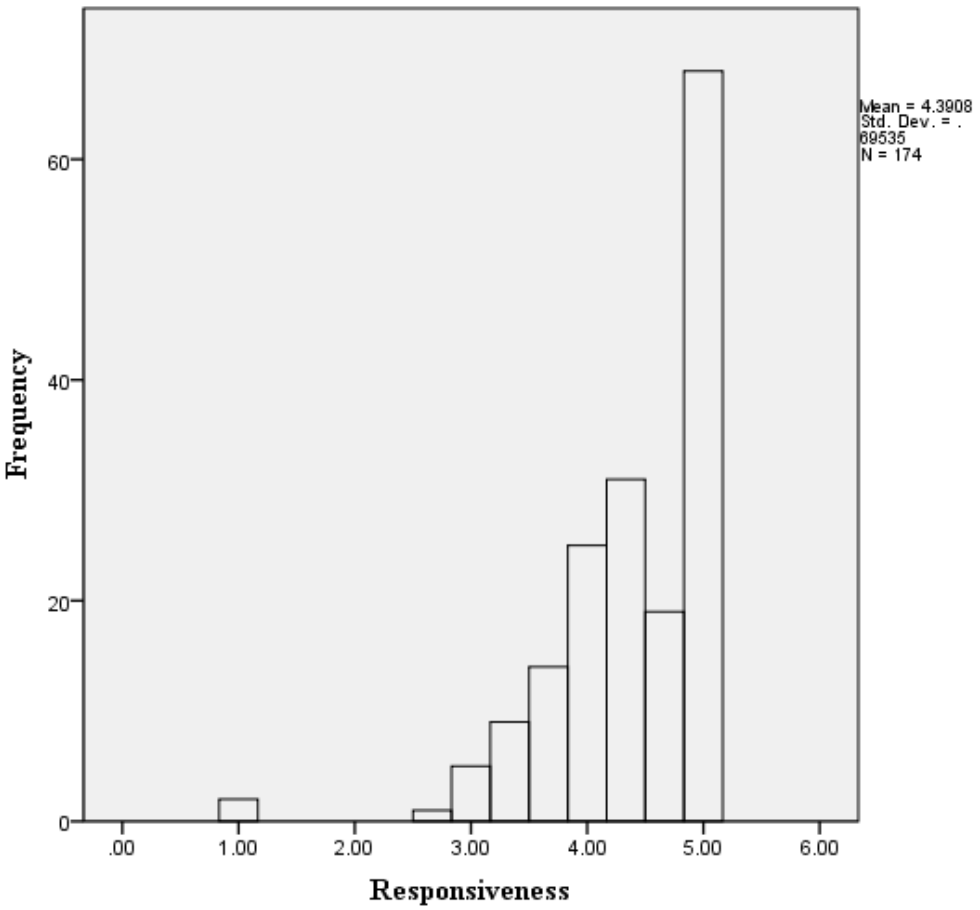

Figure 6. SERVQUAL responsiveness dimension.

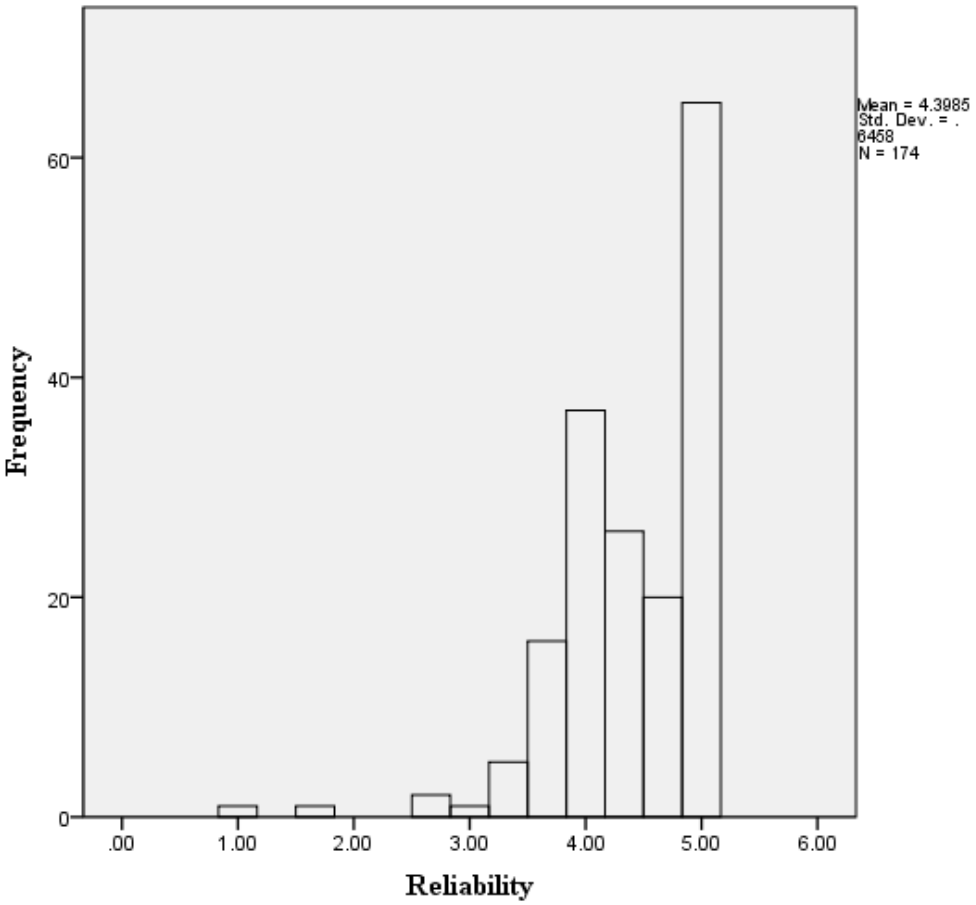

Figure 7. SERVQUAL reliability dimension.

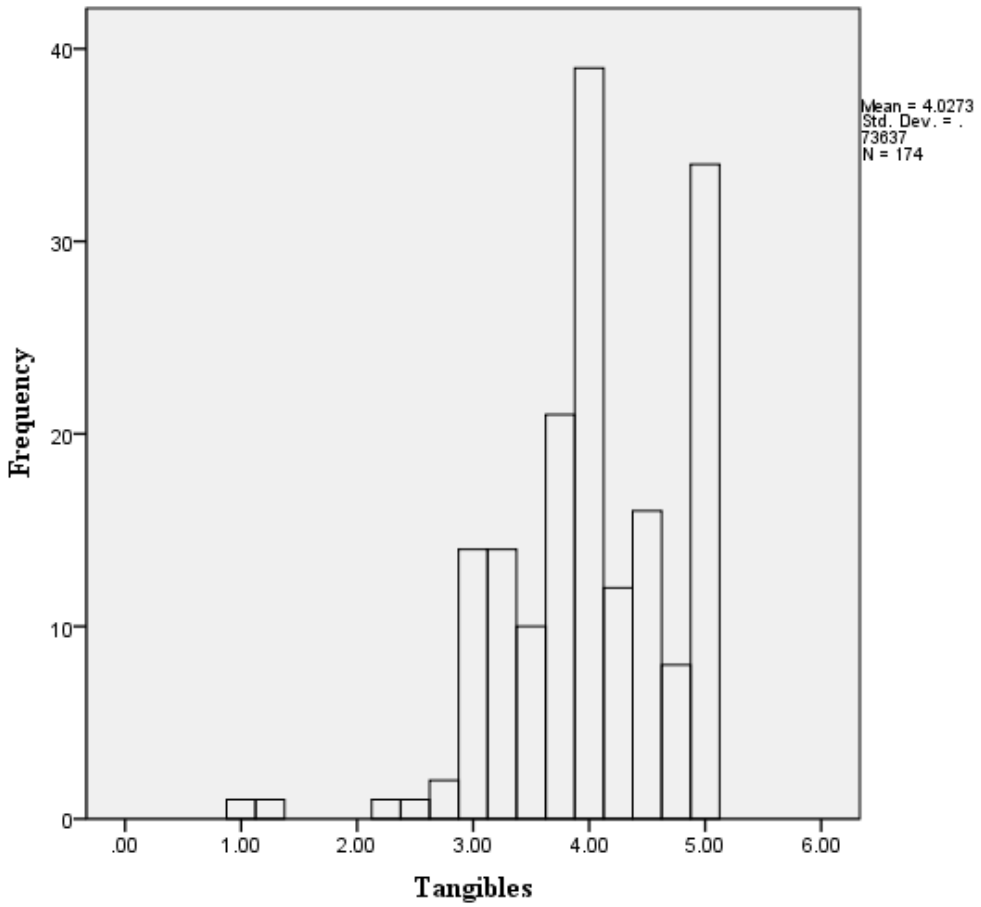

Figure 8. SERVQUAL tangibles dimension.

The descriptive analysis for the variables *overall service quality* and *overall student engagement* were examined by conducting a scatter plot to determine their range in student responses. The results of the descriptive analysis for *overall service quality* and *overall student engagement* are displayed in Figure 9. These results show a strong tendency of students responding at Agree or Strongly Agree for their perception of service quality and engagement The descriptive analysis for *overall service quality* and *overall student engagement* was further examined by looking at responses by age, academic classification, race/ethnicity, academic major, academic major, and course. The examination by demographic displayed similar frequency of results as was found in Figure 9.

The descriptive analysis for the variables *student satisfaction with the course* and *satisfaction with the instructor* was conducted to determine the frequency of the responses. The results of the descriptive analysis for the two satisfaction variables are displayed in Table 6. The results of the descriptive analysis reported that a majority of the study subjects reported that they agree or strongly agree that they are satisfied with the course and satisfied with the instructor.

As a measure of student performance, final course grades were collected for each of the 174 study subjects. The descriptive analysis of the final course grades revealed that seventy four percent of the study subjects received an A minus or higher final grade. The results of the descriptive analysis are displayed in Table 7. Figure 10 shows the course grades in a graph which highlights the result that the final course grade has little variance and is strongly right skewed.

