

ABSTRACT

OLAH, DEAN ANTHONY. A Study of North Carolina Technology Teacher Evaluation Practices and Job Satisfaction. (Under the direction of V. William Deluca.)

Defining and measuring teacher effectiveness is one of the most hotly debated topics in public education today. The "No Child Left Behind" Act placed considerable emphasis on high quality teaching standards, making it a focal point of study among educators, administrators, and curriculum developers. Recruitment and retention of high quality teachers is not only beneficial for continual student achievement but is also cost effective for school districts.

Race to the Top, a 2009 investment strategy, was created to spur innovation and reforms within the state and local K-12 programs. States competing for "Race to the Top" funding were strongly encouraged to provide evidence that they had addressed the measurement of teacher effectiveness in defensible and tangible ways. Of the states that applied, 71% passed related state legislation designed to improve student achievement and teacher effectiveness.

With the advent of STEM education, academic institutions are strongly encouraged to provide evidence for integration of technology under an interdisciplinary framework. Nevertheless, these aims are unlikely to be met without qualified technology teachers actively facilitating knowledge transfer. In order for these teachers to be effective facilitators of knowledge, socio-economic and psychological issues such as job satisfaction and evaluation practices must be addressed by school districts to assist in and increase teacher retention.

The purpose of this study was to determine the relationship between North Carolina technology teacher evaluation practices and teacher job satisfaction as measured by the Teacher Evaluation Profile and the Teacher Job Satisfaction Questionnaire. This quantitative study was conducted by administering the Teacher Evaluation Profile and the Teacher Job Satisfaction Questionnaire to licensed technology teachers in North Carolina. The data from both instruments was analyzed using regression analysis.

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A Study of North Carolina Technology Teacher Evaluation Practices and Job Satisfaction

by
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DEDICATION

This research is dedicated to my wonderful wife, Mary Ellen, to all my family, friends, teachers, and my many students who inspire me and have given me the motivation and fortitude to complete this study.

BIOGRAPHY

Dean A. Olah was born in Toledo, Ohio on December 3, 1968 to Linda A. and Ronald B. Olah. He graduated from Bowsher High School in 1987 and attended The University of Toledo for music education and trombone performance, earning a Bachelor of Education in 1992. During his undergraduate studies Dean worked as a music recording engineer for the Fine Arts Department and repaired, restored and tuned pianos for Frye's Music Store. Dean continued his graduate studies in music education at the University of Toledo from 1992-1994 while working as a musician and teacher. After a gap in his education, Dean earned a Master of School Administration from Campbell University in 2005 and initiated studies for a doctorate in Technology Education at North Carolina State University in 2008.

Dean's life has provided him with a wealth of interesting experiences. His career has taken several major turns, each providing greater opportunities to experience working in varied settings. These have ranged from a professional trombonist, elementary music teacher, and band director to a computer systems analyst, Microsoft systems trainer, school principal, and finally a college teacher. The one constant theme throughout his career has been an interest in music, people and teaching.

In 1992, Dean began teaching elementary general, middle and high school instrumental music for the Toledo Public Schools. In 1996 he moved to Allendale, South Carolina to teach middle and high school band and in 1998 moved to Clayton, North Carolina to teach middle school band. During this period, Dean's passion for technology

grew considerably and he trained to become certified as a Microsoft Systems Engineer and Trainer. In the summer of 1999 Dean began employment with Blue Phoenix Solutions, a legacy software modernization company located in Cary, North Carolina. Upon completion of his Master's degree in School Administration, Dean worked as an assistant principal in Harnett County, a principal in Johnston County and served as the Associate Dean of students and a technology instructor at a for-profit institution of higher learning.

As a professional trombonist Dean performs with the North Carolina Brass, the Raleigh Jazz Orchestra, the Moonlighters Big Band and the Fayetteville Symphony Orchestra. He performed with the Raleigh Symphony for ten years, the Durham Symphony for eight years, and the Long Bay Symphony for six years.

Recently, Dean returned to Campbell University and serves as the Assistant Director of the Teaching Fellows program, Educational Technology Instructor and Technology Coordinator for the School of Education. In all of his tenures, Dean has had the wonderful opportunity to work with excellent staff and fabulous students. It is the ones that he serves that lead him to become a better educator each day. Dean is married to a fabulous violist, violinist and educator in her own right, Mary Ellen Olah.

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CHAPTER 1: INTRODUCTION

A common belief shared among educators, policymakers, curriculum developers, and administrators is that high quality education is virtually unattainable without high quality teaching staff. Thus, a fundamental requirement for all academic institutions is to attract and retain high quality teachers (Tucker, 2005). Teacher retention requires a certain level of managerial ability and skill to determine the most critical factors needed to prevent the demur of high quality teachers within a particular institution (Delannoy, 2004). It is widely considered that regardless of the institution, job satisfaction is the fundamental force behind teacher retention (Jyoti, 2009). Viewed as a multifaceted phenomenon (Srivastava, Holani & Bajpai, 2005; W. Tillman & J. Tillman, 2008), job satisfaction is vital to performance and an important component of life (Kwong, Wang & Clifton, 2010).

Job satisfaction is a complex phenomenon that is not necessarily the direct result of an increased salary (Riehl & Sipple, 1996). As Ingersoll (2001) asserts, “job satisfaction is particularly important in a teacher’s perception of the school’s culture and their influence over a school’s policy.” As a term, job satisfaction is difficult to describe, and the definition of job satisfaction varies between studies (Mertler, 2002; Protheroe, Lewis & Paik, 2002; Strong, 1995). Hughes (2006) indicated that job satisfaction is paramount to teacher retention and is linked to teacher empowerment, school culture, a satisfactory work environment, and student achievement. Additionally, providing a satisfying and rewarding work experience can be a critical factor when recruiting new teachers into a school. Bogler (2001) suggests that schools pay close attention to addressing factors that impact teacher job satisfaction to

improve recruitment and retention rates. Also, Kleinhenz and Ingvarson (2004) indicate that academic excellence within an institution contributes to teacher satisfaction.

Ingersoll (2001) indicates that socio-economic and political issues can permeate an academic institution, affecting overall employee satisfaction levels, which in turn leads to high turnover rates in the teaching profession. According to Marvel et al., (2007), approximately 14% of the public school teachers in the US left the teaching profession after their first year of teaching to seek alternative employment, while the cumulative rate of teachers leaving the profession after five years was 46% (Ingersoll, 2001).

Teacher job satisfaction was found to correlate positively to participative decision-making, higher autonomy at work, work environment conditions, and ultimately to improved student achievement (Jacobson, 2005; Mertler, 2002; Pearson & Moomaw, 2005). Reyes and Shin (1995) found that teacher job satisfaction is a determinant of teacher commitment and is related to teacher retention.

Initiatives for teacher quality have developed from prior reform movements that emphasize increasing student achievement (Danielson, 2002). A Nation at Risk (National Commission on Excellence in Education, 1983) and the National Commission on Teaching and America's Future (1996) helped guide the idea of teacher quality and student achievement to the forefront of educational reform. In addition, identifying and employing quality teachers have become key components of the national school reform initiatives (No Child Left Behind Act, 2001; U.S. Department of Education, 2009). Consequently, documenting evidence of high quality instruction being implemented in classrooms has

become a significant component of teacher evaluation processes. As accountability for student learning becomes a determining factor for part of the evaluations teachers receive and the accreditation school districts are awarded, teacher evaluation practices will continue to move to the forefront of school administrator agendas (United States Department of Education, 2002).

The customary educational teacher evaluation device was designed to assess teacher practices, as well as enhance and support the quality of teacher training. However, this does not directly result in an increase in student achievement test scores (Stronge & Tucker, 2003). Holland and Adams (2002) describe the traditional teacher evaluation process as a passive activity where an administrator conducts a written review of an observation, which is followed by an observation conference to provide administrative feedback. More recently, educational practice has become primed for individualized instruction within the classroom setting, focusing on the promotion of engaged learning, leading to instructional standards that improve student performance (Gitomer, 2009). However, teacher evaluation systems do not address this because they rely on annual observations using outdated checklists that do not align with the teaching standards that are expected in the classroom. Additionally, Marshall (2005) suggests that these traditional observations are conducted too infrequently to sustain critical analysis and feedback.

As teaching and learning evolve and become more complex, new models of teacher evaluation have become critical to the educational establishment (Iwaniki, 2001). Teachers are educational facilitators that play an active and participative role in high quality education.

To enable this role, innovative approaches are required to effectively perform teacher evaluation and support professional development. Ostovar-Namaghi (2010) suggests that the principal should serve as an educational partner, guiding the teacher towards continuous professional development and improvement. Evaluation methods such as professional portfolios that illustrate growth and inquiry-based lesson activities can also directly impact student achievement. Value-added evaluation models such as those in the state of New York allow school districts to determine up to 40% of a teacher's annual review on student performance on state standardized tests (New York State Education Department, 2012). Educational leaders must realize that the evaluation process for teachers does not necessarily encourage a cohesive work environment or lead to the development of innovative strategies for teaching and learning (Ribas, 2005).

Determining teacher job satisfaction, especially as it relates to evaluation practices, is a complex task (Nias, 1981). Teacher job satisfaction has been demonstrated to positively correlate to overall school improvement (Stockard & Lehman, 2004). Criteria such as teacher professionalism, involved decision-making, professional growth, teacher empowerment, school climate, collegiality, and workplace conditions are all important job satisfaction measures (Fullan 1996; Bogler, 2001; Quaglia & Marion, 1991; Rindler, 1994). There is ongoing research exploring differing aspects of teacher job satisfaction including commitment to the profession, a sense of success, self-perception of worth, or even motivation for coming to work. External conditions of teacher evaluation such as autonomy, professional development, work place conditions, collaborative processes, and administrative

support have also been examined (Davis & Wilson, 2000; Woods & Weasmer, 2002; Zembylas & Papanastasiou, 2005). Furthermore, Jacobson (2005) and Pearson and Moomaw (2005) suggested that teacher satisfaction can be influenced by additional variables, such as workplace conditions, autonomy in the classroom, administrative support, and opportunities for leadership.

Teachers and supervisors overwhelmingly acknowledge the value of observations and evaluations and recognize that the classroom teacher is a vital component to improving student achievement (W. Tillman & J. Tillman, 2008). Evaluation practices need to be conducted accurately, frequently, and in a manner deemed fair to all parties to help ensure that teacher quality remains high. If administered correctly, teacher evaluations can be a vital aspect of providing quality instruction for students and increased job satisfaction for teachers (Clark & Astuto, 1994). Studies are needed to accurately ascertain the state of teacher evaluation practices in schools, especially for subject areas that are not currently assessed as part of standardized testing (Holland & Adams, 2002). Studies are also needed to determine which components of current teacher evaluation practices are perceived as effective in increasing teacher job satisfaction. Schools are continuously evolving to encourage better teaching practices and incentives to improve teacher retention, but a lot more work still needs to be done to better connect teacher education and evaluation (International Summit on the Teaching Profession, 2012).

Theoretical Framework

An organization's culture is determined by the individual's identity within a particular group and a shared set of norms, practices, beliefs, principles, traditions and vision (Schein, 1992). This is generally referred to as organizational culture. The Oxford Dictionary (2011) provides more than one definition of what culture is. However, among those definitions, the one that stands out is the definition that describes culture as "the ideas, customs, and social behavior of a particular people or society." On the other hand, Serrat (2008) provides a broader meaning of culture, which he defines as "the totality of a society's distinctive ideas, beliefs, values, and knowledge. It exhibits the ways humans interpret their environments" (p. 22). Various anecdotal or empirical studies define culture differently. Brumann (1999) characterizes culture "as a convenient term for designating the clusters of common concepts, emotions, and practices that arise when people interact regularly." Axelrod (1997) describes culture as a set of traits such as ideas, beliefs, knowledge, facts, behavior and norms. These definitions establish culture as an entity fundamentally composed of something learned and/or shared by a group of people (Schultz, 1992).

Since culture is historically developed, individually practiced and interpreted, and socially upheld (Collins, 1998), it determines the norms by which an individual ought to behave in any given situation and the role each individual is assigned to take. The generally accepted ethos then simplifies and regulates social interaction and makes it predictable (Reiman & Oedewald, 2002). It also regulates the operation of the group (Hogg & Abrams, 1988; Goffman, 1959; Levi, 2001). Because of this, any organization composed of

individuals with distinct characteristics, behavior, values, and perceptions forms a certain culture that will identify them distinctively. This identification allows them to work harmoniously towards the fulfilment of the organization's vision and mission (Schein, 1992).

Schultz (1992) argues about the notion of culture within the context of emerging phenomena in the corporate world. The notion of culture has been “presented as a humanistic renaissance that has introduced meaningful and expressive behavior into the arena of organizational theory by referring to shared perceptions, interpretations, and feelings of the organizational members.” (Schultz, 1992, p.15). Schein (1992) provides a working definition, stating that culture is:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 12)

This view deems certain assumptions that define modern organizational culture as patterns of meanings and values founded in the depths of the organization's inner structure that are being expressed through an array of symbols and artifacts (Schein, 1992). However, to simplify this working definition provided by Schein, organizational culture may be considered to refer to the organizations' values (Deal & Kennedy, 1982), a system of meaning that is generally accepted (Pettigrew, 1979) or an operating philosophy (Ouchi, 1981).

Any organization that is attempting to establish a unique and distinct cultural identity for harmonious and favorable working conditions and job satisfaction must have an effective

and sound management system (Reiman & Oedewald, 2002). Organizational culture management is essential as a functioning tool to develop control mechanisms that are based on justifiable direct orders and not on compulsion (Parker, 2000). As a unique system of meaning, culture owes more than anything else to the organization's members who stand as agents of continuous cultural development against the rapid changes of corporate environments. The established set or system of meaning is being transferred and developed from generation to generation (Schultz, 1992).

For any organizational culture to be successful, Schein (1992) underscores several requisites that administrators and managers alike must take into account. These are: (1) an organization must not just be reactive but also be proactive; (2) it must influence and manage the environment and not just simply adapt; (3) the organization must be future-oriented even though it is beneficial to be predominantly present- or past-oriented; (4) diversity must be embraced over homogeneity; (5) the organization must be relationship-oriented even though it is naturally task-oriented; and (6) the organization should embrace external connectivity in addition to promoting internal integration. These organizational values are futile unless they are being practiced and upheld by the people that the organization is composed of (Schein, 1992). Professionals and non-professionals both need to contribute to the desired organizational culture that leaders would like to integrate into the structure of the institution.

Academic institutions are one of the many institutions that must strive to provide a more conducive environment for people to be productive (Delannoy, 2004). Yet schools, although considered as organizations, have unique characteristics. Unlike any other

organization, the academe is comprised of professional members that are not simply deemed professional but also possess skills that are highly diversified and intensified by rigorous discipline for academic excellence and learning. Scribner, Cockrell, Cockrell and Valentine (1999) define schools as formal organizations that experience the “tension between a professional community ethic of caring for students, critical reflection, and collaboration on the one hand, and the bureaucratic necessities of hierarchy, accountability, rationality, and control on the other” (p. 154).

The complex nature of a school as an organization is not entirely independent of constraints on the established internal system of an institution (Reyes & Hoyle, 1992). This is also based on the unpredictability of human affairs, which change periodically, depending on the manner in which the top officials are handling the entire organization (Reyes and Shin, 1995).

There are several different theoretical views that attempt to define the complete dynamics of job satisfaction such as those by Herzberg (1972), Smerek (2007), Peterson (2007), and Jyoti (2009). One of the most popular theories explaining the nature and effects of job satisfaction as part and parcel of one’s working condition was presented by Herzberg (1972). He theorized that job satisfaction is a function of work factors and motivators that include higher order needs such as responsibility, advancement, recognition, and work itself. Other factors which Herzberg suggested lead to dissatisfaction in the workplace, called lower order needs, include working conditions, supervision, salary, work policies, and interpersonal relationships. Wall and Stephenson (2007) reveal that Herzberg’s theory failed to capture the

attitudes, behavior and perception of employees on the dynamics of job satisfaction using the methodology and theoretical framework that he formulated. Although there is no existing single definition of what constitutes job satisfaction in gauging the satisfaction level of teachers or workers from any organization, there is a consensus on the key factors that affect teachers' satisfaction (Smerek & Peterson, 2007; Dunaway & Running, 2009; Wall & Stephenson, 2007). Additional studies revealed that these factors can be characterized as intrinsic, extrinsic and demographic in nature (Jyoti, 2009; Dinham & Scott, 2002; Abdullah, Uli & Parasuraman, 2009; W. Tillman & J. Tillman, 2008). Factors of this type are deemed necessary by many scholars and have emerged in almost all of the studies that have been conducted in North America as well as in other parts of the world (Kwong, Wang & Clifton, 2010).