Data Analysis

The research questions sought to define the relationship between *quality of service*, *academic engagement*, *student satisfaction*, and *academic performance* in the College of Business at ECU. In order to begin the data analysis, the scaling for the variables *academic*

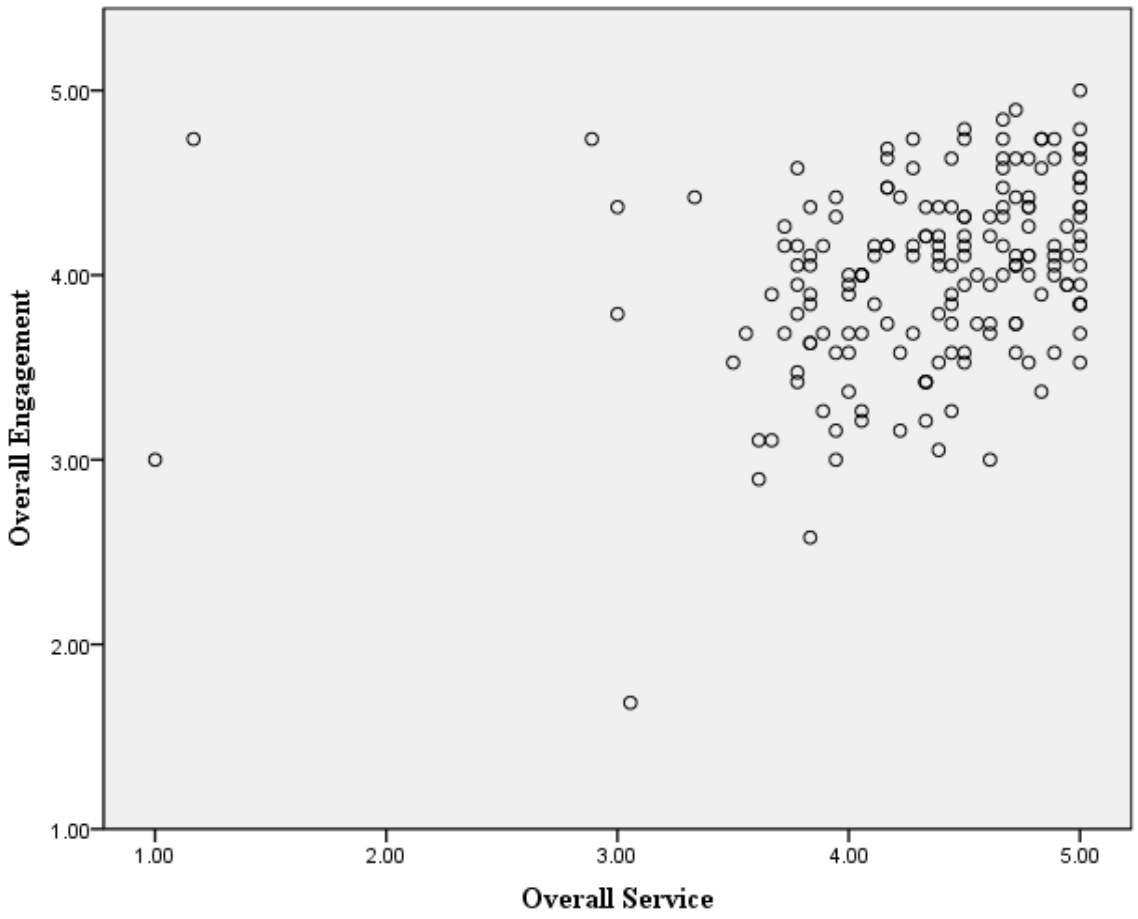

Figure 9. Descriptive analysis overall service quality & overall student engagement.

Table 6

Descriptive Statistics Satisfaction with Course & Instructor

Variable	Strongly Disagree	%	Disagree	%	Neither Agree nor Disagree	%	Agree	%	Strongly Agree	%	N
Course	2	1.1	9	5.2	9	5.2	79	45.4	75	43.1	174
Instructor	0	0	3	1.7	12	6.9	50	28.7	109	62.6	174

Table 7

Overall Course Grade

Grade	N	%
C	1	.6
C+	1	.6
B-	9	5.2
B	17	9.8
B+	17	9.8
A-	38	21.8
A	91	52.3
Total	174	100.0

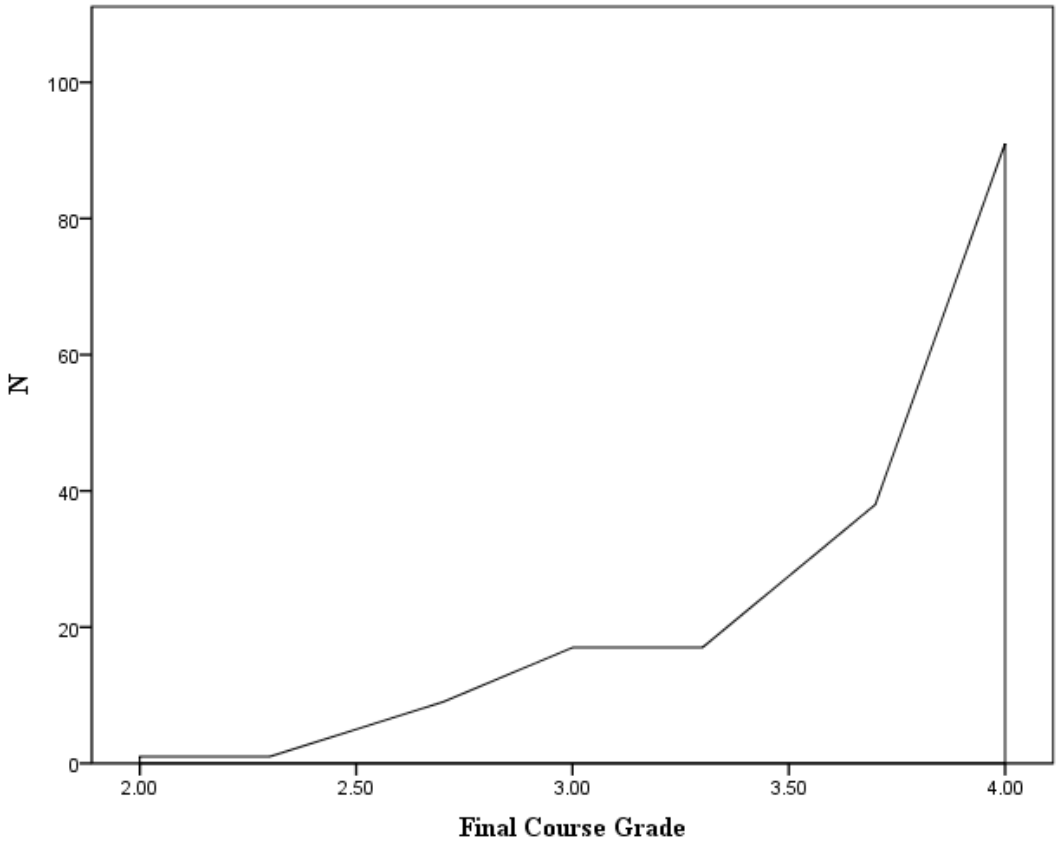

Figure 10. Frequency of final course grade.

engagement and *service quality* was examined by conducting principal component analysis. A principal components analysis (PCA) was run on the 18-question questionnaire that measured student's *academic engagement*. The suitability of PCA was assessed prior to analysis. Inspection of the correlation matrix showed that all variables had at least one correlation coefficient greater than 0.3. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.88, with individual KMO measures all greater than 0.7, classifications of 'middling' to 'meritorious' according to Kaiser (1974). Bartlett's Test of Sphericity was statistically significant ($p < .0005$), indicating that the data was likely factorizable.

PCA revealed three components that had eigenvalues greater than one and which explained 41.9%, 15.1%, and 9.4% of the total variance, respectively. Visual inspection of the scree plot indicated that three components should be retained (Cattell, 1966). In addition, a three-component solution met the interpretability criterion as the academic engagement survey included three dimensions. As such, three components were retained.

The three-component solution explained 66.3% of the total variance. A Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited 'simple structure' (Thurstone, 1947). The interpretation of the data was consistent with the academic engagement attributes the questionnaire was designed to measure, with strong loadings of physical engagement items on Component 1, emotional engagement items on Component 2, and cognitive engagement items on Component 3. Component loadings and communalities of the rotated solution are presented in Table 8.

A second principal components analysis (PCA) was run on the 18-question questionnaire that measured service quality. The suitability of PCA was assessed prior to analysis. Inspection of the correlation matrix showed that all variables had at least one correlation coefficient greater

Table 8

Rotated Structure Matrix for PCA with Varimax Rotation of Academic Engagement Survey

	Rotated Component Coefficients			
Items	Component 1	Component 2	Component 3	Communalities
Q1	**0.860**	0.181	0.077	0.647
Q2	**0.857**	0.207	0.052	0.633
Q3	**0.851**	0.059	0.262	0.730
Q4	**0.814**	0.091	0.282	0.555
Q5	**0.783**	0.077	0.287	0.604
Q6	**0.744**	0.196	0.126	0.686
Q7	0.076	**0.848**	0.020	0.822
Q8	0.152	**0.804**	-0.022	0.810
Q9	0.240	**0.747**	0.159	0.649
Q10	0.096	**0.737**	0.271	0.810
Q11	0.129	**0.619**	0.205	0.789
Q12	0.071	**0.594**	0.163	0.753
Q13	0.166	0.232	**0.789**	0.702
Q14	0.210	0.274	**0.789**	0.798
Q15	0.305	0.163	**0.756**	0.798
Q16	0.407	-0.102	**0.686**	0.625
Q17	0.138	0.210	**0.594**	0.777
Q18	0.163	0.252	**0.558**	0.795

Note. Major loadings for each item are bolded.

than 0.3. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.94 with individual KMO measures all greater than 0.7, classifications of 'middling' to 'meritorious' according to Kaiser (1974). Bartlett's Test of Sphericity was statistically significant ($p < .0005$), indicating that the data was likely factorizable.

PCA revealed two components that had eigenvalues greater than one and which explained 57.3%, and 9.9% of the total variance, respectively. Visual inspection of the scree plot indicated that two components should be retained (Cattell, 1966). The two-component solution explained 67.2% of the total variance. A Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited 'simple structure (Thurstone, 1947). The interpretation of the data was inconsistent with the service quality attributes the questionnaire was designed to measure. The service quality survey, SERVQUAL, consists of five dimensions that when measured collectively provide a perceived value for service quality. Component 1 consisted of 14 out of the 18 questions, which included 4 dimensions: *empathy*, *assurance*, *responsiveness*, and *reliability*. Component 2 captured the four items used to measure the dimension tangibles. The results of the PCA suggest that in this study the majority of the questions, 14 out of 18, measure a singular construct of *service quality*. Based on the PCA findings it would suggest that instead of five dimensions of *service quality* there are two, Component 1 and the dimension tangibles. The Component loadings and communalities of the rotated solution are presented in Table 9.

Next, each of the scales for *academic engagement* and *service quality* were examined to determine if there was internal consistency. Cronbach’s alpha was run on each subset of questions that created the scales used in this research. For the academic engagement survey there were 6 questions for each of the three constructs: *physical*, *emotional*, and *cognitive*. Each of the

Table 9

Rotated Structure Matrix for PCA with Varimax Rotation of Service Quality Survey

	Rotated Component Coefficients		
Items	Component 1	Component 2	Communalities
Q1 Empathy	**0.856**	0.237	0.788
Q2 Empathy	**0.805**	0.275	0.666
Q3 Empathy	**0.801**	0.211	0.686
Q4 Empathy	**0.798**	0.188	0.724
Q5 Assurance	**0.796**	0.248	0.594
Q6 Assurance	**0.790**	0.197	0.626
Q7 Assurance	**0.784**	0.227	0.651
Q8 Assurance	**0.778**	0.142	0.603
Q9 Responsiveness	**0.748**	0.288	0.672
Q10 Responsiveness	**0.727**	0.349	0.663
Q11 Responsiveness	**0.711**	0.313	0.695
Q12 Reliability	**0.698**	0.327	0.643
Q13 Reliability	**0.697**	0.395	0.500
Q14 Reliability	**0.669**	0.229	0.643
Q15 Tangibles	0.180	**0.857**	0.767
Q16 Tangibles	0.242	**0.837**	0.760
Q17 Tangibles	0.287	**0.796**	0.717
Q18 Tangibles	0.299	**0.779**	0.696

Note. Major loadings for each item are bolded.

three scales -- *physical engagement*, *emotional engagement*, and *cognitive engagement* -- had a high level of internal consistency, as determined by a Cronbach's alpha of .866, .862., and .923, respectively. For the service quality survey, five dimensions were used to measure the student's perception of service. The five dimensions are *empathy, assurance, responsiveness, reliability*, and *tangibles*. Each of the five scales had a high level of internal consistency, as determined by a Cronbach's alpha; *empathy* .916, *assurance* .855, *responsiveness* .847, *reliability* .812, and *tangibles* .880.

In the third step of data analysis, the zero-order relationships among the variable measure scales were examined, as presented in Table 10. The variable *service quality* reported a significant relationship ($p < .01$), with all other variable scales with the exception of physical engagement with a significant relationship at $p < .05$ and no significant relationship with final course grade. The variable *academic engagement* reported a significant relationship ($p < .01$) with all other variable scales with no relationship with the service quality dimension tangibles and final course grades. The variable *satisfied with course* displayed a minimal significant relationship ($p < .05$) with final course grade. To further test the relationships in the presence of the controls, hierarchical linear regression was performed.