There are several methods of evaluating teacher job satisfaction. Some of these are commonly practiced and generally viewed as effective means in determining the competency and performance of teachers at different levels. Most common among these evaluation practices is observation and feedback, which becomes the primary source of data for teacher evaluation (Sullivan, 2001; North Carolina State Board of Education, 2011). However, this practice has been criticized by the National Center for Educational Statistics (1999) and Wilson and Wood (1996). This is because although evaluation practices within academic institutions serve as a mechanism to enhance quality service and product delivery, they can affect overall job satisfaction if not properly implemented and effectively communicated by administrators (Bogler, 2001). Since teachers cater to the integral needs of the growth and

development of students, appropriate delivery of information and knowledge transfer between administrators and teachers are of particular importance (National Board for Professional Teaching Standards, 2005). Teachers are bound to follow specific rules and policies that constitute effective teaching mechanisms. Despite negative effects on the performance of teachers both in and out of the classroom setting, academic institutions continue to impose certain rules and policies to control the teachers' behavior in order to generate high quality teacher performance. The institutions are partly forced to do this to uphold public trust and accountability (Larsen, 2005).

Although formative teacher evaluation, also referred to as teacher supervision, is a common feature in schools, very little is known about its direct or indirect effects on teachers or the mechanism by which teacher supervision influences job satisfaction (Ebmeir, 2003). A combination of research and federal as well as state interest in measuring teacher effectiveness has galvanized support for reform of teacher evaluation systems. Some of these reforms utilize multiple measures of teacher effectiveness, greater differentiation among teachers, and stronger connections to outcomes for students (Toch & Rothman 2008; Gordon, Kane, & Staiger 2006; Heneman et al. 2006).

The application guidelines for the 2009 Race to the Top federal grant competition proclaims to develop systems for states that evaluate teacher effectiveness taking into account data on student growth using multiple rating categories instead of the traditional binary rating of satisfactory to unsatisfactory (U.S. Department of Education, 2009). However, not all subject areas are measured by standardized tests and student growth data.

Identifying highly effective teachers of subjects, grades, and students who are not tested with standardized achievement tests - such as teachers of art, music, physical education, technology and vocational studies, foreign languages, K-2, high school, English language learners, and students with disabilities - necessitates a different approach. “It is important that states and districts provide viable options for measuring the progress of these groups of students and the productivity of their teachers, both of which contribute to school performance” (Prince et al., 2009).

The North Carolina State Board of Education (2012) has set a mission goal that every public school student will graduate from high school to be globally competitive for work and postsecondary education, as well as be fully prepared for life in the 21st century. This target requires a new skillset for teachers and school leaders to assure that their students learn 21st century content and master skills they will require after graduation. According to the North Carolina Professional Teaching Standards Commission (2011), the different demands on 21st century education dictate new roles for teachers in their classrooms and schools. Scribner et al. (1999) point out that supervisory behavior along with workplace conditions, including teacher evaluation practices as a key component, are factors that influence professional educators’ motivation and retention. With technology education as an important feature of 21st century content, teacher quality as a requirement of the No Child Left Behind and Race To The Top initiatives, and the concern that North Carolina is facing a shortage of technology teachers, increasing job satisfaction is necessary for school districts to retain high quality technology teachers (Hazi & Rucinski, 2009; Moye, 2009).

Purpose of the Study

The rate of North Carolina teachers leaving their classroom jobs increased in 2011 to 12.5%. Out of those who left the teaching profession, 15% reported leaving the profession because of poor overall job satisfaction (North Carolina State Board of Education, 2012). This report also shows that an increasing number of public schools report difficulties finding and retaining teachers in disciplines that are in the greatest demand including math, science and technology. By answering the following questions this study aims to understand the relationship between evaluation practices and teacher job satisfaction as it pertains to technology teachers in North Carolina by focusing on two variables, teacher evaluation practices and teacher job satisfaction. More specifically, this study addresses the following questions:

1. What is the impact of the job satisfaction of technology teachers in North Carolina on their perception of teacher evaluation practices?
2. What is the influence of job satisfaction of technology teachers on different subscales (aspects) of teacher evaluation practices?
3. Apart from job satisfaction of technology teachers, what is the role of total experience in teaching and assignment grade in determining their perception of teacher evaluation practices?
4. What is the influence of technology teachers' perception of the adequacy of their pay package in determining their job satisfaction?

5. What is the influence of technology teachers' perception of the adequacy of their pay package on their perception of overall teacher evaluation program?

Berns (1990) found that vocational and technical teachers in Ohio who left their positions for reasons other than retirement appeared to be dissatisfied with the administrators in their schools. They reported low levels of appreciation by their administrators and did not feel they received encouragement for their teaching initiatives or subject area. Studies indicate that state departments of education that want to improve teacher quality and student achievement are advised to attend to the preparation and qualifications of the personnel that school administrators hire and retain in the profession (Davis & Wilson, 2000). Additional research by Ebmeier (2003) and Stockard and Lehman (2004) support these findings with regards to the value of teacher knowledge, training, and learning, all components that are outlined by the North Carolina Professional Teaching Standards Commission (2011).

A review of the literature on job satisfaction of technology teachers and its relationship with the teacher evaluation process revealed three reports that dealt both directly and indirectly with this relationship. Research conducted by Berns (1990) on the job satisfaction of vocational teachers in Ohio and a similar study by Adams (1999) on vocational teacher stress in Virginia both express the importance of supervisory support and evaluation practices as they pertain to teacher job satisfaction. Branoff and Clary (1991) showed that North Carolina vocational teachers reported the lowest dissatisfaction levels in the areas of salary and benefits, students and their attitudes, lack of parental support, and the

current system of evaluation. In addition, this report articulated “extreme difficulty” in finding good vocational education teachers for replacement needs especially in the areas of Technology Education, Health Occupations Education, and Trade and Industrial Education, and “difficulty in all areas is expected in the near future” (p. 76).

As outlined by Ndahi and Ritz (2003), “it is clear that there is a shortage of teachers, especially technology education teachers, and the shortages will continue to increase” (p. 28). Recent research revealed the rapid decline of technology teachers both in public and private academic institutions (Schmidt & Custer, 2005; Weston, 1997; Ndahi & Ritz, 2003; Ritz, 2006). Supply and demand of quality teachers has been a matter of concern recently and the decline of technology teachers is believed to be caused by several issues present within academic institutions including pay, administrative support, working conditions and overall job satisfaction (Moye, 2009). According to Weston (1997), the demand for technology teachers is high yet those interested in entering the profession are scarce.

It is clear that principal leadership and the views of change among staff members play an important role in the success of overall school improvement. Quaglia and Marion (1991) highlighted the need for research into teacher satisfaction. They suggest that teacher satisfaction can be improved through a change in the design of the workplace including school leadership and evaluation practices. Ebmeier (2003) points out how teacher evaluation and teacher empowerment, or the lack thereof, can be an important component of school culture. Focusing on public school technology teachers in North Carolina, this study aims to address these concerns and explore the relationship between teacher evaluation practices and

job satisfaction. The surveys utilized for this study include the Teacher Evaluation Profile designed by the Northwest Regional Educational Laboratory in 1989 and the Teacher Job Satisfaction Questionnaire designed by Lester in 1982.

Significance of the Study

Along with federal and state policies, teacher evaluations assist school leaders in assuring quality instruction and define a clearer path for school improvement. National school reform initiatives such as No Child Left Behind (U.S. Department of Education, 2002) and the Race to the Top Program (U.S. Department of Education, 2009) include teacher quality improvement strategies with an emphasis on effective and authentic teacher evaluation practices. Currently in North Carolina, administrators are the primary conduit for teacher evaluation but there is little data on the effect this has on teacher job satisfaction. The current study could assist government education policy designers in creating a system for retaining teachers in all educational areas, particularly those that are the most difficult to place including math, science and technology teachers. On October 2, 2008, the North Carolina State Board of Education approved the policy adopting the Rubric for Evaluating North Carolina Teachers and the Teacher Evaluation Process (North Carolina State Board of Education, 2011). The performance-based teacher evaluation model currently utilized in North Carolina has undergone many revisions but the current policy outlines the Teacher Evaluation Process described below.

Teacher Responsibilities:

- Know and understand the North Carolina Professional Teaching Standards.
- Understand the North Carolina Teacher Evaluation Process.
- Prepare for and fully participate in each component of the evaluation process.
- Gather data, artifacts, evidence to support performance in relation to standards and progress in attaining goals.
- Develop and implement strategies to improve personal performance/attain goals in areas individually or collaboratively identified.

More recently, The Race to the Top Program (2009) emphasizes:

Attracting and keeping great teachers and leaders in America's classrooms, by expanding effective support to teachers and principals; reforming and improving teacher preparation; revising teacher evaluation, compensation, and retention policies to encourage and reward effectiveness; and working to ensure that our most talented teachers are placed in the schools and subjects where they are needed the most. (p. 13)

Weston (1997) also points out that the high attrition rate on the supply and demand of technology teachers, particularly in the rural areas of North Carolina, "is quite alarming". As unprecedented rapid technological innovations become widespread in society, the problems surrounding the supply and demand of technology teachers still remain unaddressed.

Additionally, the first phase of the Race to the Top Program (State Legislation, 2011) allows states to receive points when they satisfy certain educational policies, such as

performance-based standards, compliance with nationwide standards, promotion of charter schools, and technological innovation. States are awarded extra funding based on divergent areas that are assigned points by the Department of Education, based on the alignment between federal, state and local standards. The types of selection criteria are designed to produce better students and better teachers. For example:

- Great Teachers and Leaders (138 total points)
 - Improving teacher and principal effectiveness based on performance (58 points)
 - Ensuring equitable distribution of effective teachers and principals (25 points)
 - Providing high quality pathways for aspiring teachers and principals (21 points)
 - Providing effective support to teachers and principals (20 points)
 - Improving the effectiveness of teacher and principal preparation programs (14 points)
- State Success Factors (125 total points)
 - Articulating State's education reform agenda and LEAs participation (65 points)
 - Building strong state wide capacity to implement, scale up, and sustain proposed plans (30 points)
 - Demonstrating significant progress in raising achievement and closing gaps (30 points)
- Standards and Assessments (70 total points)
- Developing and adopting common standards (from the Common Core State Standards Initiative) (40 points)

- Supporting the transition to enhanced standards and high quality assessments (20 points)
- Developing and implementing common, high quality assessments (10 points)
- General Selection Criteria (55 total points)
 - Ensuring successful conditions for high-performing charters and other innovative schools (40 points)
 - Making education funding a priority (10 points)
 - Demonstrating other significant reform conditions (5 points)
- Turning Around the Lowest-Achieving Schools (50 total points)
 - Turning around the lowest-achieving schools (40 points)
 - Intervening in the lowest-achieving schools and LEAs (10 points)
- Data Systems to Support Instruction (47 total points)
 - Fully implementing a state wide longitudinal data system (24 points)
 - Using data to improve instruction (18 points)
 - Accessing and using State data (5 points)

In addition to the criteria listed, the STEM (Science, Technology, Engineering, and Math) competitive preference priority adds an additional 15 points for states that prepare more students for advanced study and careers in the STEM disciplines (U.S. Department of Education, 2009).

By investigating technology teacher job satisfaction as it relates to teacher evaluation practices, the current study may help to identify the determinants of the decline of technology

teachers in North Carolina and help administrators, agencies, organizations and school officials form effective and efficient measures to retain high quality technology teachers.

Definitions of Key Terms

Collaboration – It is a form of action in which one or more people are engaged in performing certain tasks collectively for a desirable output.

Criteria – It is a set of guidelines that evaluators refer to for an objective assessment.

Formative evaluation – It is defined as “the evaluation of assessment-based evidence for the purposes of providing feedback to and informing teachers, students, and educational stakeholders about the teaching and learning process” (Dunn & Mulvenon, 2009, p. 3).

Globalization – It is “a ‘world of things’ that have ‘different speeds, axes, points of origin and termination, and varied relationships to institutional structures in different regions, nations, or societies” (Appadurai, 1996, p. 4).

Job satisfaction – It refers to “the psychological disposition of people toward their work – and this involves a collection of numerous attitudes or feelings” (Schultz, 1982, p. 287). Moreover, it is “the pleasurable emotional state resulting from the appraisal of one’s job achieving or facilitating one’s values” (Locke, 1969, p. 316).

Job dissatisfaction – It is the negative emotional state or feeling as a result of unsatisfying job experiences.

Organizational culture – It is a “pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has

worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein, 1992, p. 12).

Performance-based teachers evaluation – It is defined as “a systematic method of making professional judgments about teacher performance for the purposes of improving teacher instruction and personnel decision-making” (Hughes, 2006, p.19).

Professional development – It refers to “a system designed to help teachers improve on an ongoing basis” (Missouri Department of Elementary and Secondary Education [MDESE], 1999, p. 4).

Satisfaction – It refers to an “an individual’s positive affective evaluation of the target environment; result of an individual’s requirements being fulfilled by the target environment; a pleasant affective state; the individual’s appraisal of the extent to which his or her requirements are fulfilled by the environment” (Lofquist & Dawis, 1991, p. 27).

Summative evaluation – It is defined as “the evaluation of assessment based data for the purposes of assessing academic progress at the end of a specified time period (i.e., a unit of material or an entire school year) for the purposes of establishing a student’s academic standing relative to some established criterion” (Dunn & Mulvenon, 2009, p. 3).

Teacher evaluation – It is about “documenting the quality of teacher performance; then, its focus shifts to helping teachers improve their performance as well as holding them accountable for their work” (Stronge, 1995, p. 1). In addition, it also refers to “the process of

collecting data and making professional judgments about performance for the purpose of decision-making” (MDESE, 1999, p. 25).

Teacher evaluation practices – This refers to the variants of methods used in evaluating a teachers’ performance by principals, supervisors, or superintendents from any academic institution.

Technology – It refers to the use of tools to perform a specific function.

Technology education – This can be defined as a systematized study of the usage, processes, and knowledge about technology. Moreover, it is a dynamic problem-solving-based program that teaches all students how to safely and effectively use technological systems.

Technology teachers – These are important agents for transmitting useful knowledge and information about technology and its uses and processes to students.

Value-added assessment – It is a method that helps to determine the growth of the students’ academic achievement during the school year by measuring the contribution of teachers or schools in the entire academic process. Moreover, “this involves matching each student’s test scores to his or her own previous scores, measuring the student’s academic growth as the change in attainment from the beginning to the end of the year” (Daley & Kim, 2010, p. 15).

Value-added measure – It is defined as a “collection of complex statistical techniques that use multiple years of students’ test score data to estimate the effects of individual schools or teachers” (McCaffrey, Lockwood, Koretz & Hamilton, 2003, p xi).

Web-based surveys – This is a technique of using standard research questionnaire design and operation via the Internet. It is an attractive methodology for a number of reasons, including the reduction in time and cost of conducting a survey. This technique also avoids the error prone task of data entry, and with the correct statistical tools, can eliminate a significant amount of time in the analysis of the survey results (Solomon, 2001).

Summary

This study examines the relationship between evaluation practices and the job satisfaction of technology teachers in North Carolina. Specifically, the data collected from the teacher surveys will permit a systematic exploration of this relationship. Another goal of this study was to measure the association between working conditions and pay and determine how this correlates to technology teacher evaluation and job satisfaction. Multiple research studies have identified that evaluation as a method to ensure the quality of teaching and measure the competency level and performance of teachers is a common practice among school administrators and principals. Chapter 1 discussed the significance and purpose of the study, Chapter 2 presents findings from a review of the relevant literature, Chapter 3 explains the methodology used for the study, Chapter 4 discusses the research findings, and Chapter 5 discusses the findings in relation to the overall research goals and provides preliminary conclusions based on these findings. Finally, the conclusion offers recommendations for future research and practice, and reflects on lessons learned in this study.

CHAPTER 2: LITERATURE REVIEW

Introduction

This chapter begins with an examination of teacher evaluation practices and theoretical foundations for teacher evaluation. Specifically, research findings on significant differences in teacher job satisfaction due to institutional characteristics, culture, and evaluation practices are reviewed. Common institution evaluation practices present in schools are identified and a brief review of the research literature on constraints for effective teacher evaluation is provided.

In addition, recent research on performance and professional development of technology teachers is reviewed. It is noted that in the past two decades there has been a systematic reform and change effort underway to improve teacher evaluation and job satisfaction. The importance of evaluation practices in the entire educational system and an examination of appraisal on teacher evaluation practices are reviewed. Obstacles for effective teacher evaluations are examined and trends in teacher evaluation are explored. The relationship between teacher evaluation, teacher empowerment, and professional development is also reviewed. It is observed that there has been a shift towards a global focus in education and an emphasis on STEM education requiring highly qualified teachers in the areas of science, math, engineering and technology.

The implementation of "No Child Left Behind" legislation in 2001 generated significant emphasis on teacher accountability and evaluation. This federal legislation required that a teacher be labeled as highly qualified (U.S. Department of Education, 2003).

The burden of labeling teachers as highly qualified was placed upon individual states and local educational areas. The federal definition of a highly qualified teacher is that the teacher is fully licensed by the state in their area of expertise and has obtained a bachelor degree from an accredited four-year institution. Additionally, candidates must demonstrate competence in the core academic subject areas in which they plan to teach (U.S. Department of Education, 2003). These competencies are demonstrated through state administered tests and teacher evaluation practices, and school districts are required to document that only quality teachers meeting these criteria are employed in their schools.

Recruiting and retaining creative and highly motivated teachers is a challenge when an estimated 33% of teachers leave the profession within the first three years and nearly 50% leave within the first five years (Ingersoll, 2001; Rosser, 2004). The International Teacher 2000 project indicated that teachers who resigned from the teaching profession cited job dissatisfaction as related to school structure and administration policies (Dinham & Scott, 2002). Markow and Pieters (2012) used the MetLife Survey of the American Teacher to conduct telephone interviews with over 1000 teachers across the country, identifying that just 44% of teachers were satisfied with their jobs. This was a 15% reduction since 2009, when 59% of teachers indicated that they were satisfied with their jobs. This is also the lowest level recorded in the past 20 years.

Boles and Troen (2000) called for fundamental changes in teacher retention and empowerment to enable the teaching profession to be considered a lifelong career. To reduce the rate of teacher attrition, Woods and Weasmer (2002) implore that school leaders provide

teachers with a supportive work environment that allows for ownership and empowerment. As the evaluation process is an important component of the administrator-teacher relationship, an effective teacher evaluation process can also nourish workplace collegiality and increase teacher empowerment (Protheroe, 2002).

Teacher Evaluation

McDonnough (2007) determined that:

Student achievement is positively influenced by the presence of a well-qualified teacher in the classroom and teacher quality is closely tied to pedagogical content knowledge and self-efficacy. And since approximately 33% of teachers in the United States leave teaching during their first three years of teaching, there is necessity to focus on teachers if there is any hope of increasing student achievement. (p. 2)

With the advent of Race to the Top initiatives, new efforts focus on redefining how to conceptualize and measure a teacher's impact on student performance. Of the 29 states that initially applied for Race to the Top funding, 71% had passed legislation related to teacher effectiveness as recently as 2009. Legislative changes related to teacher evaluation are second only to legislation concerning alternative certification efforts (U.S. Department of Education, 2009). These efforts by state governing bodies reflect a strong emphasis on one of the four core education reform areas outlined by the Race to the Top legislation: "recruiting, developing, retaining and rewarding effective teachers and principals, especially where they are needed most" (State Legislation, 2011).

The field of teacher evaluation has a long history of practice but a brief period of rigorous study (Stronge & Tucker, 2003). Evaluation practice has suffered from bias, questionable criteria, and limited substance, but over the past 20 years there has been a professionally rich development of standards for what it means to be a teacher and what quality evaluation should involve (Stronge & Tucker, 2003). For the National Board for Professional Teaching Standards (2005), teaching is described as “the heart of education, so one of the most important actions the nation can take to improve education is to strengthen the teaching profession” (p. 1).

Therefore, the conscious shaping of programs that will make teaching methods and techniques of knowledge transfer to the students effective and efficient needs to be an integral component when formulating performance policies for teachers. Moreover, effective teaching is not only dependent on the constant reassessment of policies regarding academic performance or on the innate skills and intelligence of teachers to carry out the task of teaching students. Rather, teaching should be viewed as a collaborative or intermixed effort that influences both the teacher and the environment, making teaching passionate and consequently efficient. Britzman’s (1991) defining statement was able to highlight that in essence “teaching is fundamentally a dialogic relation, characterized by mutual dependency, social interactions and engagement, and attention to the multiple exigencies of the unknown and the unknowable” (p. 237).

The continuous and constant process of evaluating teachers has reshaped the teaching habits and strategies of teachers (Larsen, 2005). This is in response to a report by the

National Commission on Excellence in Education (1983), *A Nation at Risk Report*, that states education was once again facing a difficult problem to solve and that students were hardly learning and lacked appropriate skills. Clark (1993) described that:

Education had evolved into a system based on the premise that teacher-proof curriculums, test-based instructional management, and student competence testing alone would improve learning. These policies assumed the adherence to a predetermined teaching format would result in the desired level of learning. Teachers were viewed as laborers implementing a prescribed program in a manner determined by policy makers further up the educational hierarchy rather than as professionals with a repertoire of techniques and the ability to decide for themselves how techniques should be applied. (p. 7)

The report had caught the attention of policy-makers, curriculum developers, educators, and the government as well. In effect, small revolutions within the educational system took place, and teacher evaluations were reintroduced and gained importance.

Evaluation policies have been received across a much wider spectrum of jurisdictions (Delannoy, 2004; Eurydice, 2004). In recent years, teacher evaluations are performed to satisfy the requirements set by the bureaucratic educational system (Darling-Hammond, 1986; Stiggins & Bridgeford, 1985; Weisberg, Sexton, Mulhern & Keeling, 2009). In any case, evaluation practice is inevitably a mechanism that has been of utility value to school administrators, principals, and other high-ranking school officials in determining the quality of teaching or performance of teachers.

The continuous and constant changes in the beliefs and values on the role of teachers, theories of student learning, and effective teaching have brought significant changes to the dynamics and nature of teacher evaluation as well (Cuban, 1993; Ellet & Teddlie, 2003; Shrinkfield & Stufflebeam, 1995). Additionally, because of the passage of the No Child Left Behind bill in 2001, evaluation practices have been continuously observed and continue to define teacher quality as well as enforce data collection (Hazi & Rucinski, 2009). The dominant approach in the practice of evaluations is that the administrator or principal typically observes the teacher during classes with a complete checklist or ratings form (Peterson, 2004; Wesiberg et al., 2009).

Several studies have identified that the primary roles of teacher evaluations are professional development and quality assurance (Danielson & McGreal, 2000). Danielson (2001) argued that “the requirements of quality assurance and professional development [is] to recognize, cultivate and develop good teaching” (p. 13). Other studies suggested that more than professional development and quality assurance, teacher evaluation can serve as an instrument that enables evaluators to convey expectations, assess abilities (or lack thereof), and find effective mechanisms to address issues pertaining to academic performance if the teachers are seen by the evaluators as inadequate or lacking in quality (Duke & Stiggins, 1990; Daley & Kim, 2010). Furthermore, Marshall (2005) believes that teacher evaluations aid teacher development and growth if the basis of evaluations is derived from multiple sources of data that include relevant, clear and meaningful performance criteria, fosters

mutual trust between the evaluator and the teacher, and focuses on teacher goal setting and peer assistance.

In order to have a clear and objective result on the performance of teachers, there must be multiple sources of evaluation data, as opposed to a single source, such as an evaluator's assessment (Mujis, 2006). This suggests that students' views should also be accounted for and juxtaposed to classroom observations of teachers and student work-sample reviews. These include lesson plans (Stronge, 2007), portfolio assessments and student achievement data in standardized tests (Brandt, Mathers, Oliva, Brown-Sins, & Hess, 2007) as well as teacher self-assessments (Uhlenbeck, Verloop, & Beijaard, 2002).

Teacher Effectiveness

Several studies have dealt with the theoretical views underpinning evaluation benefits and limitations, purposes, outcomes, procedures and practical accounts on teacher development (Cochran-Smith & Fries, 2005; Cole & Knowles, 2000; Hubball, Clarke & Beach, 2004; Peterson, 2004; Spitz, 2001; Wise, Darling-Hammond, McLaughlin & Bernstein, 1984). While there may be significant agreement on the need to measure and improve teacher effectiveness, there is no consensus on how these goals should be accomplished and implemented (Danielson, 2001). In the past decade, direct links could be established between a teacher's effectiveness and the achievement of the same teacher's students. Although this may appear to be a logical line of reasoning, it raises multiple complexities.

First, not all teachers teach subject matter that is assessed by standardized achievement tests (Popham, 1999). This is certainly the case for teachers in the arts, technology, foreign languages or physical education. It can also be a problem for teachers in social studies or science if those areas are not included in a district's annual assessment, or for teachers at the primary level. Therefore, teachers in the subject areas and grades that are assessed by standardized tests are unduly scrutinized, and rewarded or punished based on the outcomes of the student testing program. However, the remaining teachers are either excluded from such scrutiny or are included in the spillover effect, which is justified by the explanation that they contributed in a peripheral way (Nilson, 2010, p. 310-14). Prince et al. (2009) state that it is particularly difficult to measure the productivity of teachers of non-tested subjects because there is no degree of certainty of the extent to which teachers of these subjects contribute to gains in student achievement.

A second, less obvious shortfall of measuring teacher effectiveness solely by student achievement scores relates to those students on the high end of the performance scale. Almost always, achievement testing is grade-based by assessing a student's mastery of that grade level's objectives. Even for assessments that provide a growth scale, the time allotted for the assessments does not allow for significant numbers of test items above the grade level to be administered (Popham, 1999). Academically gifted students are generally asynchronous by definition and therefore beyond their age peers intellectually and academically. They have often already mastered a considerable percentage of the grade level's curriculum before entering that grade level. In a study on compacting the curriculum, Reis et al. (2004)

determined that advanced students often master 40-50% of the curriculum before it is taught. Therefore, the assessments do not measure what those students have learned or gained under the instruction of a particular teacher. They may have performed just as well before that teacher's instruction as they would have after.

A third shortcoming of measuring teacher effectiveness by student achievement scores is a related issue, that is the performance of students whose beginning level of mastery was significantly below their age peers (Mathers, Oliva & Laine, 2008). If a fourth grade student entered that grade level having mastered only second grade level objectives, but at the end of the fourth grade had demonstrated mastery of half of the fourth grade objectives, that student would have grown 1.5 grade levels in one year. For students who need more time to attain mastery, that is significant growth and indicates that the teacher has been profoundly effective. However, that student's score, taken out of context, simply indicates that the grade level's content was only half mastered, and therefore the teacher must not have done an adequate job (Laine, 2011).

The fourth shortfall of using standardized test scores to measure teacher effectiveness is the presumption that a teacher's sole job is to raise test scores. Limiting the impact that a teacher has on students to only the mastery demonstrated by those students on a single test taken on a single day would be analogous to measuring a doctor's effectiveness simply by the number of patients who did not die under that doctor's care in a given year. Reeves (2004) mentions that "only test scores, the critics claim, will whip the lazy teachers into shape" (p. 14-15). As Tashlik (2010) pointed out in an article in the Phi Delta Kappan, "We run the risk

of valuing what we measure rather than measuring what we value" (p. 56). Additionally, both researchers note that present standardized achievement assessments omit educational goals such as those associated with social, affective, project-orientated, or creative outcomes.

In its report on "Initial Findings from the Measures of Effective Teaching Project," the Bill and Melinda Gates Foundation (2010) summarized their findings on the measurement of teacher effectiveness with three recommendations. First, any measure of effectiveness should include student gains; suggesting that these gains could be in the students' love of learning or levels of cooperation, as well as academic achievement. They also advocate more research on value-added assessment as a means to equitably compare students' and teachers' performance levels. Second, they recommend that any other components of teacher assessment, such as observations or student feedback, be related directly to academic gains of the students. Third, they advocate for including feedback to the teacher on strengths and weaknesses as a critical component of the evaluation process to enhance improvement of every teacher's performance in every classroom.

Teacher Job Satisfaction

One of America's champions of education and a clear proponent of the principles of democracy, Thomas Jefferson, thought that until America had universal education it could never endure universal suffrage. With the application of education, he believed that the masses could rise to the occasion of good citizenry (Van De Mille, 2006). In the United States, free public education is mandated from kindergarten to 12th grade, and education is

offered from pre-school to graduate school. Yet, the system is in crisis in many ways. One of these is the lack of recruitment and retention of qualified teachers to lead the necessary changes that will allow students to actualize and become intelligent global citizens (Kwong, Wang & Clifton; 2010).

Teachers today face a number of challenges that contribute to a lack of job satisfaction, leaving schools for other professions that are more lucrative, low comparative compensation, and poor working conditions. In 1960, Senator John Kennedy remarked that we are a nation that pays its sanitation workers more than its teachers. He realized that without adequate compensation the country could not hope to provide enough well-trained teachers. “We are not attracting young men and women into teaching because the salaries which we pay our teachers are shamefully low” (Kennedy, 1960). Over 50 years later this situation has not substantially improved. Wages must reflect level of education, value to society, and the ability to live in a community at a decent standard reflecting a professional service (Loeb & Myung, 2010).

As reported by Markow and Pieters (2012) through the Metlife Survey of the American Teacher, “teachers are less satisfied with their careers; in the past two years there has been a significant decline in teachers’ satisfaction with their profession.” The surveys regarding teacher satisfaction report a decrease of 15 points since the MetLife Survey of the American Teacher measured job satisfaction from 2008-2011. This is the lowest level of job satisfaction as measured by this survey series in more than two decades. “This decline in teacher satisfaction is coupled with large increases in the number of teachers who indicate

that they are likely to leave teaching for another occupation and in the number who do not feel their jobs are secure” (Markow & Pieters, 2012).

Norton and Kelly (1997) and Shann (1998) identified several factors that contribute to the increased dissatisfaction of teachers who may consequently leave their profession. These include: problems or frustrations with the variety of administrative routines and accompanying paperwork; concerns about the evaluation of student performance and school grading practices; low pay; concerns about relationships with administrative personnel and peers; declining respect for the profession; few possibilities for career promotion or growth; and problems related to the teacher’s workload.

Grade level research shows that depending on mentorship and pre-service opportunities (policy, guidelines, techniques, etc.), teacher satisfaction can vary between grade levels. However, the key is not the grade, but the amount of support and ancillary leadership roles given to the teachers (Parker, 2006). Due to the decline of teachers entering the profession and the retention of quality teachers in academic institutions, Dinham and Scott (2002) developed a three domain model of teacher career satisfaction that stresses “the growing yet variable influence and importance of societal based factors and forces which are acting to influence teacher and school executive career satisfaction, dissatisfaction and stress” (p. 1).

One way to recover and revive the interest of people to choose teaching as a career profession, as well as attracting the brightest and best qualified teachers to remain in the teaching profession, is to increase teacher job satisfaction (Latham, 1998; Mertler, 2002). As

Ellis and Bernhardt (1992) emphasized “for teachers, motivation is as important as cognitive and professional skills. Attracting the best and the brightest into teaching is not enough. These individuals must not be thwarted in their efforts to teach and to improve” (p. 181).

Jyoti (2009) suggests three factors which can be associated with teachers’ job satisfaction, which are classified as intrinsic, extrinsic, and demographic factors. When these three factors are not well-defined and understood within their specified contexts, like that of a school, administrators and policymakers may face institutional tribulation which can lead to low quality instruction. Employees who make inadequate effort, lack the drive to work or interact with co-workers, and perform poorly are generally considered unhappy and dissatisfied in their work conditions (Ingersoll, 2001; Mueller & Price, 1990). This kind of dissatisfaction with a job can lead to career changes; an unfortunate reality in the teaching profession. Technology teachers often have a skillset which allows for an easier transition to the business world than teachers of other subject areas (Berns, 1990). These teachers who are rendering their service and whose nature of work is unique compared to other teachers should be viewed and treated uniquely and carefully.

Working Conditions

Working conditions, including professional teaching conditions, play a substantial role in decisions to leave teaching in a particular school or district, and they also contribute to decisions to leave the profession altogether (Darling & Hammond, 1997). National survey data shows that teachers who plan to remain in teaching are highly sensitive to their own

perceptions about their working conditions. The proportion of teachers who report that they plan to remain in the teaching profession for as long as they are able to is strongly associated with how teachers feel about the administrative support, resources, and teacher influence over policy in their schools. There are large differences in working conditions that affect teachers in high and low-wealth schools. Teachers in more advantaged communities experience much easier working conditions, including smaller class sizes and pupil loads, and significantly greater decision making powers in their schools (United States Department of Education, 1997).