Hypothesis Testing

Hypothesis 1 stated that there is no statistically significant relationship between quality of service and student satisfaction. Satisfaction was measured by collecting data on *satisfaction with the course* and *satisfaction with the instructor*. Hierarchical linear regression was first performed on satisfaction with course, and the results are displayed in Table 11. As shown in Model One, *satisfaction with the course* is regressed on all of the control dummy variables. This combination of controls accounted for 11% of the variance in satisfaction with course ($p > .05$).

Table 10

Means, Standard Deviations, Reliabilities, and Zero-order Correlations

	M	SD	Satisfied 1 Course	Satisfied Instructor	Physical Engagement	Emotional Engagement	Cognitive Engagement	Overall Engagement	Empathy Service	Assurance Service	Responsiveness Service	Reliability Service	Tangibles Service	Overall Service	Final Course Grade
Satisfied Course	4.24	0.85													
Satisfied Instructor	4.52	0.70	.565**												
Physical Engage	4.18	0.62	0.068	0.042											
Emotional Engage	3.92	0.64	.446**	.295**	.485**										
Cognitive Engage	3.89	0.63	.535**	.246**	.353**	.574**									
Overall Engage	4.01	0.50	.465**	.262**	.739**	.853**	.817**								
Empathy Service	4.43	0.69	.396**	.461**	.216**	.285**	.264**	.329**							

Table 10 (continued)

	M	SD	Satisfied 1 Course	Satisfied Instructor	Physical Engagement	Emotional Engagement	Cognitive Engagement	Overall Engagement	Empathy Service	Assurance Service	Responsiveness Service	Reliability Service	Tangibles Service	Overall Service	Final Course Grade
Assurance Service	4.49	0.62	.293**	.449**	0.131	.222**	.173*	.229**	.815**						
Responsiveness Service	4.39	0.69	.286**	.368**	.178*	.287**	.231**	.298**	.827**	.820**					
Reliability Service	4.39	0.64	.381**	.413**	.166*	.329**	.292**	.341**	.789**	.795**	.797**				
Tangibles Service	4.02	0.73	.181*	.173*	0.01	0.091	.208**	0.145	.524**	.556**	.496**	.562**			
Overall Service	4.34	0.58	.350**	.423**	.156*	.269**	.267**	.302**	.908**	.912**	.891**	.891**	.748**		
Final Course Grade	3.67	0.43	.165*	0.11	0.081	0.117	0.084	0.116	0.078	0.094	0.11	0.091	-0.127	0.046	

Note. N=174.
* Significant at $p < .05$.
** Significant at $p < .01$.

Table 11

Hierarchical Regression Results for Satisfaction with Course Regressed on Service Quality

	Satisfaction With The Course					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	4.888	.658		2.468	.834	
Sophomore	-.182	.249	-.087	-.152	.236	-.073
Junior	-.469	.274	-.261	-.341	.261	-.190
Senior	-.812	.304	-.426**	-.570	.293	-.299
Accounting	-.031	.353	-.016	-.104	.335	-.054
Finance	.263	.355	.122	.164	.337	.076
Management	-.025	.352	-.013	-.077	.333	-.041
MSCM	-.338	.364	-.158	-.330	.344	-.154
Female	.147	.140	.086	.260	.135	.152
19	.192	.381	.091	.229	.361	.108
20	.380	.416	.181	.384	.394	.183
21	.525	.444	.225	.456	.421	.195
22+	.615	.437	.348	.586	.414	.332
Caucasian	-.729	.445	-.345	-.615	.422	-.291
Black/African American	-.697	.488	-.248	-.446	.466	-.158
Asian	-.659	.631	-.115	-.185	.607	-.032
Hispanic	-.544	.522	-.148	-.532	.494	-.144
Overall Service				.502	.115	.344**
R	.333			.456**		
R^2	.111			.208**		
Adj R^2	.020			.122**		
F	1.225			2.409**		
ΔR^2				.097**		
ΔF				19.096**		

Note. N=174.
* Significant at p<.05.
** Significant at p<.01.

In Model Two, the same control variables are entered into the model, followed by a second step entering service quality. In this model, the inclusion of *service quality* explains an additional 10% of the variance in *satisfaction with the course* ($p < .01$). Thus, the inclusion of *service quality* in this regression model provides a significant increment in prediction of the presence of satisfaction with the course.

Next hierarchical linear regression was performed on *satisfaction with the instructor,* and the results are displayed in Table 12. As shown in Model One, *satisfaction with the instructor* is regressed on all of the control dummy variables. This combination of controls accounted for 13% of the variance in *satisfaction with the instructor* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering *service quality*. In this model, the inclusion of *service quality* explains an additional 14% of the variance in *satisfaction with the instructor* ($p < .01$). Thus, the inclusion of *service quality* in this regression model provides a significant increment in prediction of the presence of *satisfaction with the instructor*. The results of a significant increment of prediction in both *satisfaction with the course* and *satisfaction with the instructor* in the presence of *service quality* lead to the conclusion that Hypothesis 1 is rejected.

Hypothesis 2 states that there is no statistically significant relationship between *quality of service* and *academic engagement*. Hierarchical linear regression was performed on *academic engagement,* and the results are displayed in Table 13. As shown in Model One, *academic engagement* is regressed on all of the control dummy variables. This combination of controls accounted for 15% of the variance in *academic engagement* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering *service quality*. In this model, the inclusion of *service quality* explains an additional 11% of the variance in

Table 12

Hierarchical Regression Results for Satisfaction with Instructor Regressed on Service Quality

	Satisfaction With The Instructor					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	5.054	.531		2.679	.653	
Sophomore	-.015	.201	-.009	.013	.185	.008
Junior	-.135	.221	-.092	-.010	.204	-.007
Senior	-.444	.245	-.285	-.207	.230	-.133
Accounting	.194	.285	.122	.122	.262	.077
Finance	.433	.287	.245	.336	.264	.190
Management	-.012	.284	-.008	-.063	.261	-.041
MSCM	.004	.294	.002	.012	.270	.007
Female	-.092	.113	-.065	.019	.106	.014
19	-.328	.307	-.189	-.291	.283	-.168
20	-.154	.336	-.090	-.151	.309	-.088
21	.042	.359	.022	-.026	.330	-.014
22+	-.119	.353	-.082	-.147	.324	-.102
Caucasian	-.339	.359	-.196	-.227	.331	-.131
Black/African American	-.315	.394	-.137	-.068	.365	-.029
Asian	-.137	.509	-.029	.327	.475	.070
Hispanic	.036	.422	.012	.047	.387	.016
Overall Service				.493	.090	.413**
R	.364			.522**		
R^2	.133			.273**		
Adj R^2	.044			.193**		
F	1.502			3.238**		
ΔR^2				.140**		
ΔF				29.968**		

Note. N=174.

* Significant at p<.05.

** Significant at p<.01.

Table 13

Hierarchical Regression Results for Academic Engagement Regressed on Service Quality

	Academic Engagement					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	3.482	.378		1.999	.474	
Sophomore	-.070	.143	-.057	-.052	.134	-.042
Junior	-.066	.157	-.063	.011	.148	.011
Senior	-.205	.174	-.183	-.056	.167	-.050
Accounting	.229	.202	.201	.183	.190	.161
Finance	.135	.204	.107	.075	.192	.059
Management	.268	.202	.244	.236	.190	.215
MSCM	.123	.209	.098	.128	.196	.102
Female	.053	.080	.053	.123	.077	.122
19	.475	.219	.384*	.498	.205	.402**
20	.411	.239	.335	.413	.224	.337
21	.346	.255	.254	.304	.239	.222
22+	.679	.251	.656**	.661	.236	.639**
Caucasian	-.079	.255	-.063	-.009	.240	-.007
Black African American	-.340	.280	-.207	-.186	.265	-.113
Asian	.422	.362	.126	.712	.345	.213
Hispanic	-.052	.300	-.024	-.045	.281	-.021
Overall Service				.308	.065	.360**
R	.382			.502**		
R^2	.146			.252**		
Adj R^2	.059			.171**		
F	1.680			3.098**		
ΔR^2				.106**		
ΔF				22.164**		

Note. N=174.

* Significant at p<.05.

** Significant at p<.01.

academic engagement ($p < .01$). Thus, the inclusion of *service quality* in this regression model provides a significant increment in prediction of the presence of *academic engagement,* rejecting Hypothesis 2.

Hypothesis 3 states that there is no statistically significant relationship between *quality of service* and *academic performance*. Hierarchical linear regression was performed on *academic performance,* and the results are displayed in Table 14. As shown in Model One, *academic performance* is regressed on all of the control dummy variables. This combination of controls accounted for 15% of the variance in *academic performance* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering *service quality*. In this model, the inclusion of *service quality* explains an additional 0.8% of the variance in *academic performance* ($p > .05$). Thus, the inclusion of *service quality* in this regression model does not provide a significant increment in prediction of the presence of *academic performance.* Therefore, Hypothesis 3 is accepted.

Hypothesis 4 states that there is no statistically significant relationship between the student's *academic engagement* based on the student's self-reported score and *academic performance*. Hierarchical linear regression was performed on *academic performance,* and the results are displayed in Table 15. As shown in Model One, *academic performance* is regressed on all of the control dummy variables. This combination of controls accounted for 15% of the variance in *academic performance* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering *academic engagement*. In this model, the inclusion of *academic engagement* explains an additional 0.6% of the variance in *academic performance* ($p > .05$). Thus, the inclusion of *academic engagement* in this regression model

Table 14

Hierarchical Regression Results for Final Course Grade Regressed on Service Quality

	Final Course Grade					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	2.974	.328		2.630	.438	
Sophomore	.121	.124	.113	.125	.124	.117
Junior	.169	.136	.185	.187	.137	.205
Senior	.121	.151	.125	.155	.154	.160
Accounting	.129	.176	.131	.119	.176	.120
Finance	.026	.177	.024	.012	.177	.011
Management	-.056	.175	-.059	-.064	.175	-.067
MSCM	.008	.181	.007	.009	.181	.008
Female	.109	.070	.125	.125	.071	.144
19	.331	.190	.308	.336	.190	.313
20	.301	.207	.283	.301	.207	.283
21	.345	.221	.291	.335	.221	.282
22+	.300	.218	.334	.296	.218	.330
Caucasian	.247	.222	.230	.263	.222	.245
Black/African American	.016	.243	.011	.051	.245	.036
Asian	.539	.314	.185	.606	.319	.208
Hispanic	-.074	.260	-.040	-.073	.260	-.039
Overall Service				.071	.060	.096
R	.381			.390		
R^2	.145			.152		
Adj R^2	.058			.060		
F	1.662			1.650		
ΔR^2				.008		
ΔF				1.392		

Note. N=174.

* Significant at p<.05.

** Significant at p<.01.

Table 15

Hierarchical Regression Results for Final Course Grade Regressed on Academic Engagement

	Final Course Grade					
	Model 1			Model 2		
Variable	b	Std. Error	b	b	Std. Error	b
(Constant)	2.974	.328		2.717	.407	
Sophomore	.121	.124	.113	.126	.124	.118
Junior	.169	.136	.185	.174	.136	.191
Senior	.121	.151	.125	.136	.152	.141
Accounting	.129	.176	.131	.112	.176	.114
Finance	.026	.177	.024	.016	.177	.015
Management	-.056	.175	-.059	-.076	.176	-.080
MSCM	.008	.181	.007	-.002	.181	-.001
Femal	.109	.070	.125	.105	.070	.121
19	.331	.190	.308	.296	.193	.275
20	.301	.207	.283	.271	.209	.254
21	.345	.221	.291	.319	.223	.269
22+	.300	.218	.334	.250	.223	.278
Caucasian	.247	.222	.230	.253	.222	.235
Black African American	.016	.243	.011	.041	.244	.028
Asian	.539	.314	.185	.507	.316	.175
Hispanic	-.074	.260	-.040	-.071	.260	-.038
Overall Engagement				.074	.069	.085
R	.381			.389		
R^2	.145			.151		
Adj R^2	.058			.058		
F	1.662			1.632		
ΔR^2				.006		
ΔF				1.129		

Note. N=174.

* Significant at p<.05.

** Significant at p<.01.

does not provide a significant increment in prediction of the presence of *academic performance*. Therefore, Hypothesis 4 is accepted.

Hypothesis 5 states that there is no statistically significant correlation between the five dimensions of SERVQUAL and *student satisfaction*. The zero order correlations conducted in Table 10 show that four of the five dimensions of SERVQUAL have a significant relationship ($p < .01$) with *satisfaction with the course* and *satisfaction with the instructor*. The fifth variable, *tangibles*, showed a relationship at $p < .05$ level for both measures of *satisfaction*.

To further test these relationships, hierarchical linear regression was first performed on *satisfaction with the course*, and the results are displayed in Table 16. As shown in Model One, satisfaction with the course is regressed on all of the control dummy variables. This combination of controls accounted for 11% of the variance in *satisfaction with course* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering the five dimensions of SERVQUAL. In this model, the inclusion of the five dimensions of SERVQUAL explains an additional 16% of the variance in *satisfaction with the course* ($p < .01$). The dimension *empathy* was significant at $p < .01$ and the dimension *reliability* significant at $p < .05$.

In step two of testing the relationship between *satisfaction with the course* and the five dimensions of SERVQUAL, hierarchical linear regression was first performed with the same controls and *satisfaction with the course* regressed across the dimension empathy. The results of the regression showed that the dimension *empathy* had an increase of variance over the controls of 13% ($p < .01$). This same procedure was then conducted with the dimension *reliability* providing a result in change of variance over the controls of 11% ($p < .01$). In the last step of testing the relationship between *satisfaction with the course* and the five dimensions of

Table 16

Hierarchical Regression Results for Satisfaction with the Course Regressed on the Five Dimensions of SERVQUAL

	Satisfaction With The Course					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	4.888	.658		2.502	.822	
Sophomore	-.182	.249	-.087	-.185	.232	-.089
Junior	-.469	.274	-.261	-.346	.256	-.192
Senior	-.812	.304	-.426**	-.634	.288	-.333*
Accounting	-.031	.353	-.016	-.137	.328	-.070
Finance	.263	.355	.122	.124	.329	.057
Management	-.025	.352	-.013	-.185	.325	-.099
MSCM	-.338	.364	-.158	-.277	.336	-.129
Female	.147	.140	.086	.213	.132	.124
19	.192	.381	.091	.278	.361	.131
20	.380	.416	.181	.489	.397	.233
21	.525	.444	.225	.530	.421	.227
22+	.615	.437	.348	.623	.414	.352
Caucasian	-.729	.445	-.345	-.509	.411	-.240
Black/African American	-.697	.488	-.248	-.343	.455	-.122
Asian	-.659	.631	-.115	-.131	.592	-.023
Hispanic	-.544	.522	-.148	-.435	.486	-.118
Empathy Service				.585	.189	.469**
Assurance Service				-.194	.202	-.142
Responsiveness Service				-.248	.191	-.200
Reliability Service				.408	.187	.306*
Tangible Service				-.086	.108	-.073
R	.333			.524**		
R^2	.111			.275**		
Adj R^2	.020			.175**		
F	1.225			2.744**		
ΔR^2				.164**		
ΔF				6.870**		

Note. N=174.
*Significant at p<.05.
**Significant at p<.01.

SERVQUAL, hierarchical linear regression was performed only including the three remaining dimension which account for 7% change in variance over the controls ($p < .01$).

To test the second satisfaction question, hierarchical linear regression was performed on *satisfaction with the instructor,* and the results are displayed in Table 17. As shown in Model One, *satisfaction with the instructor* is regressed on all of the control dummy variables. This combination of controls accounted for 13% of the variance in *satisfaction with the instructor* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering the five dimensions of SERVQUAL. In this model, the inclusion of the five dimensions of SERVQUAL explains an additional 25% of the variance in *satisfaction with the instructor* ($p < .01$). The dimensions *tangibles* and *empathy* were significant at $p < .01$, and the dimension *assurance* was significant at $p < .05$.

In step two of testing the relationship between *satisfaction with the instructor* and the five dimensions of SERVQUAL, hierarchical linear regression was first performed with the same controls and *satisfaction with the instructor* regressed across the SERVQUAL dimensions independently. The results of the regression showed that the dimension *tangible* had a minimal increase of variance over the controls of 0.7% ($p > .05$), and the dimension *empathy* provided a result in change of variance over the controls of 18% ($p < .01$). The dimension *assurance* resulted in a change of variance over the controls of 18% ($p < .01$), the dimension *reliability* accounted for 14% ($p < .01$), and *responsiveness* accounted for 11% change in variance over the controls ($p < .01$). After the inclusion of each dimension of *service quality* in this regression model for both measures of *satisfaction,* the results provide that only two of the five dimensions, *empathy* and *reliability*, had a significant increment in prediction of the presence of s*atisfaction with the course* and *satisfaction with the instructor.* Thus, Hypothesis 5 is rejected.

Table 17

Hierarchical Regression Results for Satisfaction with the Instructor Regressed on the Five Dimensions of SERVQUAL

	Satisfaction With The Instructor					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	5.054	.531		2.588	.623	
Sophomore	-.015	.201	-.009	-.023	.176	-.013
Junior	-.135	.221	-.092	.003	.194	.002
Senior	-.444	.245	-.285	-.222	.218	-.143
Accounting	.194	.285	.122	.172	.248	.108
Finance	.433	.287	.245	.390	.249	.221
Management	-.012	.284	-.008	-.105	.246	-.069
MSCM	.004	.294	.002	.132	.255	.075
Female	-.092	.113	-.065	-.047	.100	-.033
19	-.328	.307	-.189	-.355	.273	-.205
20	-.154	.336	-.090	-.193	.301	-.113
21	.042	.359	.022	-.119	.318	-.062
22+	-.119	.353	-.082	-.239	.314	-.165
Caucasian	-.339	.359	-.196	-.171	.311	-.099
Black/African American	-.315	.394	-.137	.070	.345	.030
Asian	-.137	.509	-.029	.409	.448	.087
Hispanic	.036	.422	.012	.182	.368	.060
Empathy Service				.381	.143	.374**
Assurance Service				.379	.153	.339*
Responsiveness Service				-.234	.145	-.232
Reliability Service				.187	.141	.171
Tangible Service				-.233	.082	-.245**
R	.364			.614**		
R^2	.133			.377**		
Adj R^2	.044			.291**		
F	1.502			4.386**		
ΔR^2				.245**		
ΔF				11.940**		

Note. N=174.

* Significant at p<.05.

** Significant at p<.01.

Hypothesis 6 states that there is no statistically significant correlation between the five dimensions of SERVQUAL and *academic engagement*. The zero order correlations conducted in Table 10 show that four of the five dimensions of SERVQUAL, excluding *tangibles*, have a significant relationship ($p < .01$) with *academic engagement*. To further test these relationships, hierarchical linear regression was first performed on *academic engagement*, and the results are displayed in Table 18. As shown in Model One, *academic engagement* is regressed on all of the control dummy variables. This combination of controls accounted for 15% of the variance in *academic engagement* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering the five dimensions of SERVQUAL. In this model, the inclusion of the five dimensions of SERVQUAL explains an additional 14% of the variance in *academic engagement* ($p < .01$). The dimension *empathy* was significant at $p < .05$.

In step two of testing the relationship between *academic engagement* and the five dimensions of SERVQUAL, hierarchical linear regression was first performed with the same controls and *academic engagement* regressed across the dimension empathy. The results of the regression showed that the dimension *empathy* had an increase of variance over the controls of 12% ($p < .01$). In the next step of testing the relationship between *academic engagement* and the five dimensions of SERVQUAL hierarchical linear regression was performed with controls and including only the four remaining dimensions which account for 11% change in variance over the controls ($p < .01$). In Model Two of the hierarchical linear regression that included the four remaining dimensions, the dimension *reliability* showed significance at $p < .05$.

In step 3 hierarchical linear regression was performed with controls and including only the *reliability* dimension which account for 11% change in variance over the controls ($p < .01$). This same procedure was then conducted with the three remaining dimensions providing a result

Table 18

Hierarchical Regression Results for Academic Engagement Regressed on the Five Dimensions of SERVQUAL

	Academic Engagement					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	3.482	.378		2.096	.478	
Sophomore	-.070	.143	-.057	-.050	.135	-.040
Junior	-.066	.157	-.063	.001	.148	.001
Senior	-.205	.174	-.183	-.094	.167	-.084
Accounting	.229	.202	.201	.164	.190	.144
Finance	.135	.204	.107	.039	.191	.031
Management	.268	.202	.244	.187	.189	.171
MSCM	.123	.209	.098	.131	.195	.105
Female	.053	.080	.053	.111	.077	.110
19	.475	.219	.384*	.496	.210	.401*
20	.411	.239	.335	.431	.231	.352
21	.346	.255	.254	.318	.244	.233
22+	.679	.251	.656**	.658	.241	.636**
Caucasian	-.079	.255	-.063	.037	.239	.030
Black/African American	-.340	.280	-.207	-.145	.264	-.088
Asian	.422	.362	.126	.724	.344	.216*
Hispanic	-.052	.300	-.024	-.001	.283	.000
Empathy Service				.230	.110	.316*
Assurance Service				-.166	.117	-.208
Responsiveness Service				.018	.111	.025
Reliability Service				.193	.108	.248
Tangible Service				.010	.063	.014
R	.382			.535**		
R^2	.146			.286**		
Adj R^2	.059			.187**		
F	1.680			2.889**		
ΔR^2				.140**		
ΔF				5.952**		

Note. N=174.

* Significant at p<.05.

** Significant at p<.01.

in change of variance over the controls of 9% ($p < .01$), with the dimension *responsiveness* showing a significant relationship ($p < .05$). After conducting a fourth hierarchical linear regression on *academic engagement* with controls and regressed across the dimension *responsiveness*, this reported a change in variance over the controls of 9% ($p < .01$). The same procedure was then performed on the two remaining dimensions individually. The dimension *assurance* reported a change in variance over the controls of 6% ($p < .01$) and the dimension *tangibles* reported a change of 4% ($p < .01$). Thus, the results indicate that Hypothesis 6 is rejected.

Hypothesis 7 states that there is no statistically significant correlation between the five dimensions of SERVQUAL and *academic performance*. The zero order correlations conducted in Table 10 show that none of the dimensions of SERVQUAL have a significant relationship with *academic performance*. To further test these relationships, hierarchical linear regression was first performed on *academic performance*, and the results are displayed in Table 19. As shown in Model One, *academic performance* is regressed on all of the control dummy variables. This combination of controls accounted for 15% of the variance in *academic performance* ($p > .05$). In Model Two, the same control variables are entered into the model, followed by a second step entering the five dimensions of SERVQUAL. In this model, the inclusion of the five dimensions of SERVQUAL explains an additional 5% of the variance in *academic performance* ($p > .05$), with the dimension *tangibles* displaying significance ($p < .05$).