There is a stark difference between conditions in urban and suburban schools and districts. In many districts, working conditions are so abysmal that the federal government offers a standard \$500 annum tax deduction for teachers because teachers are often forced to use their own money for classroom supplies (Internal Revenue Service, 2011). Even in higher wealth districts, a combination of state debt and the recession has left little money for supplies, field trips, extracurricular activities, and teaching (Embry, 2011). The American Federation of Teachers Union in Texas survey of how teachers responded to budget cuts drew over 3500 respondents. For the question: “how would you describe the climate for students, teachers and staff at your school (or in your school district) this year compared to last year?” 81% of the respondents said that the climate was “worse” or “much worse.” Asked to further describe the climate at their schools, 72% described it as “stressful and taxing,” 11% described it as “hectic but normal,” 9% as “hostile and unfriendly” and only 8% as “busy but positive” (Embry, 2011). If increased class size is added to this equation, it

becomes near impossible to provide adequate individualized attention to students and nurture them to achieve even basic competency levels (Jacob, 2007).

Teacher Retention

Teaching is a profession that requires a substantial time and education investment. Coupled with additional educational requirements, many teachers have committed to 6 plus years of educational training and over \$50,000 of monetary investment using loans, which are very difficult to repay with a teacher's salary (Dill & Stafford, 2008). If poor working conditions, lack of parental support, forced curriculums, an uncertain future and the lure of other professions in the private sector or research area with a double or triple salary improvement are added to the equation, many teachers find it attractive to explore other options (Loeb & Myung, 2010).

There is evidence that wages are at least as important to teachers in their decision to quit teaching as they are to workers in other occupations (Baugh & Stone, 1982). Teachers are more likely to quit when they work in districts with lower wages and when their salaries are low relative to alternative wage opportunities (Brewer, 1996). The effects of wage differentials are strongest at the start of the teaching career, but the effects of wages on retention persist at later stages of the career as well (Theobald & Gritz, 1996). Teachers in high demand fields like mathematics and science are especially vulnerable to salary differences in their decisions to remain in teaching (Pogodzinski, 2000). Such fields have especially high opportunity costs for remaining in teaching given much higher salaries in

alternative occupations and the attrition rates in these fields are significantly higher than in other fields.

The task of teacher recruitment and teacher retention can be considered a critical national problem. Studies indicate a need for more teachers as well as a need for better teachers (U.S. Department of Education, 2009). Teachers must be selected not only on the basis of their academic credentials, but also on the likelihood that they will remain in the profession long enough to make an impact. Turnover for teachers is significantly higher than for other occupations (Darling-Hammond, Berry, & Thoreson, 2001). An estimated one third of America's teachers leave the field sometime during their first three years of teaching, and almost half leave after five years. In many low-income communities and rural areas, the rates of attrition are even higher. The attrition rate for those who enter via an "alternative" pathway can be as high as 60% (Darling-Hammond, Berry, & Thoreson, 2001). Wragg, et al. (2003) outlined a three-pronged approach to this very real national crisis:

- 1) Treat the profession as a profession.
- 2) Actively recruit and retain the best minds and personalities for teaching with compensation raised to a level at which the teaching profession is respected as a profession.
- 3) Ensure that there are minimum standards in all schools that contribute to the learning paradigm to develop the nation's schools into vital and robust centers of education that will ensure students will be able to effectively compete in the global economy.

STEM Research

International studies indicate that success in the K-12 math and science curriculum has a direct and important effect upon the individual's desire to pursue a career in technology (Kearney, 2011). Unfortunately, the Organization for Economic Cooperation and Development (OECD) (2009) found that the United States placed 25th out of 40 OECD countries in math achievement among 15 year olds and 21st in Science. Without appropriate focus and preparation, American students will not only fail to develop the skills and interest necessary to fill the global economic need, they will find themselves sorely behind the global learning curve (Holland, S., 2009). Thus, there is great importance in the advancement of STEM studies and creating greater interest in the STEM disciplines.

The Kearney (2011) report shows that two actions are at the heart of the drive to make STEM studies and professions a more popular option for young learners internationally: the development of effective and attractive STEM curricula and teaching methods, and improved teacher education and professional development. S. Holland (2009) notes there are two factors that seem to contribute to lack of student interest in STEM subjects in the United States: 1) The U.S. does not seem to have a robust and consistently relational national math, science and technology curriculum, and 2) most of the research shows that there are not enough qualified teachers in these fields. There is a domino effect between these basic issues and not only qualified instructors, but qualified supplies of college bound individuals well prepared in the STEM areas (U.S. Education Leaders Delegation to China, 2005). Poor curriculum design and a lack of consistency over all 50 states is probably

the most serious issue. However, for students to become more interested in STEM subjects, they need to have instructors with whom they can identify and who possess a technological skillset, as well as being able to teach and connect with students. Teachers cannot teach what they do not know and cannot teach what they do know if they do not have the pedagogical skills to do so (Brown, Hershock, Finelli, & O'Neil, 2009).

The development of effective and attractive STEM curricula and teaching methods, and improved teacher education and professional development are at the heart of the drive to make STEM studies and careers a more popular option for young learners (Kearney, 2011). The most comprehensive approach is taken by countries that have implemented national strategies and/or set up dedicated national or regional centers to improve the quality of STEM teaching and enhance its popularity. Research showing why students do not remain engaged in STEM fields suggests that the key is qualified faculty (Hattie, 2003). Retention of qualified technology teachers and persistence using tools that are available can have a great deal of positive effect upon student interests (Kuh, 2008; National Academy of Sciences, 2007). In many ways, this can be summed up using a visual model (Figure 2.1) that helps us understand the nature of student departure from STEM disciplines.

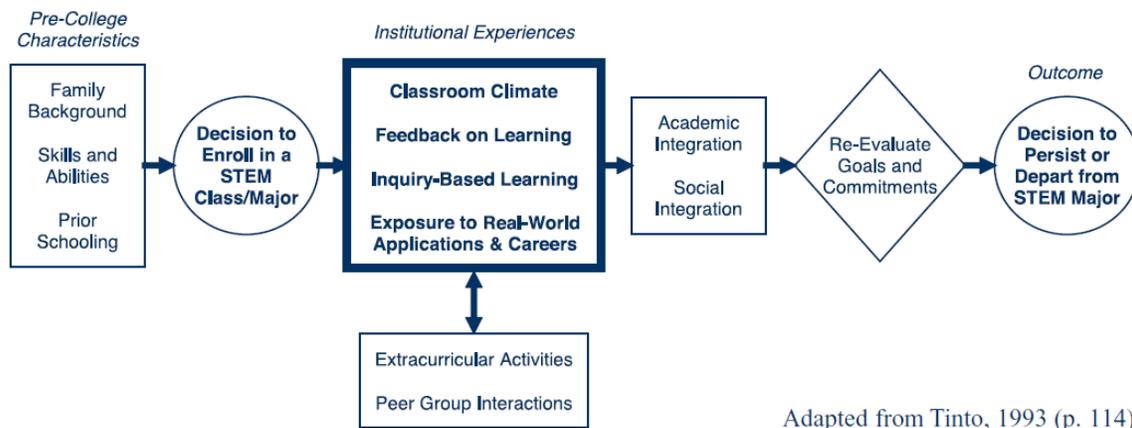


Figure 2.1. Importance of Evaluation Practices in the Education System

According to Stronge (1995) teacher evaluation does matter simply because teaching matters. “Without capable high quality teachers in America’s classrooms, no educational reform effort can possibly succeed” (Stronge & Tucker, 2003, p. 3). It is necessary that for the teaching-learning connection to work, teachers must possess enough skills and abilities to conduct their tasks efficiently and be effective transmitters of knowledge. Teacher evaluation therefore plays a significant part in the entire learning process, student achievement, schools’ success, and personal growth. As Stronge (1997) states: “teacher evaluation can and should be considered a vital part of the total improvement/restructuring efforts in education” (p. 3).

Although effectiveness can be defined or described in different ways (Cruickshank & Haefele, 2001), it is essential to have a pool of proficient and effective teachers in all subject areas. Stronge and Tucker (2003) deemed evaluation practices as an instrument in determining the number of quality teachers and that “without high quality evaluation

systems, we cannot know if we have high quality teachers” (p. 3). Teacher evaluation is “about documenting the quality of teacher performance” (Stronge, 1995, p. 1). Its focus is not solely to help teachers improve the quality of their performance but also to hold them accountable for their work.

In recent years, as the field of education has moved towards a stronger focus on accountability and on careful analysis of variables affecting educational outcomes, the teacher has proven time and again to be the most influential school-related force in student achievement (Stronge, 2007).

Stiggins (1988) states that the purpose of teacher evaluation is “improved student learning through supporting teachers’ development needs with formative evaluation” (p. 570). However, Shinkfield and Stufflebeam (1995) argue that “the trouble with teacher evaluation is that teaching itself is a highly complicated process. No one knows precisely what ideal role a teacher should perform to affect excellent student learning, not even when the context of a classroom is specified” (p. 9).

Other purposes of evaluation are professional growth and accountability (Danielson & McGreal, 2000; Peterson, 2004). Hence, for several decades, teacher evaluation policies have gained considerable attention from policy-makers and administrators. This becomes the accountability function of teacher evaluation. In addition, the purpose of accountability is to determine the teachers’ competence in delivering their services for the students’ consumption. In some settings, teacher evaluation systems tend to provide educational customers or stakeholders with information about the teachers’ performance (Larsen, 2005).

Evaluation is seen to be one of the means by which schools can show to all its stakeholders the inner workings of the system and, thus, transparency can be upheld.

According to Larsen (2005), the function of accountability in teacher evaluation is seen as a quality control mechanism. The intention is:

- (a) to assuage public fears that incompetent teachers will be allowed to remain in the classroom, and;
- (b) to improve performance amongst classroom teachers to improve student achievement outcomes (Larsen, 2005, p. 293-294)

A majority of scholars, educators and policymakers agree with the proposition that teachers' accountability is imperative for student learning to take place. However, constant debate surrounds how accountability is created and measured, and what role professionalism has in accountability (Bullough, Clark & Patterson, 2003). Personal growth and accountability, dimensions to look for when speaking about evaluation purposes, are desirable and deemed necessary to serve the needs of both the teachers and the school.

Performance improvement and accountability purposes are not competing, but supportive interests – dual interests that are essential for improvement of educational service delivery. These two roles are inextricably intertwined in the complete evaluation process (Stronge, 1995, p. 13).

Policies that govern teachers can affect high quality performance and may have critical consequences. These consequences may not only affect the personal development of teachers but also the gradual deterioration of quality in education. The accountability-based

evaluation, for instance, can have an adverse effect. Teachers may experience hardships, stress, and loss of autonomy in their work (National Foundation for Educational Research, 2002). According to Duke (1995), evaluation models that emphasize accountability tend to reduce the teachers' flexibility, creativity, and risk-taking teaching practices and activities.

Teacher evaluation practices and models are present not only to gain the favor of stakeholders to participate in the school's business, but to improve innate teaching skills and abilities and fulfill the main task of every teacher, which is to impart learning to students as well as implement educational reform. Most often, educational reform has produced unfavorable results or total failure that affects the image of the entire institution (Clark & Astuto, 1994). The reasons why reforms tend to fail following implementation include too many directions, disregarding subsequent effects to teachers, and fragmentation (Bascia & Hargreaves, 2000; Fullan, 1996). According to Fullan (1996): "fragmentation occurs when the pressures – and even the opportunities – for reform work at cross purposes or seem disjointed and incoherent" (p. 420).

Stronge (1995) tried to link the often neglected importance of evaluation to the failure of educational reform and clearly emphasized why evaluation matters. He argued that "when reform efforts are disconnected from assessment, there is no way to measure success in the reform effort." Vital components for successful reform efforts are the appropriate implementation of evaluation system for teachers and a synergistic relationship between the needs of organizations and teachers. Stronge (2007) expressed that "a rational relationship exists between personnel and programs: If program effectiveness is important and if

personnel are necessary for effective programming, then a conceptually sound and properly implemented evaluation system for educational personnel is essential” (p. 445).

The synergistic relationship between teachers and the institution promotes a healthy interaction. It further enhances the pre-established relationship between teachers and the school, and the desire to achieve certain goals set by the institution can be more easily achieved. The assumption that the goals of teachers and the institution are intertwined further supports the importance of teacher evaluation as a conduit to aid and assess success for both the teacher and the school (Stronge, 1995; Castetter, 1996). Fullan (1996) observed that “combining individual and institutional development has its tensions, but the message should be abundantly clear. You cannot have one without the other” (p. 349).

Stronge (1995) proposed that teacher evaluation plays a vital role in the total improvement and restructuring efforts of education. These include improvement in the performance of teachers, administrators, other educators and personnel, as well as improvement of programs and services for the students, parents and community, and improvement of the school’s ability to accomplish its vision-mission (Stronge, 1995). Teacher evaluations differ according to their objectives, such as professional development, accountability, and selection. What they measure are factors such as general knowledge, basic skills, subject-specific pedagogical knowledge, and subject matter knowledge. The mode of referencing is based on criteria such as norm standards or growth-based, and format, such as performance-based assessment or standards-based assessment (Larsen, 2005).

Performance-based and Standards-based Program of Evaluation

Performance-based teacher evaluation systems are being developed and implemented in school districts across the United States. One case example is based on the study conducted by Sawyer (2001), which cited one school district in Nevada that created a performance-based teacher evaluation model that contained alternative evaluation practices. The model, derived from the general performance-based teacher evaluation model, consisted of four domains, which were planning and preparation, classroom environment, instruction, and professional responsibilities. Each domain consisted of several components and specific elements pertaining to the teachers' behaviors, as well as a scoring guide for easy reference. This model was found to help focus teachers' efforts and increased meaningful dialog between the teacher and evaluator. Teachers and evaluators additionally reported higher levels of satisfaction with the overall evaluation process, a more complete picture of the teacher's performance, and a "vast improvement over the previous" evaluation system (Sawyer, 2001, p. 4).

Public accountability and federal policies have added demands on teachers and schools to improve teacher effectiveness and student achievement. Many researchers have argued that improvements require a substantial increase in the instructional capacity of schools and teachers to be successful (Cohen, 1996; Floden, 1997). Systems that help teachers improve and support timely and efficient personnel decisions have better evaluation instruments. Successful systems use multiple classroom observations across the year by expert evaluators looking at diverse sources of data, and provide timely and meaningful

feedback to the teacher (Darling-Hammond, 2012). A comprehensive performance-based teacher evaluation system as shown in Figure 2.2 allows for an integrated performance evaluation system for which evaluators are competently trained and held accountable.