In step two *academic performance* was regressed on all control dummy variables and the dimension *tangibles*. The inclusion of the dimension *tangibles* explained an additional 0.5% of the variance in *academic performance* ($p > .05$). In step three of testing the relationship between *academic performance* and the five dimensions of SERVQUAL, hierarchical linear regression

Table 19

Hierarchical Regression Results for Academic Performance Regressed on the Five Dimensions of SERVQUAL

	Academic Performance					
	Model 1			Model 2		
Variable	b	Std. Error	β	b	Std. Error	β
(Constant)	2.974	.328		2.686	.441	
Sophomore	.121	.124	.113	.129	.124	.121
Junior	.169	.136	.185	.184	.137	.202
Senior	.121	.151	.125	.138	.154	.142
Accounting	.129	.176	.131	.141	.176	.142
Finance	.026	.177	.024	.022	.176	.020
Management	-.056	.175	-.059	-.085	.174	-.089
MSCM	.008	.181	.007	.049	.180	.045
Female	.109	.070	.125	.100	.071	.115
19	.331	.190	.308	.265	.193	.246
20	.301	.207	.283	.232	.213	.218
21	.345	.221	.291	.252	.225	.212
22+	.300	.218	.334	.213	.222	.237
Caucasian	.247	.222	.230	.288	.220	.268
Black/African American	.016	.243	.011	.120	.244	.084
Asian	.539	.314	.185	.633	.317	.218*
Hispanic	-.074	.260	-.040	.006	.261	.003
Empathy Service				.085	.101	.135
Assurance Service				.055	.108	.078
Responsiveness Service				-.007	.102	-.010
Reliability Service				.060	.100	.089
Tangibles Service				-.138	.058	-.233*
R	.381			.440**		
R^2	.145			.194**		
Adj R^2	.058			.083**		
F	1.662			1.741**		
ΔR^2				.049**		
ΔF				1.849**		

Note. N=174.
* Significant at p<.05.
** Significant at p<.01.

was first performed with the same controls and *academic performance* regressed across the each of the remaining four dimensions independently. The results of the regression showed that all four dimensions reported a change in variance over the controls of 1% or less ($p > .05$). Thus, Hypothesis 7 must be accepted.

Summary

Table 20 provides a summary of each formal hypothesis statement and the results. The zero-order correlations reported that there was a significant relationship between the variables *service quality* and *satisfaction* in Hypothesis 1. In further testing this relationship, linear regression was administered and the analysis showed that there was a significant change in variance on *satisfaction* when *service quality* was included which reject Hypothesis 1. For Hypothesis 2, the zero-order correlations also showed a significant relationship between *satisfaction* and *academic engagement*. When these variables were examined utilizing linear multiple regression *academic engagement* created a significant change in variance on *satisfaction* which lead to rejecting Hypothesis 2.

When Hypothesis 3 was examined, the zero-order correlation showed no relationship between *service quality* and *academic performance*. To further test this relationship the variable *academic performance* was regressed on *service quality* which resulted in no significant change in variance thus accepting Hypothesis 3. *Academic performance* was tested a second time for Hypothesis 4 to determine if there was a relationship with *academic engagement*. Again the zero-order correlation between these two variables showed no significant relationship. In further testing the relationship between *academic performance* and *academic engagement* linear multiple regression was conducted. The results showed that there was no significant change in variance which then Hypothesis 4 must be accepted.

Table 20

Summary of Hypothesis & Findings

	Summary	Findings
H_1	There is no statistically significant relationship between quality of service and student satisfaction.	Rejected
H_2	There is no statistically significant relationship between quality of service and academic engagement.	Rejected
H_3	There is no statistically significant relationship between quality of service and academic performance.	Accepted
H_4	There is no statistically significant relationship between the student's academic engagement based on the student's self-reported score and academic performance.	Accepted
H_5	There is no statistically significant correlation between the five dimensions of SERVQUAL and student satisfaction.	Rejected
H_6	There is no statistically significant correlation between the five dimensions of SERVQUAL and academic engagement.	Rejected
H_7	There is no statistically significant correlation between the five dimensions of SERVQUAL and student performance.	Accepted

Hypothesis 5, 6, and 7 stated that the five dimensions of SERVQUAL had no significant relationship with the independent variables *satisfaction*, *academic engagement*, and *academic performance*. Each of these Hypotheses utilized linear multiple regression with the inclusion of the five dimensions of SERVQUAL. Hypothesis 5 testing resulted in two of the five dimensions, *empathy* and *reliability*, reporting a significant increment in prediction of the presence of *satisfaction with the course* and *satisfaction with the instructor* thus Hypothesis 5 was rejected. Hypothesis 6 linear multiple regression analysis showed that each of the five variables had a significant change in variance on *academic engagement* and because of these results Hypothesis 6 was rejected. Hypothesis 7 was accepted after the results of the linear multiple regression analysis reported that none of the five dimensions of SERVQUAL had any significant change in variance for *academic performance*.

CHAPTER FIVE: DISCUSSION

This study addressed five research questions using the service quality model developed by Parasuraman et al. (1985) to measure the students' expectations versus the perceptions of their actual experience, regarding services delivered by their academic course. The research questions were related to *quality of service* as a predictor for *student satisfaction*, *academic engagement*, and *academic performance* in ECU's College of Business Leadership and Professional Development program. This chapter features a review of the findings of the study, information about the theoretical framework, implications for academic administrators, faculty, and instructors, and recommendations for future research.

Findings of Study

Research Question # 1

What is the relationship between *quality of service* and *student satisfaction*? The two questions measuring satisfaction, *satisfaction with the course* and *satisfaction with the instructor* had strong correlations ($p < .01$) to the study participants' perceived *quality of service*. *Satisfaction with the instructor* had a slightly stronger correlation to *quality of service* when compared to *satisfaction with course*. The multiple regression analysis confirmed that there was a significant relationship between the student's recorded *satisfaction* and *service quality*. As was the case in the correlations, *quality of service* had a larger change in variance when it was regressed across *satisfaction with the instructor*.

This is consistent with the service delivery gap model, whereby customer expectations and perceptions of service quality are measured and perceptions greater than expectations signal satisfactory service quality; perceptions less than expectations indicate unsatisfactory service quality (Parasuraman, Berry, & Zeithaml, 1985, 1988; Zeithaml et al., 1993). Athiyaman (1997)

indicates that student satisfaction is an overall attitude constructed on short term specific transactions, while perceived student service quality is an attitude developed from various service encounters that lead to a more complete assessment. Athiyaman's research showed that each class a student enrolls in and attends is a separate transaction that leads to a service encounter. This encounter would either result in student satisfaction or dissatisfaction and is related to perceived service quality of the individual class.

Student satisfaction is an important factor in higher education as it has been linked to persistence, retention, word of mouth marketing, and commitment (Bok, 2009). The results lead to the finding that as the student's perceived level of quality of service in the classroom increases, satisfaction with the course and instructor would also increase. Secondly the findings show that quality of service has a slightly stronger impact on the student's satisfaction with the instructor.

Research Question # 2

What is the relationship between *quality of service* and *academic engagement*? The correlation between *quality of service* and *academic engagement* reveal a significant relationship between the two ($p < .01$). Multiple regression confirmed the relationship between *academic engagement* and *service quality*, as there was a significant ($p < .01$) change in variance, which indicates there is a strong relationship between these two variables. In Hampton's (1993) study of service quality, the results linked the variable effort to pass the course to the student's evaluation of service quality. Stodnick and Rogers' (2008) study also tested the SERVQUAL's ability to be a predictive instrument, and their data showed predictive validity. In this study the analysis shows that as students perceive high service quality in the classroom they also report higher levels of academic engagement. Astin's (1996) research on student involvement showed

that quality of effort and the level of involvement of college students correlated with academic achievement, personal development, intellectual development, and persistence to graduation. Building on the work of Astin, researchers of student engagement have continued to report on similarities between the concepts of engagement, involvement, and quality of effort (Furrer & Skinner, 2003). Based on previous studies, Kuh (2001) concluded that when students are engaged in the classroom, there is a higher likelihood for academic achievement.

Research Question # 3

What is the relationship between *quality of service* and *academic performance*? Based on the correlation between the student's final grade in one of the four Leadership and Professional Development courses and their responses to the quality of service survey, the findings showed no significant relationship. To confirm, the final course grades were regressed across *quality of service,* which resulted in a change in variance of 0.8% at a significance level of $p > .05$. Based on the data collected in this study and the results of multiple tests, there is no statistically significant relationship between *service quality* and the *student's academic performance*. While previous studies on student satisfaction (Thurmond et al., 2002) and engagement (Kuh, 2001) provided insight on these variables influencing academic performance, this study uncovered no previous studies specifically linking service quality and academic performance. It may be inferred that if satisfaction and engagement do impact academic performance, and since service quality has a strong relationship to these two variables, then there may be a causal effect on academic performance. However, since this study found no relationship between *service quality* and *academic performance,* more research is necessary to determine any possible connection.

Research Question # 4

What is the relationship between the student's academic engagement based on the student's self-reported score and final grade? The testing of the relationship between these two variables showed similar results to the relationship between *service quality* and *academic performance*. The correlations between these two variables revealed no significant relationships. The strongest non-significant relationship of the 3 dimensions of *academic engagement* and *academic performance* was the dimension emotional engagement at a correlation of .117 with *overall academic engagement* reporting a score of .116. The multiple regression testing of these two variables revealed that the inclusion of *academic engagement* in the regression model does not provide a significant increment in prediction of the presence of *academic performance*. While previous studies on engagement (Kuh, 2001) suggest there is a relationship with motivation, persistence, and academic success, the data collected in this study and the results of multiple tests show no relationship between *service quality* and the student's *academic performance*.

Research Question # 5

Which, if any, of the five dimensions of SERVQUAL correlates with high levels of *student satisfaction*, *academic engagement*, and *academic performance*? The five dimensions of service quality -- *empathy*, *assurance*, *responsiveness*, *reliability*, and *tangibles* -- revealed to a significant correlation with both *satisfaction with the course* and *satisfaction with the instructor*. In both measures of *satisfaction*, four of the five dimensions of *service quality* had a significant relationship ($p < .01$), while the dimension *tangibles* had the weakest significant relationship ($p < .05$). The multiple regression analysis confirmed that there was a significant relationship between the student's recorded *satisfaction* and four dimensions of *service quality*, while the dimension

tangibles reported no significant change in variance. *Tangibles* as defined by Parasuraman et al. (1988) are the appearance of physical facilities, equipment, personnel, and communication materials. Based on the data in this study the student's perception of quality as it relates to tangible construct of *service quality* plays no role in the student's *satisfaction*. The results, however, lead to the finding that as the student's perceived level of *service quality* as it relates to the four SERVQUAL dimensions -- *empathy, assurance, responsiveness,* and *reliability* -- in the classroom increases, *student satisfaction* would also increase.

Four of the five dimensions of *service quality* reported a significant correlation ($p < .01$) with the variable *academic engagement*. The service quality dimension *tangibles* had no significant relationship with the variable *academic engagement*. Multiple regression was applied to examine the relationship between *academic engagement* and the five dimensions of SERVQUAL, there was a significant $p < .01$ change in variance for the dimensions *empathy, responsiveness,* and *reliability* which indicates there is a strong relationship between these two variables. The dimension *assurance* reported a slightly weaker significance ($p < .05$) in the change of variance while the dimension *tangibles* indicated no significant relationship. Similarly to the findings for *student satisfaction*, as the student's perceived level of *service quality* as it relates to the four SERVQUAL dimensions, *empathy, assurance, responsiveness,* and *reliability* in the classroom increases, *academic engagement* would also increase. Theories on engagement suggest that the construct of academic engagement is not one dimensional but multi-dimensional, consisting of three perspectives: cognitive, behavioral, and emotional (Fredricks et al., 2004). Based on these theories and the data from this study it would seem that the dimensions *empathy, assurance, responsiveness,* and *reliability* would have a strong connection to the three perspectives of *engagement*.

In examining the correlations between SERVQUAL and *academic performance* based on the student's responses in the study there were no significant relationships. The strongest non-significant relationship of the five dimensions of SERVQUAL and *academic performance* was the dimension *responsiveness* at a correlation of .110. The multiple regression testing of these two variables similarly revealed that there was no significant change in variance on *academic performance* for any of the five dimensions of SERVQUAL. Based on the data collected in this study and the results of multiple tests there is no relationship between *service quality* and the student's *academic performance*.

The result of no significant relationship between *academic performance* and SERQUAL may be attributed to the lack of variance in the subject's final course grade. As was reported in the previous chapter, 74% of the study subjects received an A minus or higher final grade. While it cannot be confirmed in this study it is important to mention one possible cause for the clustering of final course grade: grade inflation. Grade inflation, grade compression, and high grade levels have been highly discussed in the literature over the recent decades as student grades have increased considerably in many institutions of higher education. Studies have shown that average grades have steadily increased since 1980s. The increasing grades have shown to lead to grade compression which has a clustering effect on student's grades and as a result provides less informative data on the students (Babcock, 2010).

Theoretical Framework

This study was founded on the established model of service delivery. The work of Parasuraman et al. (1985, 1988a, 1988b, 1991) significantly advanced the principles and conceptual framework of the service delivery model through its refinement of service quality measurement. Parasuraman et al. (1985) identified three underlying themes in service quality.

The first theme is that service quality is more difficult for the consumer to evaluate than the quality of goods. The second is that service quality perceptions result from a comparison of consumer expectations with perceptions of actual service performance. The third theme holds that quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery (Parasuraman et al., 1985).

Zeithaml et al. (1990) concluded that service quality is the customer's perception of the degree of success or failure in meeting expectations based on the delivery of a service. Service providers must be able to comprehend a customer's experience in order to make sure they are delivering a product that meets the customer's satisfaction. Service delivery quality based on the perception of the consumer can influence consumer technical outcomes as well as behavior outcomes (Parasuraman et al., 1991). Oliver (1980) determined that if the perceived service performance is greater than expectations, then positive disconfirmation occurs and customer satisfaction and loyalty increases. This study applied the same framework associating technical outcomes to learning and behavior outcomes to satisfaction, loyalty, and engagement. Most recently Stodnick and Rogers's (2008) study also tested the SERVQUAL's ability to be a predictive instrument. The data showed predictive validity, with a positive relationship between individual dimensions of SERVQUAL and two measures of student satisfaction.

The service delivery model literature reports service delivery quality can influence consumer technical outcomes as well as behavior outcomes (Parasuraman et al., 1991).The results of the study were consistent with the literature published on the service delivery model and behavioral outcomes. *Service quality* in this study showed a significant positive relationship with *satisfaction with the course* and *satisfaction with the instructor*. Likewise, the service quality instrument SERVQUAL demonstrated a significant positive relationship between *student*

satisfaction and each of the five dimensions. The results of the study were also consistent with the work of Stodnick and Rogers (2008), with predictive validity between the individual dimensions of SERVQUAL and the two measures of *student satisfaction*.

The second behavioral outcome of *service quality* in this study was student's *academic engagement*. The findings again were consistent with the literature as the data reported *service quality* had a significant positive relationship with *academic engagement*. The SERVQUAL instrument's dimensions also reported a significant relationship with four of the five dimensions with the exclusion of tangibles. The high correlations between *service quality* and the four dimensions of SERVQUAL provided predictive validity for *service quality* and *academic engagement*.

The technical outcome of *service quality* in this study was *academic performance*. The literature suggests that service delivery quality can influence consumer technical outcomes. The findings in this study are inconsistent with this literature. The data on service quality and final course grades resulted in no significant relationship. The SERVQUAL instrument utilized in this study reported no relationship with *academic performance* for each of the five dimensions. The absence of a significant relationship between these two variables results in the finding that *service quality* is not predictive of *academic performance*.

Implications for Academic Administrators and Instructors

The results of the study suggest that in predicting *satisfaction with the course* two of the behavioral dimensions, *empathy* and *reliability*, had the strongest relationship. The dimensions *empathy* and *reliability* capture the student's perceptions of the instructor's attention and care given to the student and the ability to perform the instruction accurately and dependably. In this study the students viewed these behaviors as having the most impact on their *satisfaction with*

the course. When the students reported on their *satisfaction with the instructor*, *empathy*, *assurance*, and *reliability* were shown to have the strongest relationship. This result leads to the assumption that when determining *satisfaction with the instructor* the following attributes are important to students: the attention and care provided, knowledge, courtesy and their ability to convey trust and confidence, and deliver instruction accurately and reliably.

The findings on satisfaction are important to instructors and academic leaders because satisfaction has been attributed to positive student behaviors such as persistence, retention, and word of mouth marketing. Instructors can use this information to improve their service delivery in the classroom. In assessing their current behaviors, instructors may find that they can improve on the care, attention, and courtesy, ability to convey trust and confidence and their performance of instruction to increase student satisfaction. Adding time at the beginning or end of class to address student concerns or encouraging students to utilize the instructor's office hours are actions that instructors can take to improve student satisfaction. Taking opportunities during class to build trust and confidence in students can impact satisfaction. Finally, satisfaction can be improved when the instructor is consistent with his or her course delivery and is accurate in his or her knowledge on the subject.

The results on *service quality* and *academic engagement* suggest that all three of the behavioral dimensions -- *empathy*, *responsiveness*, and *reliability* -- had the strongest relationship. These three dimensions capture the following behaviors: care, attention, willingness to help, promptness, and ability to instruct accurately and dependably. Interestingly, two of the three dimensions, *empathy* and *reliability*, which had the strongest relationship with *academic engagement* also had the strongest relationship with *student satisfaction*.

Previous studies on *student engagement* have reported correlation between engagement and academic achievement, personal development, intellectual development, and persistence to graduation (Furrer & Skinner, 2003). The findings of this study can be of importance to academic leaders and instructors who are examining strategies for improving student success in the classroom and college. Since two of the three behavioral dimensions of SERVQUAL reported strong correlation with *student satisfaction* and *academic engagement*, the same improvements when applied by the instructor may also impact *academic engagement*. The addition of the third behavioral dimension, *responsiveness*, suggests that improvements in timeliness of instructor response and showing a willingness to help can increase a student's *academic engagement*.

These results of the study show that the behavioral measures of SERVQUAL had the strongest relationships in predicting the student outcome measures *satisfaction* and *academic engagement*. Instructors can use this information to change behaviors in the classroom and implement strategies for teaching that would positively influence student success. Since service quality is widely discussed in the business literature, business instructors can easily understand the dimensions of SERVQUAL to address behavioral changes.

The results of the study identified *service quality* as a valid predictor for *student satisfaction* and *academic engagement*. Previous studies on service quality and higher education have reported that students view themselves as customers more so than in the past. Non-traditional students, and some traditional students, view higher education the same way that they view other forms of commercial exchange. Consequently, they are every bit as demanding in terms of the product purchased and the service rendered and therefore have high expectations for delivery of that product (Jensen & Artz, 2005). The results of this study combined with the

literature on service quality in higher education suggest that service quality measures should be considered in academic settings. This study informs academic leaders that administering service quality measures such as in a classroom setting can provide valuable information on student academic outcomes. Academic leaders can use service quality measures independently or in combination with current student opinion of instruction. The data gathered could guide strategies for improving the classroom experience to better provide an environment for student success.

The predominant instrument used to measure student engagement is the NSSE survey. The NSSE survey is composed of about 70 items that assess the extent to which students devote time and energy to educationally purposeful activities. A large majority of items from The Report deal with behaviors that have been linked empirically to favorable outcomes of college in prior studies (Kuh, 2003). In this study, the instrument used to measure the variable *academic engagement* was a modified job engagement survey created by Rich et al. (2010). The modified job engagement survey captured three dimensions of *academic engagement*: *physical*, *cognitive*, and *emotional* energies. The results of this study showed the scale to have strong loadings for each of the three dimensions under principal component analysis along with internal consistency. These findings along with the reduction in questions used to measure *academic engagement* should encourage the use of this instrument when measuring *academic engagement*.

Finally, this study acknowledges that using a business model of service delivery is controversial and under much debate. This study can add to the existing literature to provide more information and discussions on utilizing business measures of service quality in an academic setting. While this study does not recommend that all aspects of the business model of service delivery should be applied in an academic setting, it does attempt to provide useful data in favor for including some components of the service delivery model in a classroom setting.

Recommendation for Future Research

The purpose of this study was to examine the relationship between service quality in the classroom as a predictor of academic engagement, academic performance, and student satisfaction. However, it is important to note that there are other perspectives that can be addressed in future research. The comments below include recommendations and focus on ways to expand research regarding service quality as a predictor for student academic outcomes.

Although existing research such as Stodnick and Taylor (2008) and this study show the service quality instrument SERVQUAL to have predictive validity and correlations to student outcome variables, there are other established service quality instruments. Therefore, examination of these measures in an academic learning environment could lead to instruments that better measure service quality as a predictor of student academic outcomes. Service quality models based on empirical research assess the differences between perceptions and expectations utilizing the disconfirmation theory (Webster & Hung, 1994). While SERVQUAL is founded on the disconfirmation paradigm, it analyzes customer perceptions using only post-service measurements, relying on this singular measure to explain service delivery. Cronin and Taylor (2001), suggest that when using the disconfirmation paradigm service quality is better measured when consumers' expectations are captured prior to the service. Future studies may want to utilize service quality measures that collect study subject's expectations to use in comparison of perceptions.

While the factor analysis validated the SERVQUAL instrument and the study data reported a significant relationship with the two student outcomes, satisfaction and academic engagement, the data showed a strong clustering at the upper end of the distribution. Fogarty, Catts, and Forlin, (2000) suggest that survey instruments such as SERVQUAL utilize questions

that create a narrowing of responses which limit the variance. They attribute this narrowing of responses to questions that may be too easy to rate highly. They recommended the addition of more difficult items to the scales found in the instruments. Exploring additional items that can be added to the five dimension scales in future studies may result in more variance which may provide richer data on service quality and student academic outcomes.

In this study the variable academic performance was defined as the student's final course grade. This variable was used to determine if there was a relationship between student performance and service quality. As was found in this study, there was no significant relationship between these two variables. This finding could be attributed to the structure of the course selected for this study. Further examination of all student grades for the four classes in the study showed the grades used in the study were representative of the population for the leadership and professional development program. Future studies on these two variables should be conducted to further examine if any relationship exists between two variables.

Lastly, the scope of this study was limited to undergraduate students enrolled in one of four leadership and professional development courses embedded in a college of business, which does not allow for the results to be generalized. In order for the findings to be confirmed as generalizable, the results of this study would need to be tested in a variety of settings. This study could be replicated in other departments throughout a college of business or other disciplines in a university setting. Additionally, by expanding the study to include graduate students, the results may provide a richer and more diverse perspective on service quality as a predictor for academic outcomes.

Summary

Today the practice of utilizing student evaluation of instruction has become a widely accepted mode of assessment at most institutions (Thornton, Adams, & Sepehri, 2010). Many institutions adopt and use student evaluations of teaching with little evidence that the evaluation and application actually measure or contribute to teaching quality (Nowell, Gale, & Handley, 2010). The landscape of higher education continues to transform due to issues such as consumer sensitivity, the public demanding a clear purpose for higher education's existence, intensification of competition, and an increasing oversight of governing bodies and accrediting boards (Oldfield & Baron, 2000). Critics of student evaluation of instruction advise that other means of assessing faculty be included in overall evaluations to gain a better insight on teaching quality (Wright, 2006). Therefore, the purpose of this study was to examine the relationship between service quality in the classroom as a predictor of academic engagement, academic performance, and student satisfaction.