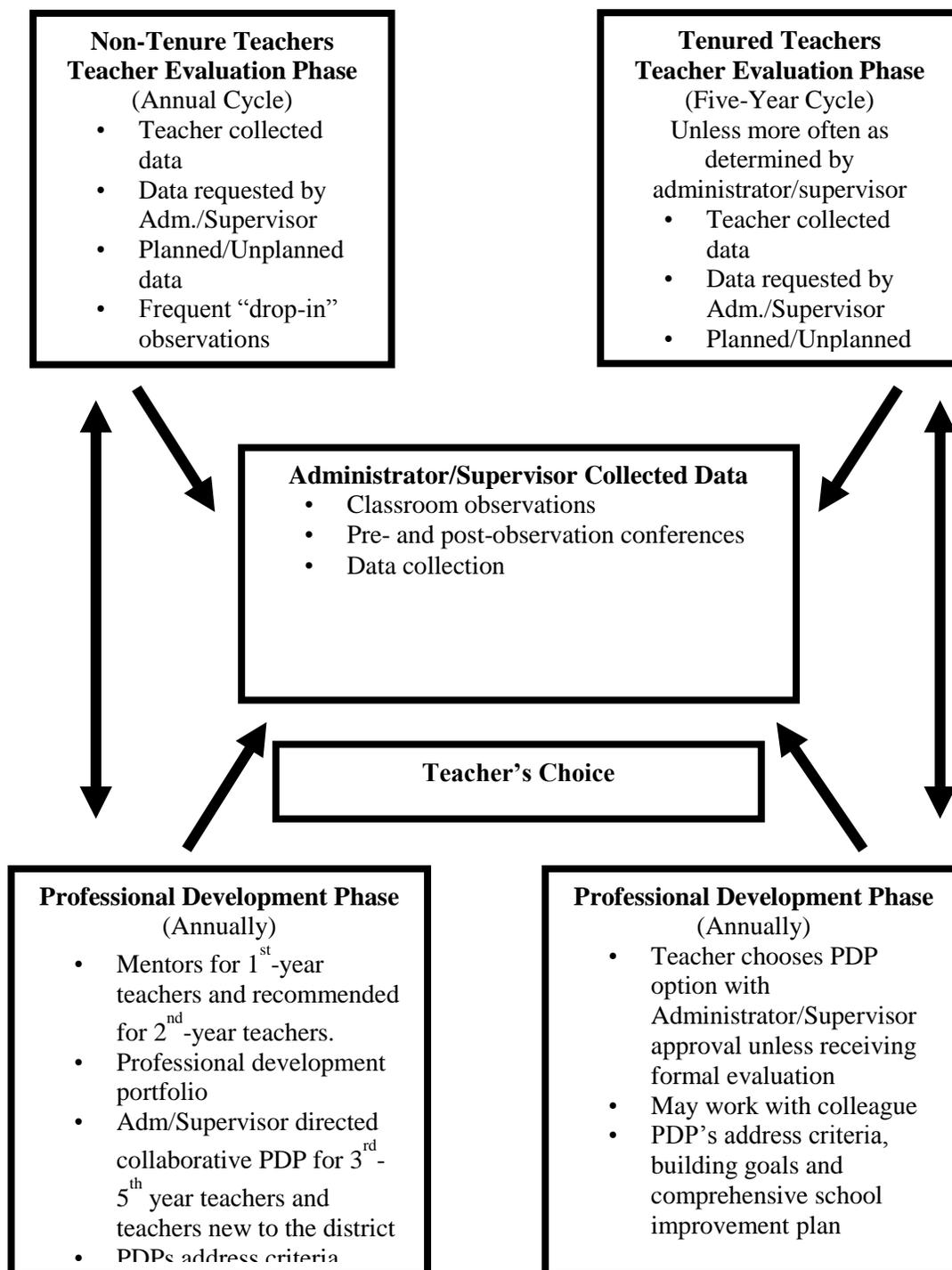


Figure 2.2: Performance-Based Teacher Evaluation

One of the popular competency models of teacher performance is one developed by Danielson (1996) known as the Framework for Teaching, which was intended to be applied in all grade levels and subjects. Heneman, Milanowski, Kimball and Odden (2006) described the model as:

The Framework attempts to describe the full range of teacher performance, from beginner to expert. It defines four performance domains: planning and preparation, the classroom environment (classroom management), instruction, and professional responsibilities. (p. 1)

The Framework can be clearly understood by illustrating the sample rubric which Danielson (1996, p. 91) provided. A sample rubric according to Heneman et al. (2006) is shown in Table 2.1, which can be used as a performance measure for a standards-based teacher evaluation system. In this sample, evaluators can collect evidence from different sources about the teacher's performance and rate it on each element.

Sample Rubric from Framework for Teaching

Domain 3: Instruction

Component 3a: Communicating Clearly and Accurately

Table 2.1. Sample Rubric Level of Performance

Element	Unsatisfactory	Basic	Proficient	Distinguished
Directions and procedures	Teacher directions and procedures are confusing to students.	Teacher directions and procedures are clarified after initial student confusion or are excessively detailed.	Teacher directions and procedures are clear to students and contain an appropriate level of detail.	Teacher directions and procedure are clear to students and anticipate possible student misunderstanding.
Oral and written language	Teacher's spoken language is inaudible, or written language is illegible. Spoken or written language may contain grammar and syntax errors. Vocabulary may be inappropriate, vague, or used incorrectly, leaving students confused.	Teacher's spoken language is audible, and written language is legible. Both are used correctly. Vocabulary is correct, but limited or is not appropriate to students' ages or background.	Teacher's spoken and written language is clear and correct. Vocabulary is appropriate to students' age and interests.	Teacher's spoken and written language is correct and expressive, with well-chosen vocabulary that enriches the lesson.

In view of understanding the relationship between the teachers' performance and the student, use of a standards-based teacher evaluation system is useful. This is because it provides information that reinforces one of the main purposes of evaluation: accountability. According to Milanowski, Kimball and White (2004), the standards-based teacher evaluation represents one strategy for both improving instruction and complying with the expectations of external stakeholders that teachers be held accountable for their performance.

This form of evaluation system typically needs intensive data gathering in order to provide a richer picture of teacher performance. Porter, Youngs and Odden (2001) believe that standards-based evaluation does not only respond to the need of setting standards for the students' achievement but also the aspiration to represent a more complex concept of teaching and learning for the teachers' licensing and certification. In addition, a standards-based evaluation model guides evaluators to have a comprehensive practice model to direct new teacher mentoring.

Another influencing factor in the development of the standards-based teacher evaluation system is the dissatisfaction with other long-established evaluation approaches or models because of their lack of guidance for teachers to improve their teaching practice (Stiggins & Duke, 1988). As mentioned above, the Framework for Teaching is considered to be the prominent embodiment of the standards-based evaluation system developed by Danielson (1996; Danielson & McGreal, 2000). Milanowski et al. (2004) captured the essence of standards-based teacher evaluation in these terms:

Standards-based teacher evaluation systems provide both incentives and guidance for teachers to change their practice toward the model embodied in the standards. But the potential of standards based teacher evaluation for improving student achievement depends on the link between practices described by the standards and student learning. (p. 2)

Appraisal on Teacher Evaluation Practices

Evaluating teachers can be a significantly different process compared to evaluating laborers or workers in the corporate setting. The latter can produce concrete products or sales results as the object for assessment, whereas in evaluating teachers, there is no similar tangible product to be assessed by the evaluator (Davey, 1991). Children are delivered to teachers with a diverse range of abilities and experiences. In the educational setting the child is not a controlled commodity (Karpov, 2006). The teaching profession is unique and cannot be easily evaluated as compared to other professions. Davey's (1991) defines teaching as a "complex set of knowledge, abilities, and personal attributes in dynamic interplay" (p. 121). According to Goe, Bell and Little (2008), there is five-point definition of teacher effectiveness consisting of the following:

1. Effective teachers have high expectations for all students and help students learn, as measured by value-added or other test-based growth measures, or by alternative measures.

2. Effective teachers contribute to positive academic, attitudinal, and social outcomes for students such as regular attendance, on-time promotion to the next grade, on-time graduation, self-efficacy, and cooperative behavior.
3. Effective teachers use diverse resources to plan and structure engaging learning opportunities; monitor student progress formatively, adapting instruction as needed; and evaluate learning using multiple sources of evidence.
4. Effective teachers contribute to the development of classrooms and schools that value diversity and civic-mindedness.
5. Effective teachers collaborate with other teacher administrators, parents, and education professionals to ensure student success, particularly the success of students with special needs and those at high risk for failure. (p. 8)

Goe et al. (2008) sum up the effective teacher as a professional who provides instruction using diverse approaches to different students, demonstrates knowledge of the subject and curriculum, and increases the students' achievements (Sullivan, 2001; Clark, 1993). Sullivan (2001) reports that most teacher evaluations are primarily based on administrative observations. This, some scholars believe, is one of the most important practices of evaluation because, through observation, teachers are compelled to perform certain pre-established competencies such as classroom management and lesson plans (Clark, 1993). However, Clark (1993) also noted that "the implication that, if it looks good, then it is good. Unfortunately, it is just not that simple" (p. 18).

The assessment of teachers' performance based on observation is done by using rating systems. Vogt (1984) offered a system with four levels of performance, namely: exceeds district expectations; meets districts expectations; needs improvement; and, unsatisfactory. However, Frase and Streshly (1994) reported that such a ranking system is utterly flawed. It showed that teacher evaluations tended to inflate because of union regulations and tenure laws.

There are various sources for teacher evaluation besides observation. Relevant assessment tools include client feedback, student evaluation, portfolios, professional development and self-assessment (Larsen, 2005). With this, multiple data sources for teacher assessment or evaluation provide a realistic view of the actual job performance and "provides a stronger platform upon which to build realistic improvement plans than would be possible with merely a single source of information such as classroom observation" (Stronge, 1995 p. 11). Various means of assessment guide evaluators to assess teachers' competency, strengthens collegiality, and empowers teachers to perform their task effectively (Protheroe, 2002).

Since many reports showed that a critical link has been established between effective teaching and student academic achievements (Mathers, Oliva & Laine, 2008), the need for a comprehensive program or system for teaching evaluation must be given adequate attention. According to Danielson and McGreal (2000) and Shinkfield and Stufflebeam (1995), teacher evaluations when used appropriately, serve as a tool that identifies and measures the

instructional strategies, delivery of content knowledge for student learning, and professional behaviors.

There are two types of evaluations commonly practiced in almost all academic institutions worldwide, formative and summative evaluations. These evaluations capture the comprehensibility of an effective teaching evaluation system. Stronge and Tucker (2003) said that any comprehensive system should be rooted in two broad purposes, accountability-oriented and improvement-oriented. Each type of evaluation has its own focus, for example summative should be focused on accountability while formative should focus on improvement of both teachers and the school. Furthermore, in order to create an effective teacher evaluation system that is built on a dynamic balance between teacher improvement and the school, a type of synergistic relationship must be established with the following main ingredients: mutually beneficial goals; emphasis on systematic communication; climate for evaluation; technically sound evaluation systems; use of multiple data sources (Stronge, 1995).

The Administrative Role and Teacher Evaluation

In order for the evaluation system to be effective, it is important to consider the contributions of each teacher and administrator towards the fulfillment of the school's vision-mission. According to Machell (1995), teachers perceive that attributes of the evaluator, feedback received, and evaluation procedures are the most important aspects of evaluation. One of the models which can be used for an effective teacher evaluation system, with a

design that facilitates not only the personal and professional growth of the teacher but also the school's improvement, is the Goals and Roles Evaluation (Stronge, 1995):

The Goals and Roles Evaluation is one evaluation model that offers a practical, research-based model of teacher evaluation that is rooted on the premise of individual-institutional improvement. The model is designed generically for use with a variety of positions and it may serve well as the basis for an evaluation system not only for teachers but also administrators and support personnel. (p. 13)

While it is generally acknowledged that teachers wield great influence over the improvement of student learning, the role that school policymakers, administrators, and academic officials play in shaping the system's capacity for successful learning and teaching is often undervalued (Hallinger & Heck, 1996; Elmore, 2002). For the most part, through practices such as supporting and encouraging staff, acquisition and allocation of resources, enforcing rules for students, or taking personal interest in the professional development process, principals indirectly affect the instruction in a subtle way (Berends, Bodilly & Kirby, 2002). Principals and administrators can also directly affect teaching practices through teacher evaluation and supervision. According to Wise, Darling-Hammond, McLaughlin and Bernstein (1984), evaluation is considered a formal means for school administrators to communicate organizational goals, standards, values, and conceptions of teaching to other teachers.

The traditional practices and programs of teacher evaluation are based on limited and competing concepts of teaching (Darling-Hammond, Wise & Klein, 1999). Moreover, they

are characterized by lack of support, inaccuracy (Peterson, 2004) and insufficient training (Loup, Garland, Ellet & Rugutt, 1996). These traditional evaluation practices tend to preserve the loose coupling between instructional practices and administration, subsequently limiting the ability of principals and administrators to foster improvements in teaching and learning (Weick, 1996). Additionally, traditional evaluation programs are frequently seen as thoughtless and treated as an administrative burden by both teachers and principals or administrators. Due to the limited scope and efficacy of these traditional evaluation practices, they have had a limited effect on teacher performance and teaching (Peterson, 2004). Santiago et al. (2009) underscored the role of evaluators in the success of the teacher evaluation system:

The success of the teacher evaluation system will greatly depend on the in-depth training of the evaluators. Experience from other countries suggests that evaluators should have a range of characteristics and competencies, including: background in teaching; knowledge of educational evaluation theories and methodologies; knowledge of concepts of teaching quality; familiarity with systems and procedures of educational and school quality assurance; understanding of instrument development; awareness of the psychological aspects of evaluation; and mastering of evaluation-related communication and feedback skills. (p. 10)

In most states, school districts are allowed to develop their own systems for evaluating teacher performance. The result is an uneven patchwork of measures, which appears to create a form of grade inflation for teachers. For example, a recent analysis found

that "nearly 100% of teachers in Colorado's largest school districts received satisfactory ratings in each of the past three years" (Mitchell, 2009). The same report noted that "in a survey of nearly 900 Denver teachers, fewer than 40% agreed their evaluations were either accurate or helpful." Commenting on the survey results, Kim Ursetta, then head of the Denver teachers union, noted that principals often wait until the end of the school year before hurriedly filling out teacher evaluations. As a result, "the evaluation is meant to be used as [a] tool for improving instruction, and instead we use it as a final exam" (Mitchell, 2009).

Teachers across the United States recognize the need for better evaluation systems. A national survey of more than 1,300 teachers, conducted by Public Agenda, found that 77% of them believe that anywhere from "a few" to "quite a large number" of teachers in their schools "fail to do a good job and are simply going through the motions" (Farkas, Johnson, & Duffett, 2003, p. 44). Also, 78% of the teachers responded that they would "welcome" or "be open to" their teacher unions putting more focus on setting standards for evaluating teacher quality during collective bargaining (p. 49). However, Crew, Everitt and Nunez (1984) stipulate that the number of teachers assigned to an evaluator can have an impact on the reliability and validity of their evaluations.

The MET Project Research Paper (2010) funded by the Bill and Melinda Gates Foundation concluded that a low-cost initiative to improve the way teachers are evaluated and develop professionally are to use confidential surveys to collect student feedback on specific aspects of a teacher's practice. This could reach virtually every classroom, including those in non-tested grades and subjects and provide invaluable feedback for teachers.

Another conclusion of the study is “retraining principals and instructional coaches to do classroom observations in a more meaningful way”. The report also highlights that “even a great classroom observation tool can be implemented poorly (if principals are poorly trained or if they are unwilling to provide honest feedback).”

North Carolina Effective Teacher Evaluation Practices

Numerous states and school districts have developed and are continuously developing evaluation systems based on a systems center where the evaluation is based on a common vision of teaching that is spread across broad areas of practice, comprehensive rubrics and standards, and multiple-sources of data (Kimball, 2003; Milanowski & Heneman, 2001; Davis, Pool & Mits-Cash, 2000). “Getting students ready for global society” was the goal of the State Board of Education in North Carolina when, in 2008, it adopted a new mission and goal statement. Focusing on 21st century skills, the Board set “rigorous, conscientious goals” to improve school leadership and classroom instruction in order to prepare students for success in college and the workforce (North Carolina State Board of Education, 2008).

An overhaul of its statewide system of evaluation for teachers, principals and superintendents was necessary due to the changes initiated by a global economy. While facing declines in most of its traditional industries like tobacco, furniture, textiles, and agriculture, the state experienced rapid growth in the high-skill and high-tech areas of finance, biotechnology, and information technology (Williams, McKinney & Goodwin, 2010). In 2011, the North Carolina State Board of Education recognized these seismic shifts

and adopted a new mission statement setting the expectation that every public school student would graduate from high school prepared for postsecondary education or for work in a global society. Along with the new mission, the board charged the North Carolina Department of Public Instruction to develop a new statewide teacher evaluation system. McREL, a nonprofit education research and development organization based in Denver, Colorado, was brought in as a partner in developing, validating, and implementing the new system (McREL, 2012). The McREL organization states:

The North Carolina Educator Evaluation System aligns the state's evaluation system with educator standards and will eventually impact 116 districts, 9,000 schools, 100,000 teachers, and 1.4 million students across North Carolina. The evaluation instruments McREL developed have been field-tested and analyzed for validity and reliability and are currently being used by all teachers and principals in 113 districts around the state.

No matter how thorough and robust a structure may seem, the success of any evaluation system ultimately depends on how well it is implemented (Teacher Evaluation 2.0, 2012). For example, school leaders and their managers will need ongoing training and support on the technical aspects of the system and other performance management issues, such as having constructive conversations with teachers about performance concerns. Teachers will need clear information about how the system works and how they can suggest improvements. This will likely require directing more resources and personnel toward teacher evaluations and relieving administrators of less critical responsibilities.

In implementing a similar evaluation system in Colorado, the state's largest district, Jefferson County Public Schools, was slated to pilot a new teacher evaluation model. Superintendent Cindy Stevenson called off the teacher-evaluation pilot because “it added too much work to principals already swamped by new standards and assessments and facing the possibility of a revamped child-literacy law that could add more mandates” (Simpson, 2012).