This study was founded on the established model of service delivery and the work of Parasuraman et al. (1985, 1988a, 1988b, 1991) who significantly advanced the principals and conceptual framework of the service delivery model through its refinement of service quality measurement. The adapted SERVQUAL instrument was used to access the relationship between the variables satisfaction, academic engagement, and academic performance. The research participants were undergraduate business students enrolled in a leadership and professional development class. Data were gathered from 174 undergraduate students enrolled in a college of business at public university in the spring of 2014.

When measuring the relationships between service quality and the study variables, service quality had a statistically significant relationship with satisfaction and academic

engagement. The third variable academic performance had no significant relationship with service quality or any of the 5 dimensions of SERVQUAL. Results indicated that service quality in the classroom was a predictor for student satisfaction and academic engagement.

The results of the study supported the service delivery model literature which states service delivery quality can influence consumer behavior outcomes (Parasuraman et al., 1991).The results of the study were consistent with the literature published on the service delivery model and behavioral outcomes. Service quality in this study showed to have a significant positive relationship with satisfaction with the course satisfaction with the instructor and academic engagement. Likewise the service quality instrument SERVQUAL reported a significant positive relationship between each of the five dimensions and the two variables student satisfaction and academic engagement. The results of the study were also consistent with the work of Stodnick and Rogers (2008) with predictive validity between the individual dimensions of SERVQUAL and the two measures of student satisfaction. The results of the study indicated that there is no significant relationship between service quality and academic performance. As a result, the study could not support that service delivery quality can influence consumer technical outcomes.

This study included various implications for academic administrators and instructors. These recommendations for instructors include improvement on the care, attention, and courtesy, ability to convey trust and confidence and their performance of instruction can increase student satisfaction. The same behavior changes that improve satisfaction along with improvements in timeliness of response and showing a willingness to help can increase a student's academic engagement. The recommendations for academic administrators included the use service quality measures independently or in combination with current student opinion of instruction. The data

gathered could guide strategies for improving the classroom experience to better provide an environment for student success.

The study concluded with recommendations for future research. These recommendations included administering various established service quality measures to explore if they are a better fit for measuring the relationships between service quality and student academic outcomes. In addition to testing other service quality measures the addition of more difficult items to the scales may result in more variance which may provide richer data on service quality and student academic outcomes. It was recommended that there is a need to further examine the relationship between service delivery and academic technical outcomes such as final course grades. The last recommendation of the study was to expand the study to other departments within the College of Business and disciplines across the university.

Conclusion

Conversations focusing on the need to hold colleges and universities accountable for the quality of undergraduate education have continued to increase. At the same time there is a rise in the number of higher education stakeholders viewing universities from the perspective of a business model. From a business model perspective higher education is a service provider whose service is education and the students are the consumers (Wright, 2008). With the changes occurring to the landscape of higher education the testing of non-traditional instruments that may be a better predictor for student success is necessary.

The current generation of students, more so than in the past, are seeing themselves as a consumer of universities, not solely students of an institution (Singleton-Jackson et al., 2010). Like all service industries, it is important for a service provider to examine their quality of service. If they fail to do so, student's enrollment may be impacted if the quality of service is not

satisfactory. As competition for students increases and retention numbers continue to be tied to funding, universities cannot afford to lose students to other institutions. Understanding quality of service is necessary for universities in order to focus their attention on meeting the student's expectations as it pertains to the learning experience (Stodnick, & Rogers, 2008).

Thus, the purpose of this study was to explore the role of service quality in a classroom as a predictor for student satisfaction, academic engagement, and academic performance. The results of the study provide academic administrators and college instructors' practical implications on how to foster an environment in the classroom that increases a student's satisfaction and academic engagement. Future research studying service quality in an academic setting can only help to strengthen this study's results and provide additional knowledge regarding service quality and student academic outcomes.

REFRENCES

Abdullah, F. (2006). Measuring service quality in higher education: HEdPERF versus SERVPERF. *Marketing Intelligence & Planning*, *24*(1), 31-47.

Ahlfeldt, S., Mehta, S., & Sellnow, T. (2005). Measurement and analysis of student engagement in university classes where varying levels of PBL methods of instruction are in use. *Higher Education Research & Development*, *24*(1), 5-20.

Aldemir, C., & Gulcan, Y. (2004). Student satisfaction in higher education: a Turkish case. *Higher Education Management and Policy*, *16*, 109-122.

Andrews, D., Nonnecke, B., & Preece, J. (2003). Electronic survey methodology: A case study in reaching hard-to-involve Internet users. *International Journal of Human-Computer Interaction*, *16*(2), 185-210.

Astin, A. W. (1996). Involvement in learning revisited: Lessons we have learned. *Journal of College Student Development*, *37*(2), 123-34.

Athiyaman, A. (1997). Linking student satisfaction and service quality perceptions: The case of university education. *European Journal of Marketing*, *31*(7), 528-540.

Axelson, R. D., & Flick, A. (2010). Defining student engagement. *Change: The Magazine of Higher Learning*, *43*(1), 38-43.

Babcock, P. (2010). Real costs of nominal grade inflation? New evidence from student course evaluations. *Economic Inquiry*, *48*(4), 983-996.

Bean, J. P., & Bradley, R. K. (1986). Untangling the satisfaction-performance relationship for college students. *The Journal of Higher Education*, 393-412.

Blanchard, O. (1997). The medium run. Brookings Papers on Economic Activity, (2), 80-158.

Bok, D. (2009). *Universities in the marketplace: The commercialization of higher education*. Princeton University Press.

Bolton, R. N., & Drew, J. H. (1991). A multistage model of customers' assessments of service quality and value. *Journal of Consumer Research*, 375-384.

Brophy, J., & Good, T. L. (1986). Teacher behavior and student achievement. *Handbook of Research on Teaching*, 328-375.

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, *47*(1), 1-32.

Carman, J. M. (1990). Consumer perceptions of service quality: An assessment of the SERVQUAL dimensions. *Journal of Retailing*.

Carnegie Foundation for The Advancement of Teaching. (2014). Retrieved from http://classifications.carnegiefoundation.org/lookup_listings/view_institution.php?unit_id=198464&start_page=standard.php&clq={%22ugprfile2005_ids%22:%2211%22}

Centra, J. A. (1993). *Reflective faculty evaluation: Enhancing teaching and determining faculty effectiveness. The Jossey-Bass Higher and Adult Education Series*. Jossey-Bass Inc., 350 Sansome St., San Francisco, CA 94104.

Chapman, E. (2003). Alternative approaches to assessing student engagement rates. *Practical Assessment, Research and Evaluation*, *13*(8).

Chickering, A. W., Gamson, Z. F., & Poulsen, S. J. Johnson Foundation (Racine, W..(1987). Seven principles for good practice in undergraduate education.

Courtney, M., & Courtney, A. (2012). Science and engineering education: Who is the customer? Ithaca, New York: Physics Education, Cornell University Library

Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *The Journal of Marketing*, 55-68.

Crosby, P. B. (1979). *Quality is free: The art of making quality certain* (Vol. 94). New York: McGraw-Hill.

Cuthbert, P. F. (2010). Managing service quality in HE: Is SERVQUAL the answer? Part 1. *Managing Service Quality*, *6*(2), 11-16.

Customer Satisfaction: The Elusive Quarry. Retrieved from http://www.isixsigma.com/offsite.asp?A=Fr&Url=http://www.qualitydigest.com/nov01/html/customer.html

Deming, W. E. (1986). Out of the crisis, 1986. *Cambridge, Mass.: Massachusetts Institute of Technology Center for Advanced Engineering Study. xiii, 507*.

DeShields Jr, O. W., Kara, A., & Kaynak, E. (2005). Determinants of business student satisfaction and retention in higher education: Applying Herzberg's two-factor theory. *International Journal of Educational Management*, *19*(2), 128-139.

Dill, D. D. (1992). Quality by design: Toward a framework for academic quality management. *Higher Education: Handbook of Theory and Research*, *8*, 37-83. (Marchese, 1992) Feigenbaum, A. V. (2004). *Total Quality Control*. New York, NY: McGraw-Hill.

Dillman, D. A. (2002). Navigating the rapids of change: Some observations on survey methodology in the early twenty-first century. *Public Opinion Quarterly*, *66*, 473-494.

Douglas, J., McClelland, R., & Davies, J. (2008). The development of a conceptual model of student satisfaction with their experience in higher education. *Quality Assurance in Education*, *16*(1), 19-35.

Dubrovski, D. (2001). The role of customer satisfaction in achieving business excellence. *Total Quality Management*, *12*(7-8), 920-925.

East Carolina University College of Business 2012 Annual Report and Directory of Supporters. Retrieved from http://www.ecu.edu/cs-bus/upload/COB-2012-Annual-Report.pdf

East Carolina University ECU at a Glance 2012. Retrieved from http://www.ecu.edu/cs-admin/mktg/points_east_facts.cfm

Falzon, J. J. (1990). Meeting service expectations. In E. L. Bailey (Ed.), Creating customer satisfaction (Conference Board Report No. 944, pp. 51-57). New York: The Conference Board.

Fincham, F. D., Hokoda, A., & Sanders Jr, R. (1989). Learned helplessness, test anxiety, and academic achievement: A longitudinal analysis. *Child Development*, 138-145.

Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, *82*(2), 221.

Fogarty, G., Catts, R., & Forlin, C. (2000). Identifying shortcomings in the measurement of service quality. *Journal of Outcome Measurement*, *4*(1), 425-447.

Ford, R., & Heaton, C. (2001). Managing your guest as a quasi-employee. *The Cornell Hotel and Restaurant Administration Quarterly*, *42*(2), 46-55.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*(1), 59-109.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, *95*(1), 148.

George, D. (2007). Market overreach: The student as customer. *The Journal of Socio-Economics*, *36*(6), 965-977.

Grapentine, T. (1998). The history and future of service quality assessment: Connecting customer needs and expectations to business processes. *Marketing Research*, *10*, 5-22.

Grove, S. J., Fisk, R. P., & John, J. (2003). The future of services marketing: forecasts from ten services experts. *Journal of Services Marketing*, *17*(2), 107-121.

Gupta, A., & Chen, I. (1995). Service quality: Implications for management development. *International Journal of Quality & Reliability Management*, *12*(7), 28-35.

Hampton, G. M. (1993). Gap analysis of college student satisfaction as a measure of professional service quality. *Journal of Professional Services Marketing*, *9*(1), 115-128.

Haworth, J. G., & Conrad, C. F. (1997). *Emblems of Quality in Higher Education. Developing and Sustaining High-Quality Programs*. Allyn & Bacon, Longwood Division, MA.

Hemsley-Brown, Jane, and Izhar Oplatka. "Universities in a competitive global marketplace: A systematic review of the literature on higher education marketing." *International Journal of Public Sector Management* 19, no. 4 (2006): 316-338.

Hinkle, D.E., Wiersma, W., & Jurs, S.G. (2003). *Applied Statistics for the Behavioral Sciences*, *(5)*. Boston, MA: Houghton Mifflin.

Hu, H. H., Kandampully, J., & Juwaheer, T. D. (2009). Relationships and impacts of service quality, perceived value, customer satisfaction, and image: An empirical study. *The Service Industries Journal*, *29*(2), 111-125.

Hughey, D. W., Chawla, S. K., & Khan, Z. U. (2003). Measuring the quality of university computer labs using SERVQUAL: A longitudinal study. *Quality Management Journal*, *10*(3).