Furthermore, even the most elegantly designed system will need to be improved as its needs evolve or change. This is the reason why every district should establish specific metrics to track whether its evaluation system is functioning correctly and yielding the desired outcomes, both at the individual school and the district-wide level (Teacher Evaluation 2.0, 2012). Based on these metrics, district leaders should make any necessary adjustments to the design or implementation of the evaluation system annually. The Teacher Evaluation Report 2.0 (2012) outlines questions to consider in developing these teacher evaluation systems:

1. Are school leaders evaluating teachers accurately? The distribution of summative evaluation ratings should roughly mirror patterns of student academic growth.
2. Are teachers generally improving their performance over time? Teachers—especially novice teachers—should improve to become “effective” or “highly effective.” Since holding school leaders accountable for this alone may encourage rating inflation, districts should validate ratings by using external evaluators or compare ratings to objective evidence that a teacher is or is not improving over time (e.g., change in value-added percentile).

3. Are schools retaining consistently top-performing teachers at higher rates than consistently low performing teachers? Districts should set specific goals for retaining teachers who earn top ratings for two or more consecutive years, with special emphasis on those who teach high-need students. School leaders should also be expected to make a compelling argument for every teacher they retain who earns consistently low ratings.
4. Are teachers receiving useful feedback based on clear expectations? Districts should survey teachers regularly to ask whether they feel their school sets clear expectations for them and helps them meet those expectations. School leaders whose teachers consistently express dissatisfaction should be subject to additional scrutiny of their evaluation practices.
5. Do teachers believe they are being evaluated fairly? Districts should survey teachers regularly to ask whether they are confident in the fairness and consistency of the evaluation process.

Additionally, the Teacher Evaluation 2.0 Report (2012) indicates that districts should investigate schools where larger percentages of teachers express concern. In particular, districts should determine if school leaders are getting the support they need to conduct accurate evaluations? The Teacher Evaluation 2.0 (2012) states:

Districts should survey school leaders regularly to ask whether they have the training, time and resources they need to implement the evaluation system well. District

leaders, human resources staff and other support personnel should be held accountable when school leaders say they are not getting what they need. (p. 11)

Effective Teacher Evaluation Practices for Technology Teachers

An evaluation process must have meaningful positive and negative implications to earn sustained support from teachers and school leaders and contribute to the systematic improvement of the teacher workforce. It should produce information that districts can easily factor into important decisions about teacher tenure, compensation, development, hiring, promotion and dismissal (McREL, 2012). The results of evaluations must be accurate, clear, easy to interpret and adaptable for all subject areas. For subject areas that fall under the STEM disciplines, teacher performance and how it is evaluated is not equally measurable, especially when “STEM subjects also include design and technology, information and communications technology, business studies, graphics, textiles and food technology” (Leevers, 2007). An effective evaluation practice should account for any significant decision that affects the quality of instruction that students receive (Teacher Evaluation 2.0, 2012).

As schools seek to build and sustain strong instructional teams, a teacher’s track record of success in the classroom should be paramount and not off-limits. Accountability for evaluation outcomes should not rest on the shoulders of teachers alone; the ability to identify, develop and keep talented teachers is arguably the most important priority of any school leader (Santiago, 2009). Therefore, instructional managers should be held accountable not just for evaluating teachers accurately, but for acting on the results and helping teachers

improve over time. Unfortunately, schools not have the available data to evaluate technology education classrooms as they would in tested area like math, science and English. Ongoing work with technology teachers in Tennessee led to “consideration of additional value-added composites, rather than the development or piloting of an alternative measure teacher evaluation” (Tennessee Department of Education, 2012, p. 17). This report addresses the diversity of courses offered within technology education and the challenges presented with using any standardized measure. The report concludes that “is unlikely that an individual growth measure will be identified for CTE educators” (Tennessee Department of Education, 2012, p. 17). Additionally, Holdsworth (2003) argues that district and state education leaders should be similarly responsible for ensuring that instructional managers receive effective oversight, as well as the training and support needed to evaluate teachers fairly, consistently and accurately in all content subject matters.

Before the full implementation of the standards-based teacher evaluation system, studies were carried out to examine the initial perceptions of teacher and administrator acceptance (Milanowski & Heneman, 2001), the nature of feedback that enables conditions and fairness perceptions (Kimball, 2003) and the relationship of these evaluation systems to student achievement (Gallagher, 2002). However, there is relatively little knowledge on how the school administrators and principals implement these systems, the facets they choose from the modules to emphasize in their evaluation, and how they adapt the systems to existing evaluation programs and practices.

Kleinhenz and Ingvarson (2004) posited that the aims of the teacher evaluation may be reached when the teachers and organizations claim the responsibility for implementing and developing systems for assessing teacher performance that respect the depth and intricacy of their professional knowledge and practice. Policy makers should be cautious about expecting major improvements in student achievement solely from evaluation reforms. As yet, no alternative approach is consistently proven to boost student achievement or attract, retain, and motivate teachers (Seiler, Landy, & Alexander, 2010).

Research is limited in part by the short life span of most initiatives. The new teacher-evaluation system in Kentucky (Tungate, 2012) reports that educators relate not so much to evaluations themselves but to how they are used, particularly in dealing with poor performance and supporting teachers' improvement efforts. Reforms will be most effective if they focus on how evaluations are used and consider other factors such as the preparation and supply of high-quality teachers, teachers' working conditions, school and district leadership, support for teachers' efforts to improve their teaching, political and social pressures against firing, time and paperwork burdens, student accountability for test results, and factors outside the control of schools (Teacher Evaluation 2.0, 2012).

The information technology revolution has caused significant changes in various facets of the economy and education (Campbell & Swift, 2005). In 1950, 60% of jobs were classified as unskilled, attainable by young people with high school diplomas or less. Today, less than 20% of jobs are considered to be unskilled (Carnevale & Desrochers, 2003). In North Carolina, the demand for middle and highly skilled workers is outpacing the state's

supply of workers educated and experienced at that level. A total of 80% of North Carolina's jobs are considered middle or highly skilled and require some postsecondary education or training. Yet only 38% of North Carolina adults have a postsecondary degree, considered as an associate's or higher degree (National Center for Higher Education Management Systems' Analysis of American Community Survey, 2007).

The statistics above highlight the need to study the role of technology teachers in North Carolina. Current studies emphasize the proposition that effective teacher evaluation models aim to achieve both accountability and improvement objectives. Santiago (2009) provided an interlocking approach to evaluation that includes simplifying the current model and reducing the work load of the school administration team. The new North Carolina system includes greater responsibility on both administrators and teachers. This model is similar to the failed Denver evaluation system which "was rejected for these specific reasons" (Simpson, 2012).

With the added standardized testing component to the evaluation process, not all academic areas can be adequately assessed by a multiple-choice test (Ballard & Bates, 2008). Many subjects require students to perform or create a product to demonstrate mastery of the standards. For many of these subjects - like technology education - portfolios, performances, products, and projects will likely be required to assess students' ability to create engineering works (Goe, & Holdheide, 2012). For these subjects, the focus is on designing appropriate tasks (e.g., performance or activities) that demonstrate students' mastery of standards and then developing appropriate pretests that allow districts/schools to determine students'

knowledge and skills at the beginning of the course. It may also be useful to identify the specific knowledge and skills that students need to successfully demonstrate mastery of a particular standard and then identify or develop tasks to serve as pretests from which progress on those standards can be determined.

The new North Carolina Teacher Evaluation System will only be as effective as the administrator who is implementing it. With the addition of STEM initiatives to attract students and qualified technology teachers in North Carolina, Seiler, Landy, and Alexander (2010) indicate that these initiatives can influence career-changing decisions only if teachers believe they will last long enough to fulfill their promises. One of the key design principles of the North Carolina STEM Community Collaborative is to “drive student, teacher, and principal standards (higher, fewer and clearer) mapped to the skills needed for success in post-secondary education and future careers” (North Carolina STEM Learning Network, 2011).

Berns (1990) explored the relationship between job satisfaction and teacher turnover for vocational and technology education teachers in Ohio. Retired teachers and former teachers who left their positions for reasons other than retirement indicated that they were dissatisfied with the strength of the administrators in their schools. The non-retired former teachers also did not feel appreciated by their administrators, did not feel encouragement for their initiatives, and were dissatisfied with student discipline. This study concluded that administrators may have an important effect on whether a teacher continues in that teaching position. A comprehensive study of technology teacher evaluation as it relates to job

satisfaction and the role of the principal in this equation is required to recruit and retain quality teachers.

Summary

This literature review covers teacher evaluation perspectives, theoretical foundations, variables and constraints for effective teacher evaluation, performance and professional development, job satisfaction, the North Carolina teacher evaluation instrument and process, and other related issues. The major conclusions of this literature review are that teachers have great influence over student achievement, the evaluation process is necessary for measuring teacher effectiveness but it is certainly not a perfect method for all educational settings, and the principal yields authority over teachers that can positively or negatively affect overall job satisfaction and the evaluation process.

In this chapter, links between teacher evaluation, teacher empowerment, and professional development were presented and the different types of data sources used in teacher evaluations were described. Studies of teacher job satisfaction associated to teacher empowerment and organizational culture were also presented. As a result of the federal educational reforms and mandates, states and school leaders are looking for effective teacher evaluation methods in order to fulfill the required guidelines. The strategies included in these evaluation initiatives are research-based but not perfect. According to the research on effective teacher evaluations presented in this literature review, future plans should include and address teacher job satisfaction and retention, especially in STEM education. Chapter 3

describes the design and methodology employed in this study, and provides an overview of the instruments used in this study, the Teacher Evaluation Profile (TEP) and the Teacher Job Satisfaction Questionnaire (TJSQ).

CHAPTER 3: METHODOLOGY

Introduction

The mission of the North Carolina State Board of Education is that every public school student will graduate from high school globally competitive for work and postsecondary education and prepared for life in the 21st century (North Carolina State Board of Education, 2012). This mission requires a new vision of school leadership and a new set of skills that teachers must use daily to help their students learn 21st century content and master skills they will need when they graduate from high school and enroll in higher education or enter the workforce or the military.

According to the North Carolina Professional Teaching Standards Commission, the different demands on 21st century education dictate new roles for teachers in their classrooms and schools. The following points define what teachers need to achieve to teach students in the 21st century:

- Leadership among the staff and the administration is shared to bring consensus and common, shared ownership of the vision and purpose of the work of the school.

Teachers are valued for the contributions they make to their classroom and the school.

- Teachers make the content they teach engaging, relevant, and meaningful to students' lives.
- Teachers can no longer cover material; they, along with their students, uncover solutions. They teach existing core content that is revised to include skills like critical

thinking, problem solving, and information and communications technology (ICT) literacy.

- In their classrooms, teachers facilitate instruction encouraging all students to use 21st century skills so they discover how to learn, innovate, collaborate, and communicate their ideas.
- 21st century content (global awareness, civic literacy, financial literacy, and health awareness) is included in the core content areas.
- Subjects and related projects are integrated among disciplines and involve relationships with the home and community.
- Teachers are reflective about their practice and include assessments that are authentic, structured and demonstrate student understanding.
- Teachers demonstrate the value of lifelong learning and encourage their students to learn and grow (North Carolina Professional Teaching Standards Commission, 2011).

This study aims to understand North Carolina Professional Teaching Standards teacher evaluation practices and their impact on technology teacher job satisfaction. It focuses on two variables, teacher evaluation practices and teacher job satisfaction. More specifically, this study addresses the following questions:

1. What is the impact of the job satisfaction of technology teachers in North Carolina on their perception of teacher evaluation practices?
2. What is the influence of job satisfaction of technology teachers on different subscales (aspects) of teacher evaluation practices?

3. Apart from job satisfaction of technology teachers, what is the role of total experience in teaching and assignment grade in determining their perception of teacher evaluation practices?
4. What is the influence of technology teachers' perception of the adequacy of their pay package in determining their job satisfaction?
5. What is the influence of technology teachers' perception of the adequacy of their pay package on their perception of overall teacher evaluation program?

This chapter describes the research procedures utilized in this study. The research design, sample set, survey instrument, data collection, and data analysis are described.

Hypotheses

The following hypotheses were tested in this study:

H01: There is no statistically significant relationship between teachers' perception of current teacher evaluation practices, as measured by a revised Teacher Evaluation Profile survey, and their job satisfaction, as measured by the subscale Work Itself of the Teacher Job Satisfaction Questionnaire. In other words, job satisfaction of technology teachers has no role in their perception of current teacher evaluation practices.

H02: There is no statistically significant relationship between teachers' perception of different aspects of current evaluation practices, as measured by subscales of the revised Teacher Evaluation Profile survey and their job satisfaction, as measured by the subscale Work Itself of the Teacher Job Satisfaction Questionnaire.

H03: There is no statistically significant relationship between teachers' perception of current teacher evaluation practices, as measured by a revised Teacher Evaluation Profile survey with any of the factors analyzed, such as job satisfaction, total experience in teaching and assignment grade.

H04: There is no statistically significant relationship between teachers' job satisfaction and their opinion regarding the adequacy of their pay package.

H05: There is no statistically significant relationship between teachers' perception of current teacher evaluation practices, as measured by a revised Teacher Evaluation Profile survey and their opinion regarding the adequacy of their pay package.

Research Design

This study examines how teacher evaluation practices effect technology teacher job satisfaction. The study is non-experimental because there is no experimental control over the subject's values on the factors that can influence the variable of interest in the study. As noted in the literature review, this research study has been clear in identifying and defining teacher evaluation practices and job satisfaction. Likewise, this study acknowledges that there are many factors affecting teacher job satisfaction besides evaluation practices. Another goal of this study is to measure the association of the correlates to identify which correlates have the greatest relationship on job satisfaction of technology teachers. The observational data collected from the surveys allowed the distribution of responses for each correlate to be

aggregated. Following data collection, aggregate scores for each correlate was compared and relationships identified in the data analysis were described.

Population and Sample Set

The population for this study consisted of licensed middle and high school technology teachers in the North Carolina Public Schools who are currently teaching. Teachers that met the criteria for participation were asked to complete the Teacher Evaluation Profile (TEP) and the Teacher Job Satisfaction Questionnaire (TJSQ). The email addresses of licensed technology teachers currently teaching in the North Carolina Public Schools was provided from the North Carolina Department of Public Instruction. The researcher added a question to the survey regarding the subject area taught in order to help assure that technology teachers were adequately represented. The question offered specific areas of teaching including agriculture, business, finance and information technology education, technology engineering and design education, and trade and industrial education. Additionally, to confirm licensure of technology teachers in North Carolina, a question was added about the type of licensure held by the participants. The surveys were distributed to all technology teachers via email. The aim of this strategy was to obtain responses from over 30% of the total number of teachers contacted for the study.

Instruments

The Teacher Evaluation Profile (TEP) questionnaire, with its necessary revisions, was used to collect data related to the components of the evaluation model that is used in the schools. A letter of permission was obtained, which allowed the use of the TEP questionnaire in this study. The TEP questionnaire was developed by Stiggins and Duke (1990) at the Northwest Regional Educational Laboratory and was designed to determine effective teacher evaluation practices. This questionnaire allows participants and researchers to document the nature of the teacher evaluation environment in a particular school or school district. However, the 46-item questionnaire was modified to align more closely with the needs and goals of this study.

The items evaluated in this study have been presented in a Likert response set wherein participants can scale their answer from one to five. Each number has a corresponding indicator: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. Each item was worded accordingly in order for the participants to easily understand what is being asked in the form of a phrase.

The intention of using the revised version of the instrument is mainly due to the elements connected to teacher evaluation such as student performance, peer evaluations, artifacts, and self-assessment which are present in the district as the target of this study. Furthermore, the revised version has proved to be a valid tool for collecting data. The use of TEP in this study is operationally defined using the five subscales: perceptions of the evaluator, procedures of the evaluation system used, attributes of the teacher, evaluation

context, and feedback received. These five subscales were merged into three fields of interest by Stiggins and Duke (1990); namely, environment (context), procedures (system and feedback), and people (teacher and perceptions of the evaluator).

The use of TEP has been deemed an effective instrument because it produces results with high reliability. According to the Northwest Regional Education Laboratory (1989), the internal consistency reliability of TEP on average is 0.94. This was determined by taking the findings from the revised TEP and testing these with the data from the original study. The test was taken in order to verify whether the revised TEP can be used as a reliable instrument after undergoing modification. Cronbach's alpha was used for the procedure to remain consistent with the measure used by Stiggins and Duke (1990) with the original instrument (Rindler, 1994).

For the purpose of this study, the following selections for the question "To what extent were the following sources of performance information considered as part of the evaluation?" were asked of each participant:

1. Observation of your classroom performance.
2. Meetings with your evaluator.
3. Examination of artifacts (lesson plans, materials).
4. Examination of students' performance.
5. Examination of student evaluations.
6. Peer evaluations.
7. Self-evaluations.

8. Completion of professional development or growth plans.

The use of the Teacher Job Satisfaction Questionnaire (TJSQ) is considered highly important for this study because understanding teacher job satisfaction is a core aspect of this research. To generate reliable, consistent, and scientifically convincing results, TJSQ appears to be the most appropriate instrument. It has been used in several educational settings and found to be reliable and effective. Permission was successfully obtained from the author to use this instrument.

The TJSQ has 66 items integrated in 9 subscales. These subscales are as follows: colleagues, working conditions, supervision, pay, responsibility, work itself, security, recognition, and advancement. The items are presented using the Likert response set in a scale from one to five. Each scale has a corresponding guide indicator for evaluation: 1 is for strongly disagree, 2 for disagree, 3 undecided, 4 agree, and 5 strongly agree. However, in this study, the supervision subscale was excluded in the measurement of teacher job satisfaction. Instead, supervision was measured using the TEP.

Furthermore, the use of additional subscales of TJSQ such as advancement, responsibility, and recognition are intimately related to the Hygiene Motivation Theory of Herzberg, whereas the subscale colleagues was supported by Protheroe, Lewis, and Paik (2002). The subscale colleagues emphasizes the value of collegiality and collaboration among teachers, which helps to increase the degree of job satisfaction. Meanwhile, the subscale security is linked in Maslow's hierarchy of needs (Lester, 1982).

Mail and Phone versus Electronic Surveys

The effectiveness of online (electronic) surveys has become a reliable standard for collecting data. Multiple studies have documented the beneficial aspects of electronic surveys in terms of convenience, cost and speed (Shannon & Bradshaw, 2002). Their results indicate a reduction in cost by using electronic surveys versus the traditional paper and postage (mail) or phone interview surveys. Schaefer and Dillman (1998) suggest that there is significant reduction of phone and postage cost in using electronic surveys and a greater than 50% rate of return than traditional mail surveys.

Further studies suggest that electronic surveys have become the norm in today's society and allow for an automated verification process and survey response system utilizing electronic databases that can reduce the time needed for data analysis (Andrews, Nonnecke, & Preece, 2003). However, for electronic surveys to be deemed authentic it is necessary to compare them against the traditional mail and phone survey methods. For instance, an electronic survey sampling may be restricted to individuals who only have access to computers and internet access (Andrews, Nonnecke, & Preece, 2003). For these reasons, Shannon (2002) suggested that selected respondents be chosen from professional organizations or groups that are provided internet access and email use through their employment or membership facilities. They also suggest that to ensure high response rates, email surveys should include a brief pre-notification invitation used to introduce the survey, which allows for potential participants to opt-in or opt-out.

The current study followed these suggestions and utilized the Qualtrics Electronic Survey (Qualtrics, UT, USA) available online via North Carolina State University. By utilizing these online tools, all potential participants were allotted equal access to the survey via their school employee internet access and email address.

Data Collection

Copies of the survey for both the Teacher Evaluation Profile (TEP) and Teacher Job Satisfaction Questionnaire (TJSQ) were sent to all identified licensed technology teachers in North Carolina via electronic email through the NCSU Qualtrics Electronic Survey tool. A cover letter with complete information about the survey was sent to the respondents one week prior to the survey to ensure that all respondents were aware of the purpose and intentions of the study. All supervising administrators considered useful to the study were informed through their cooperating central office support staff.

The duration allotted to complete the surveys was 60 days. The purpose of allotting respondents two months to complete the survey was for them to be discerning and more serious in evaluating the statements. Moreover, to try and ensure maximum teacher participation, a reminder was sent 14, 30, and 50 days after receipt of the survey.

Data Analysis

This study can be characterized as quantitative research. Data collected from the surveys (TEP and TJSQ) were summarized and analyzed. In order to produce reliable results

that can be verified and validated, inferential statistical analyses were conducted. Using SPSS (version 20) statistical analysis software (IBM SPSS Statistics, USA) to analyze data collected from the returned surveys (TEP and TJSQ), the study aimed to provide reliable, consistent, and accurate statistical analyses. Data on ID particulars, teaching experience in current district, total teaching experience, assignment grade, gender, and year of latest evaluation, together with responses to the 46 items pertaining to teachers' perception of the TEP, 9 of 66 TJSQ items pertaining to the Work Itself subscale of job satisfaction and 7 of 66 TJSQ items pertaining to pay package were entered in to an SPSS datafile. The data on all items (including gender, years of teaching experience, and current teaching assignment grade level etc.) in the questionnaire were summarized using frequency distribution.

A composite measure of teachers' perception of TEP was derived by taking the sum of all responses to the 46 questions and dividing this value by 46, after doing a reliability analysis to justify the derivation of a single construct. Cornbach's $\alpha > 0.7$ would justify the derivation of a single composite measure of TEP from all the 46 constituent items. Similarly, the scores on the five subscales of TEP (Personnel attributes – 8 items; Evaluator/Evaluation perception – 11 items; Evaluation procedure – 13 items; Feedback received after evaluation – 9 items and Evaluation context – 5 items), the Work Itself subscale of the TJSQ (9 items) and Perception regarding adequacy of pay package of TJSQ (7 items) were derived by summing the responses of the constituent items and dividing the sum by the number of constituent items. Items with negative connotation in the TJSQ were reverse coded to maintain uniform meaning of the response codes.

TEP subscales are straight forward. TJSQ item numbers 3, 7, 11, 25, 27, 30, 42, 45 and 46 (after reverse coding 7, 11 27, 30 and 45 so as to have uniform meaning of the responses) were used for deriving the work life job satisfaction score by taking the sum of the responses and dividing it by 9. The overall perception of the technology teachers about their pay package was consolidated by taking the sum of all responses to item numbers 2, 4, 44, 57, 36, 61 and 65 of the TJSQ (after reverse coding item numbers 4, 44 and 57,) and dividing the same by 7. The scores thus derived would have direct interpretation in that the scores would range from 1 to 5 like the original 5-point scale, with a higher score implying better positive perception of TEP, work life job satisfaction and adequacy of pay package.

Total scores for both instruments were calculated and analyzed to examine their relationship. Moreover, the total scores taken from the items in each of the five subscales of the TJSQ and TEP were calculated and analyzed separately to determine the degree of the relationship between specific components of technology teacher evaluation practices and teacher job satisfaction. Descriptive statistics (minimum, maximum, mean and standard deviation) were calculated for all the derived variables and the distribution of the derived variables was checked for normality by graphical (histograms with superimposed normal curve) and formal methods (Shapiro-Wilk test of normality). Scatter plots were generated for graphical assessment of the relationship between the derived variables. Box plots were generated for graphical comparison of the derived constructs across teachers with different duration of experience and assignment grade level.

Research question 1 was addressed by employing linear regression with the Overall TEP score that is derived as explained above as the dependent variable, and the derived score on the Work Itself subscale of TJSQ as the independent variable. For research question 2, the analysis described for research question 1 was repeated with the same independent variable (job satisfaction) but taking each of the five subscales of TEP as the dependent variable sequentially. For research question 3, multiple regression analysis was employed, with the TEP score as the dependent variable, and job satisfaction, total teaching experience and assignment grade as the independent variables to evaluate the contribution of each independent variable. Research question 4 was answered using the derived pay package score as an independent variable in the regression analysis with job satisfaction as the dependent variable. Research question 5 was addressed by repeating the analysis for research question 4, but changing the dependent variable to the overall TEP score. An alpha level of 0.05 was used to determine the statistical significance of the data. In addition, demographic data generated information to benefit the interpretation of the analyses.

Summary

This chapter presented the method and research design implemented in this study. Hypotheses, research questions, selection of site, respondents, instruments, and population were discussed to outline the aims, scope and strategy for this study. Moreover, methods and procedures regarding data collection and analysis were also outlined.

CHAPTER 4: RESULTS

Introduction

The purpose of this study was to explore the relationship between evaluation practices and teacher job satisfaction for technology teachers in North Carolina. The perceptions of all licensed technology teachers (n=182) in North Carolina regarding their most recent evaluation experience and the degree to which they were satisfied with teaching as a profession was investigated. This chapter presents the data relevant to teacher evaluation practices and teacher job satisfaction.

The survey instruments included the Teacher Evaluation Profile (TEP) survey which consisted of 53 questions. In addition to these 53 questions, participants were also asked two demographic questions about their teaching subject and the level of teacher licensure they currently hold. The second instrument was the Teacher Job Satisfaction Questionnaire (TJSQ) which consisted of 67 questions. The participants were asked to specify their level of agreement using the following Likert scale, 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree, to each of the 67 questions.

The target population for this study consisted of 487 full-time licensed public school technology teachers employed in the North Carolina Public Schools. Participant's email addresses were acquired through the North Carolina Department of Public Instruction Technology and Engineering and Design Department and with cooperation from several school districts throughout the state. Participants were emailed the option to participate in the study through the NCSU Qualtrics Electronic Survey software. Included in this email were

an introduction letter, informed consent information, and contact information for the researcher. Usable responses were collected from a total of 182 participants who responded to the survey (response rate of 37%).

Descriptive data of the participants' years of teaching experience, current teaching assignment and grade level, date of their most recent evaluation and the perception of the evaluation were also included. The data collected were summarized and analyzed using a frequency distribution summary, a profile of means and standard deviations, and multiple regression analyses. The results were then used to address the research questions and hypotheses developed for the study. Statistical analysis of each research question was reviewed, and results of the data analyses are presented in tables to illustrate statistical significance. Tables were used to delineate correlations between teacher evaluation practices and teacher job satisfaction. Statistical analyses of the hypotheses are also presented.

This chapter provides the results of these analyses. In particular, it specifies the descriptive statistics of the study's population and teachers' perceptions about the relationship between the teachers' perception of the evaluation practices and job satisfaction of technology teachers. It also explains the results, including whether the findings were statistically significant and whether the null hypothesis related to the research questions was rejected. The chapter concludes with an overall summary of the findings.

Sample Set

Table 4.1 displays the number of years participants taught in the current district. Of the 182 participants who responded, the largest proportion (28.7%) had taught 2 to 5 years while the smallest (6.6%) had taught only 1 year. Those who taught in the current district for 6 to 10 years represented 24.9%; 11 to 15 years represented 23.2% and 16 or more years represented 16.6%.

Table 4.1. Number of years taught in the current district by the participant (N=181)

No. of years	No. of participants	percentage
1 year	12	6.6
2 to 5 years	52	28.7
6 to 10 years	45	24.9
11 to 15 years	42	23.2
16 or more years	30	16.6

If participants taught in multiple districts, they were also asked to indicate how many years they taught. As Table 4.2 displays, of the 152 teachers who provided a response, the largest proportion (27.6%) taught 16 or more years across multiple districts, while the smallest (5.9%) taught only 1 year. Those who taught 2 to 5 years represented 19.1%; 6 to 10 years represented 23%, and 11 to 15 years represented 24.3%.

Table 4.2. Total years of teaching in multiple districts, if any, including the current year (N=152)

No. of years	No. of participants	percentage
1 year	9	5.9
2 to 5 years	29	19.1
6 to 10 years	35	23
11 to 15 years	37	24.3
16 or more years	42	27.6

Within the sample (N=182), 76.4% of the teachers were assigned to grades 9 through 12, 17.6% were assigned to grades 6 through 8 and 6% were assigned to grades 6 through 12, as described in Table 4.3.

Table 4.3. Current teaching assignment grade level of the participant (N=182)

No. of years	No. of participants	percentage
Grades 6 through 8	32	17.6
Grades 9 through 12	139	76.4
Grades 6 through 12	11	6

Approximately 54% of the sample (N=180) were male, while the remaining 46% were female, as shown in Table 4.4.

Table 4.4. Gender of the participants (N=180)

No. of years	No. of participants	percentage
Male	97	53.9
Female	83	46.1

As shown in Table 4.5, the majority (51.1%) of the sample (N=180) had their most recent evaluation during the academic year 2011-2012, while the least (0.6%) had their evaluation prior to 2009. A total of 44.4% had their last evaluation during the academic year of 2012-2013; 2.8% had theirs between 2012 and 2011, and 1.1% had theirs between 2009 and 2010.

Table 4.5. Date of most recent evaluation of the participant (N=180)

Period of evaluation	No. of participants	percentage
During the academic year 2012-2013	80	44.4
During the academic year 2011-2012	92	51.1
During the academic year 2010-2011	5	2.8
During the academic year 2009-2010	2	1.1
Prior to 2009	1	0.6

Responses to Surveys

Table 4.6 displays the distribution of responses to the Personal Attributes subscale of the TEP questionnaire. On average, the highest percentage of respondents answered with a 4

to questions 1 to 6 specifically. Most respondents (81 of 173 respondents) confessed that they knew a great deal of the curriculum content, while the largest group (33.1% of 172 teachers) felt that, prior to their most recent experience, teacher evaluations were only somewhat helpful, rating the experience with a 3.

Table 4.6. Responses of the participants for the items of TEP subscale A: Personal Attributes

TEP item	Response 1 means	Response					Mean Score	Total partic ipants	Response 5 means
		1	2	3	4	5			
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)			
1. The strength of your professional expectations	Demand little	0 (0)	5 (2.9)	19 (11)	80 (46.2)	69 (39.9)	4.23	173	I demand a great deal
2. Orientation to risk taking	Avoid risks	2 (1.2)	12 (6.9)	34 (19.7)	86 (49.7)	36 (22.5)	3.84	173	I take risks
3. Orientation to change	Relatively slow to change	1 (0.6)	10 (5.8)	30 (17.3)	85 (49.1)	47 (27.2)	3.97	173	I am relatively flexible
4. Orientation to experimentation in your classroom	I don't experiment	2 (1.2)	16 (9.4)	30 (17.5)	68 (39.8)	55 (32.2)	3.92	171	I experiment frequently
5. Openness to criticism	I am relatively closed	0 (0)	8 (4.7)	30 (17.8)	100 (59.2)	31 (18.3)	3.91	169	I am relatively open
6. Knowledge of technical aspects of teaching	I know a little	0 (0)	7 (4.1)	34 (19.8)	86 (50)	45 (26.2)	3.98	172	I know a great deal
7. Knowledge of curriculum content	I know a little	1 (0.6)	3 (1.7)	13 (7.5)	75 (43.4)	81 (46.8)	4.34	173	I know a great deal
8. Experience with teacher evaluation prior to most recent experience	Waste of time	9 (5.2)	39 (22.7)	57 (33.1)	47 (27.3)	20 (11.6)	3.17	172	Very helpful

Table 4.7 displays the distribution of responses to the Perception of Evaluation of Performance/Evaluator subscale of the TEP questionnaire. The largest group of respondents answered with a 5 when asked questions 11 (47.5%), 12 (4.2%), 13 (29.4%) and 17 (39%). The largest group of respondents answered with a 4 when asked questions 10 (42.5%), 14 (41.9%), 15 (37.1%), 16 (43.4%), 18 (46.2%) and 19 (41.3%).

Table 4.8 displays the distribution of results to the Procedures Used During Most Recent Evaluation subscale of the TEP questionnaire. The largest group of respondents answered with a 4 to questions 20 (49.4%), 21 (40.9%), 22 (48.7%), 25 (43.3%), 26 (39.5%), 27 (39.7%), and 30 (42%). The largest group of respondents answered with a 5 only to questions 24 (45.9%). The largest group of respondents answered with a 3 to questions 23 (28%), 31 (35%) and question 32 (33.5%). The largest group of respondents answered with a 1 to questions 28 (41.2%) and 29 (41.7%).