Hughes, R. & Pace, C.R. (2003). Using NSSE to study student retention and withdrawal. *Assessment Update*, *15* (4), 1-2.

James, D. (2001). Why students can't be customers in the classroom. *College and University*, *77*, 45–46.

Jensen, J. B., & Artz, N. (2005). Using quality management tools to enhance feedback from student evaluations. *Decision Sciences Journal of Innovative Education*, *3*(1), 47-72.

Juran, J. M., & Godfrey, A. B. (1999). *Juran's quality handbook* (Vol. 2). New York: McGraw Hill.

Kalof, L., Dan, A., & Dietz, T. (2008). *Essentials of social research*. McGraw-Hill International.

Kuh, G. D. (2001). The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties. *Bloomington, IN: Indiana University Center for Postsecondary Research*, 1-26.

Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning*, *35*(2), 24-32.

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, *79*(5), 540-563.

Kuh, G. D., Hayek, J. C., Carini, R. M., Ouimet, J. A., Gonyea, R. M., & Kennedy, J. (2001). NSSE technical and norms report.

Kurtz, D., & C1ow, K. (1998). *Service marketing*. New York: John Wiley & Sons.

Lewis, R. C., & Booms, B. H. (1983). The marketing aspects of service quality. *Emerging Perspectives on Services Marketing*, *65*(4), 99-107.

Marginson, S. (2006). Dynamics of national and global competition in higher education. *Higher Education*, *52*(1), 1-39.

Mark, E. (2013). Student satisfaction and the customer focus in higher education. *Journal of Higher Education Policy and Management*, *35*(1), 2-10.

Mavondo, F., Zaman, M., & Abubakar, B. (2000, November). Student satisfaction with tertiary institution and recommending it to prospective students. In *Proceedings of the Conference de ANZMAC. Gold Coast-Queensland*.

Meyer, C., & Schwager, A. (2007). Understanding customer experience. *Harvard Business Review*, *85*(2), 116.

National Survey of Student Engagement. (2000). *Improving the college experience: National benchmarks of effective educational practice*. Bloomington, IN: Indiana University Center for Postsecondary Research and Planning.

Norusis, M. (2008). *SPSS 16.0 guide to data analysis*. Prentice Hall Press.

Nowell, C., Gale, L. R., & Handley, B. (2010). Assessing faculty performance using student evaluations of teaching in an uncontrolled setting. *Assessment & Evaluation in Higher Education*, *35*(4), 463-475.

Oldfield, B. M., & Baron, S. (2000). Student perceptions of service quality in a UK university business and management faculty. *Quality Assurance in Education*, *8*(2), 85-95.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 460-469.

Oliver, R. L. (2010). Customer satisfaction. *Wiley International Encyclopedia of Marketing*.

Osborne, J., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation*, *8*(2), 1-9.

Pace, C. (1990). The undergraduates: A report of their activities and college experiences in the 1980s. Los Angeles: Center for the Study of Evaluation, UCLA Graduate School of Education.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 41-50.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual. *Journal of Retailing*, *64*(1), 12-40.

Parasuraman, A., Zeithaml, V. A., & Berry, L. (1990). Delivering quality service. *Nova Yorque: The Free Press*.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: Implications for further research. *The Journal of Marketing*, 111-124.

Petrick, J. F., Morais, D. D., & Norman, W. C. (2001). An examination of the determinants of entertainment vacationers' intentions to revisit. *Journal of Travel Research*, *40*(1), 41-48.

Petruzzellis, L., D'Uggento, A. M., & Romanazzi, S. (2006). Student satisfaction and quality of service in Italian universities. *Managing Service Quality*, *16*(4), 349-364.

Pitkow, J. E., & Kehoe, C. M. (1996). Emerging trends in the WWW user population. *Communications of the ACM*, *39*(6), 106-108.

Pitman, T., 2000. Perceptions of academics and students as customers: A survey of administrative staff in higher education. *Journal of Higher Education Policy and Management 22*(2), 165–175

Sahney, S., Banwet, D. K., & Karunes, S. (2004). A SERVQUAL and QFD approach to total quality education: A student perspective. *International Journal of Productivity and Performance Management*, *53*(2), 143-166.

Schneider, B., & White, S. S. (2004). *Service Quality: Research Perspectives*. Thousand Oaks, CA: Sage Publications Inc.

Schwantz, G. D. (2012). Service quality in higher education: Expectations and perceptions of traditional and non-traditional students.

Singh, K., Granville, M., & Dika, S. (2002). Mathematics and science achievement: Effects of motivation, interest, and academic engagement. *The Journal of Educational Research*, *95*(6), 323-332.

Singleton-Jackson, J. A., Jackson, D. L., & Reinhardt, J. (2010). Students as consumers of knowledge: Are they buying what we're selling?. *Innovative Higher Education*, *35*(5), 343-358.

Stodnick, M., & Rogers, P. (2008). Using SERVQUAL to measure the quality of the classroom experience. *Decision Sciences Journal of Innovative Education*, *6*(1), 115-133.

Spector, R., & McCarthy, P. D. (1995). *The Nordstrom way: The inside story of America's customer service company*. New York: John Wiley & Sons.

Sproull, L., & Kiesler, S. (1986). Reducing social context cues: Electronic mail in organizational communication. *Management Science*, *32*(11), 1492-1512.

Stamatis, D. H. (1996). Total quality service principles, practices, and implementation. Defray Beach, FL: St. Lucie Press.

Tagg, J. (2003). *The learning paradigm college*. Anker Publishing Company, Inc., MA.

Tan, K. C., & Kek, S. W. (2004). Service quality in higher education using an enhanced SERVQUAL approach. *Quality in Higher Education*, *10*(1), 17-24.

Tenner, A. R., & DeToro, I. J. (1992). Total quality management: Three steps to continuous improvement. Reading, MA: Addison-Wesley.

Theall, M., & Franklin, J. (2001). Using technology to facilitate evaluation. *New Directions for Teaching and Learning*, *2001*(88), 41-50.

Thornton, B., Adams, M., & Sepehri, M. (2011). The impact of students' expectations of grades and perceptions of course difficulty, workload, and pace on faculty evaluations. *Contemporary Issues in Education Research (CIER)*, *3*(12), 1-6.

Tinto, V. (2006). Research and practice of student retention: what next?. *Journal of College Student Retention: Research, Theory and Practice*, *8*(1), 1-19.

Webster, C., & Hung, L. C. (1994). Measuring service quality and promoting decentering. *The TQM Magazine*, *6*(5), 50-55.

Wright, R. (2006). *Consumer behaviour*. CengageBrain. com.

Wright, R. E. (2008). Quality factors in higher education: The students' viewpoint. *College Student Journal*, *30*, 269-271.

Wright, C., & O'Neill, M. (2002). Service quality evaluation in the higher education sector: An empirical investigation of students' perceptions. Higher Education Research and Development, 21(1), 23-39.

Yun, G. W., & Trumbo, C. W. (2000). Comparative response to a survey executed by post, e-mail, & web form. *Journal of Computer-Mediated Communication*, *6*(1), 0-0.

Zeithaml, V. A. (2000). Service quality, profitability, and the economic worth of customers: What we know and what we need to learn. *Journal of the Academy of Marketing Science*, *28*(1), 67-85.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1991). Understanding customer expectations of service. *Sloan Management Review*, *32*(3), 42.

Zeithaml, V. A. (2000). Service quality, profitability, and the economic worth of customers: what we know and what we need to learn. *Journal of the Academy of Marketing Science*, *28*(1), 67-85.

APPENDIX A: IRB APPROVAL LETTER

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · www.ecu.edu/irb

Notification of Initial Approval: Expedited

From: Social/Behavioral IRB
To: Charles Brown
CC: Cheryl McFadden
Date: 3/12/2014
Re: UMCIRB 14-000332
Service Quality in the Classroom

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 3/11/2014 to 3/10/2015. The research study is eligible for review under expedited category #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
Brown Dissertation Proposal.doc	Study Protocol or Grant Application
Survey Questions	Surveys and Questionnaires
Survey-Consent-Letter-Template-for-Expedited-Research-Brown.doc	Consent Forms

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

APPENDIX B: SURVEY CONSENT LETTER EMAILED TO STUDY PARTICIPANTS

Dear Participant,

I am a graduate student at East Carolina University in the College of Education completing a Doctor of Education at East Carolina University in the Higher Education Leadership department. I am asking you to take part in my research study entitled, *"Service Quality as a Predictor for Academic Engagement, Academic Performance, and Student Satisfaction"*.

The purpose of this research is to collect and analyze information that will assist us to better understand if the quality of instruction has a positive impact on academic engagement, academic performance, and student satisfaction. By doing this research, I hope to learn if improving the service quality in the classroom can create a better environment for student success. Your participation is voluntary.

You are being invited to take part in this research because you are currently enrolled in one of the Leadership and Professional Development courses (BUSI). The amount of time it will take you to complete this study is 20 minutes.

You are being asked to complete 2 online surveys. The first study consists of 25 questions. Once you have completed the first survey approximately one week later you will receive the second survey which consists of 20 questions. The survey will require you to submit your ECU Banner identification. While we are asking you to provide this information your responses will be kept confidential. No data will be released or used with your identification attached

Because this research is overseen by the ECU Institutional Review Board, some of its members or staff may need to review my research data. However, the information you provide will not be linked to you in any way. While your Banner IDs are collected they will not be utilized to capture your identity and will only be evident to those individuals conducting the study. I will take precautions to ensure that anyone not authorized to see your Banner ID will not be given access.

If you have questions about your rights as someone taking part in research, you may call the UMCIRB Office at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director of UMCIRB Office, at 252-744-1971

You do not have to take part in this research, and you can stop at any time. If you decide you are willing to take part in this study, by clicking on the survey link you consent to taking part in this research study.
Thank you for taking the time to participate in my research.

Sincerely,

Charles Brown, Principal Investigator

APPENDIX C: SERVQUAL INSTRUMENT

Empathy

1. The instructor is genuinely concerned about the students.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. The instructor understands the individual needs of students.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. The instructor has the student's best long-term interests in mind.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

4. The instructor encourages and motivates students to do their best.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

Assurance

1. The instructor is knowledgeable in his/her field.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. The instructor is fair and impartial in grading.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. The instructor answers all questions thoroughly.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

4. I am confident the instructor has an expert understanding of the material.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

Responsiveness

1. The instructor quickly and efficiently responds to student needs.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. The instructor is willing to go out of his or her way to help students.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. The instructor always welcomes student questions and comments.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

Reliability

1. The instructor consistently provides good lectures.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. The instructor is dependable.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. The instructor reliably corrects information when needed.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

Tangibles

1. The classroom is modern and updated.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. The physical environment of the classroom aids learning.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. The classroom is equipped with all the necessary equipment to aid learning.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

4. The classroom is kept clean and free of distractions.

(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

APPENDIX D: ACADEMIC ENGAGEMENT SURVEY

Physical engagement

1. I work with intensity on my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. I exert my full effort to my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. I devote a lot of energy to my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

4. I try my hardest to perform well on my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

5. I strive as hard as I can to complete my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

6. I exert a lot of energy on my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

Emotional engagement

1. I am enthusiastic in my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. I feel energetic at my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. I am interested in my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

4. I am proud of my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

5. I feel positive about my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

6. I am excited about my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

Cognitive engagement

1. At class, my mind is focused on my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

2. At class, I pay a lot of attention to my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

3. At class, I focus a great deal of attention on my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

4. At class, I am absorbed by my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

5. At class, I concentrate on my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree

6. At class, I devote a lot of attention to my class work
(5) Strongly Agree (4) Agree (3) Undecided (2) Disagree (1) Strongly Disagree