Table 4.7. Responses of the participants for the items of TEP subscale B: Perception of Evaluation of performance / Evaluator

TEP item	Response 1 means	Response					Mean Score	Total participants	Response 5 means
		1	2	3	4	5			
		No. %	No. %	No. %	No. %	No. %			
9. Credibility as a source of feedback	Not credible	5 (3.1)	24 (15)	38 (23.8)	60 (37.5)	33 (20.6)	3.58	160	Very credible
10. Working relationship with you	Adversary	2 (1.3)	12 (7.5)	36 (22.5)	68 (42.5)	42 (26.3)	3.85	160	Helper
11. Level of trust	Not trustworthy	2 (1.3)	19 (12)	27 (17.1)	35 (22.2)	75 (47.5)	4.03	158	Trustworthy
12. Interpersonal manner	Threatening	2 (1.3)	11 (6.9)	55 (34.6)	16 (10.1)	75 (47.2)	3.95	159	Not threatening
13. Temperament	Impatient	3 (1.9)	24 (15)	43 (26.9)	43 (26.9)	47 (29.4)	3.67	160	Patient
14. Flexibility	Rigid	2 (1.3)	20 (12.5)	30 (18.8)	67 (41.9)	41 (25.6)	3.78	160	Flexible
15. Knowledge of technical teaching	Not knowledgeable	8 (5)	21 (13.2)	16 (10.1)	59 (37.1)	55 (34.6)	3.83	159	Very knowledgeable
16. Capacity to model or demonstrate needed improvements	Very low	4 (2.5)	21 (13.2)	47 (29.6)	69 (43.4)	18 (11.3)	3.48	159	Very high
17. Familiarity with your particular teaching assignment	Unfamiliar	13 (8.2)	21 (13.2)	16 (10.1)	47 (29.6)	62 (39)	3.78	159	Very familiar
18. Usefulness of suggestions for improvement	Useless	9 (5.7)	20 (12.7)	29 (18.4)	73 (46.2)	27 (17.1)	3.56	158	Very useful
19. Persuasiveness of rationale for suggestions	Not persuasive	11 (6.9)	17 (10.6)	54 (33.8)	66 (41.3)	12 (7.5)	3.32	160	Very persuasive

Table 4.8. Responses of the participants for the items of TEP subscale C: Procedures Used During Most Recent Evaluation

TEP item	Response 1 means	Response					Mean Score	Total participants	Response 5 means
		1	2	3	4	5			
		No. %							
20. Were standards communicated ...?	Not at all	1 (0.6)	25 (15.8)	17 (10.8)	78 (49.4)	37 (23.4)	3.79	158	In great detail
21. Were the standards clear to you?	Vague	2 (1.3)	20 (12.6)	16 (10.1)	65 (40.9)	56 (35.2)	3.96	159	Very clear
22. Were standards endorsed by you as appropriate ...?	Not endorsed	3 (1.9)	20 (12.7)	31 (19.6)	77 (48.7)	27 (17.1)	3.66	158	Highly endorsed
23. Were the standards ...?	Same for all teachers	52 (33.1)	12 (7.6)	44 (28)	37 (23.6)	12 (7.6)	2.65	157	Tailored for your unique needs
24. Observation of your classroom ...	Not considered	1 (0.6)	10 (6.4)	9 (5.7)	65 (41.4)	72 (45.9)	4.25	157	Used extensively
25. Meetings with evaluator	Not considered	5 (3.2)	15 (9.6)	28 (17.8)	68 (43.3)	41 (26.1)	3.80	157	Used extensively
26. Examination of artifacts (lesson plans, materials, ...)	Not considered	9 (5.7)	42 (26.8)	20 (12.7)	62 (39.5)	24 (15.3)	3.32	157	Used extensively
27. Examination of student performance	Not considered	20 (12.8)	22 (14.1)	33 (21.2)	62 (39.7)	19 (12.2)	3.24	156	Used extensively
28. Student evaluations	Not considered	63 (41.2)	20 (13.1)	32 (20.9)	28 (18.3)	10 (6.5)	2.36	153	Used extensively
29. Peer evaluations	Not considered	65 (41.7)	18 (11.5)	31 (19.9)	36 (23.1)	6 (3.8)	2.36	156	Used extensively
30. Self-evaluations	Not considered	17 (10.8)	32 (20.4)	25 (15.9)	66 (42)	17 (10.8)	3.22	157	Used extensively
31. Number of formal observations of your classroom per year	0	3 (1.9)	37 (23.6)	55 (35)	30 (19.1)	32 (20.4)	3.32	157	4
32. Approximate frequency of ...	0	17 (11)	39 (25.2)	52 (33.5)	15 (9.7)	9 (5.8)	2.70	155 ¹	4

Note that 23 (14.8%) declared 5 or more informal observations per year.

Table 4.9 displays the distribution of responses to the subscale of the TEP questionnaire that investigated the feedback received during the last evaluation. The largest group answered with a 3 to all questions except questions 40 (50.3%) and 41 (46.1%), which both received responses of 4.

Table 4.9. Responses of the participants for the items of TEP subscale D: Feedback received during last evaluation

TEP item	Response 1 means	Response					Mean Score	Total participants	Response 5 means
		1	2	3	4	5			
		No. %							
33. Amount of information received	None	5 (3.3)	27 (17.8)	61 (40.1)	46 (30.3)	13 (8.6)	3.23	152	Great deal
34. Frequency of formal feedback	Infrequent	4 (2.6)	34 (21.9)	54 (34.8)	47 (30.3)	16 (10.3)	3.24	155	Frequent
35. Frequency of informal feedback	Infrequent	14 (9.2)	33 (21.7)	51 (33.6)	42 (27.6)	12 (7.9)	3.03	152	Frequent
36. Depth of information provided	Shallow	16 (10.4)	27 (17.5)	70 (45.5)	31 (20.1)	10 (6.5)	2.95	154	In-depth
37. Quality of the ideas ...	Very low	16 (10.3)	25 (16.1)	73 (47.1)	35 (22.6)	6 (3.9)	2.94	155	High
38. Specificity of information provided	Vague	20 (12.9)	37 (23.9)	55 (35.5)	41 (26.5)	2 (1.3)	2.79	155	Specific
39. Nature of information	Judgmental	7 (4.5)	22 (14.3)	63 (40.9)	59 (38.3)	3 (1.9)	3.19	154	Descriptive
40. Timing of feedback	None given	5 (3.3)	24 (15.7)	41 (26.8)	77 (50.3)	6 (3.9)	3.36	153	Immediate
41. Feedback focused on standards	I ignored the standard	4 (2.6)	15 (9.7)	12 (7.8)	71 (46.1)	52 (33.8)	3.99	154	Reflected teaching standards

Table 4.10 displays the distribution of results to the subscale of the TEP questionnaire that examines Resources Available for Evaluation. The largest group responded with a 3 to questions 42 (46.4%) and 44 (39.2%). The largest group responded with a 4 to questions 43 (33.8%) and 45 (40.9%). The largest group responded with a 5 to question 46 (44.5%).

Table 4.10. Responses of the participants for the items of TEP subscale E: Resources Available for Evaluation

TEP item	Response 1 means	Response					Mean Score	Total participants	Response 5 means
		1	2	3	4	5			
		No. %							
42. Amount of time spent on the evaluation process, including your time and that of all other participants.	None	1 (0.7)	22 (14.4)	71 (46.4)	50 (32.7)	9 (5.9)	3.29	153	Great deal
43. Time allotted during the semester for professional development	None	1 (0.6)	29 (18.8)	49 (31.8)	52 (33.8)	23 (14.9)	3.44	154	Great deal
44. Availability of training programs and models of good practices	None	4 (2.6)	38 (24.8)	60 (39.2)	41 (26.8)	10 (6.5)	3.10	153	Great deal
45. Clarity of policy statements regarding purpose of evaluation	Non-existent	2 (1.3)	32 (20.8)	36 (23.4)	63 (40.9)	21 (13.6)	3.45	154	Very clear
46. Intended role of evaluation	Teacher accountability	57 (36.8)	6 (3.9)	16 (10.3)	7 (4.5)	69 (44.5)	3.16	155	Teacher growth

Table 4.11 displays the distribution of responses to the subscale of the TJSQ which dealt with job satisfaction. The largest group disagreed with questions 11 (36.4%), 27 (42.1%), 30 (50.6%) and 45 (42.5%). The largest group of respondents agreed with questions 3 (57.4%), 25 (62.2%), 42 (46.9%) and 46 (31.9%).

Table 4.11. Responses of the participants for the items of Work itself job satisfaction subscale of TJSQ

TJSQ item of Work Life job satisfaction sub-scale	Response					Mean Score	Total participants
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree		
	No. %	No. %	No. %	No. %	No. %		
3. Teaching provides an opportunity to use a variety of skills.	1 (0.6)	5 (3)	11 (6.5)	97 (57.4)	55 (32.5)	4.18	169
7. The work of a teacher consists of routine activities.	11 (6.7)	47 (28.5)	21 (12.7)	69 (41.8)	17 (10.3)	3.21	165
11. I do not have the freedom to make my own decisions.	17 (10.5)	59 (36.4)	42 (25.9)	40 (24.7)	4 (2.5)	2.72	162
25. Teaching is very interesting work	2 (1.2)	6 (3.7)	13 (7.9)	102 (62.2)	41 (25)	4.06	164
27. Teaching discourages originality.	38 (23.2)	69 (42.1)	28 (17.1)	25 (15.2)	4 (2.4)	2.32	164
30. Teaching does not provide me the chance to develop new methods.	30 (18.3)	83 (50.6)	22 (13.4)	26 (15.9)	3 (1.8)	2.32	164
42. Teaching encourages me to be creative.	2 (1.2)	18 (11.1)	24 (14.8)	76 (46.9)	42 (25.9)	3.85	162
45. I am indifferent toward teaching.	47 (29.4)	68 (42.5)	35 (21.9)	9 (5.6)	1 (0.6)	2.06	160
46. The work of a teacher is very pleasant.	7 (4.3)	47 (28.8)	42 (25.8)	52 (31.9)	15 (9.2)	3.13	163

Table 4.12 displays the distribution of responses to the subscale of the TJSQ that dealt with the teachers' perception of the adequacy of their pay package. The largest group strongly disagreed (47.2%) when asked question 36. The largest group disagreed with questions 2 (50.3%), 61 (46.3%), and 65 (33.5%). The largest group agreed with question 4 (36.9%). The largest group strongly agreed with question 57 (42%).

Table 4.12. Responses of the participants for the items of Perception of Adequacy of Pay package of TJSQ

TJSQ item of adequacy of Pay package subscale	Response					Mean Score	Total participants
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree		
	No. %	No. %	No. %	No. %	No. %		
2. Teacher income is adequate for normal expenses	56 (33.1)	85 (50.3)	6 (3.6)	19 (11.2)	3 (1.8)	1.98	169
4. Insufficient income keeps me from living the way I want to live	3 (1.8)	20 (11.9)	29 (17.3)	62 (36.9)	54 (32.1)	3.86	168
36. I am well paid in proportion to my ability	77 (47.2)	70 (42.9)	8 (4.9)	6 (3.7)	2 (1.2)	1.69	163
44. Teacher income is barely enough to live on	3 (1.8)	25 (15.2)	31 (18.9)	56 (34.1)	49 (29.9)	3.75	164
57. Teacher income is less than I deserve	13 (8)	9 (5.6)	9 (5.6)	63 (38.9)	68 (42)	4.01	162
61. Teaching provides me with financial security	33 (20.1)	76 (46.3)	33 (20.1)	20 (12.2)	2 (1.2)	2.28	164
65. Pay compares with similar jobs in other school districts	11 (6.7)	55 (33.5)	36 (22)	54 (32.9)	8 (4.9)	2.96	164

Composite scores of TEP, Work Itself Job Satisfaction and Adequacy of Pay Package constructs were analyzed by calculating Cronbach's alpha. Cronbach's alpha (alpha >0.7) justifies the derivation of a single composite measure of TEP from all the 46 constituent items, as shown in Table 4.13.

Table 4.13. Cronbach's Alpha results for 46 items of the TEP questionnaire

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.934	.934	46

Descriptive Statistics and Distribution of the Derived Variables

Table 4.14 displays the descriptive statistics and distribution of the derived variables.

Table 4.14. Descriptive statistics of scores on the derived constructs

Derived Construct	N	Minimum	Maximum	Mean	SD	Median	Shapiro-Wilk	
							Statistic	P-value
Overall TEP ¹	141	2.11	4.52	3.47	0.564	3.59	0.953	0.000
TEP-A	141	2.63	4.88	3.94	0.471	4	0.977	0.018
TEP-B	141	1.55	5.00	3.67	0.831	3.82	0.918	0.000
TEP-C	141	2.00	4.77	3.31	0.661	3.38	0.967	0.002
TEP-D	141	1.33	4.89	3.15	0.782	3.22	0.977	0.018
TEP-E	141	1.60	4.80	3.27	0.784	3.40	0.970	0.003
Work Itself TJSQ ²	141	0.44	4.89	3.59	0.703	3.67	0.866	0.000
Pay package	141	0.43	4.00	2.14	0.687	2.14	0.985	0.117

Figures 4.1 to 4.10 graphically illustrate the distribution of the scores.

¹ Needed to be transformed (skewness= -1.495)

² Needed to be transformed (skewness= -1.710)

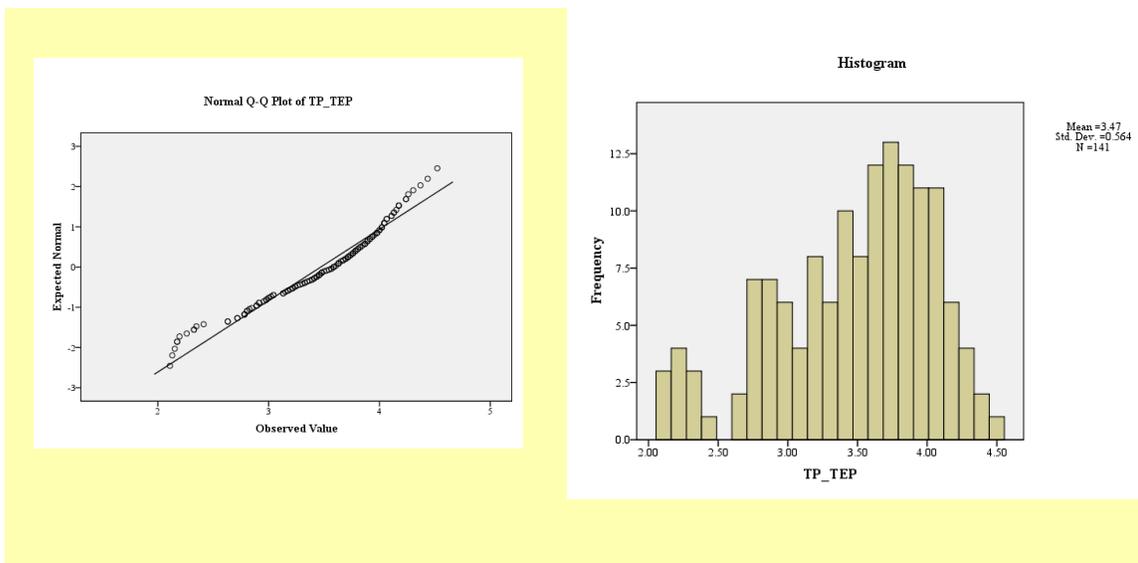


Figure 4.1. Normal Q-Q plot and histogram of overall TEP score

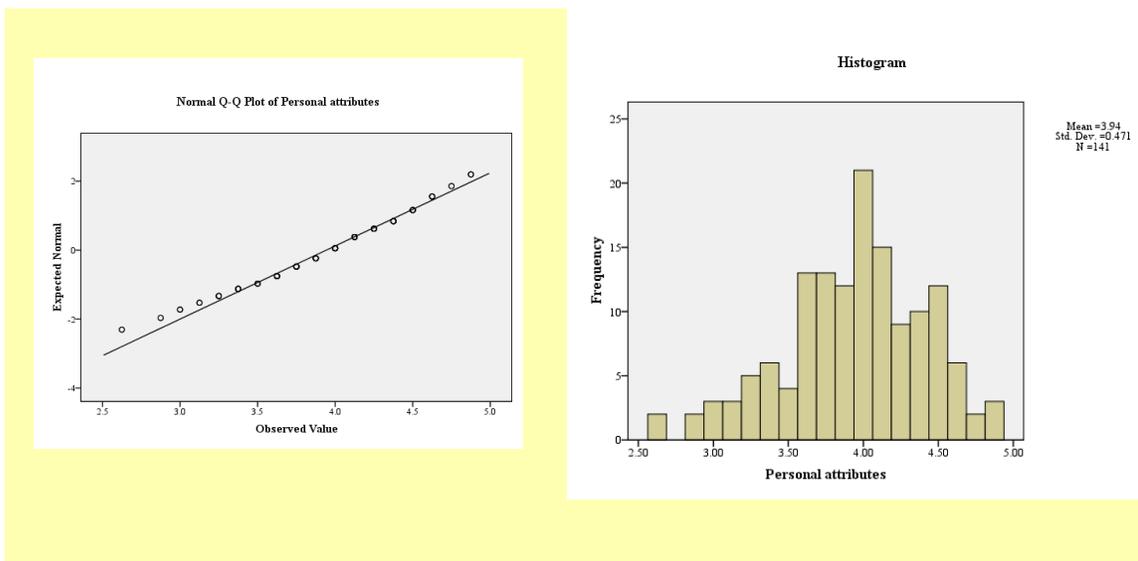


Figure 4.2. Normal Q-Q plot and histogram of Personal Attributes score

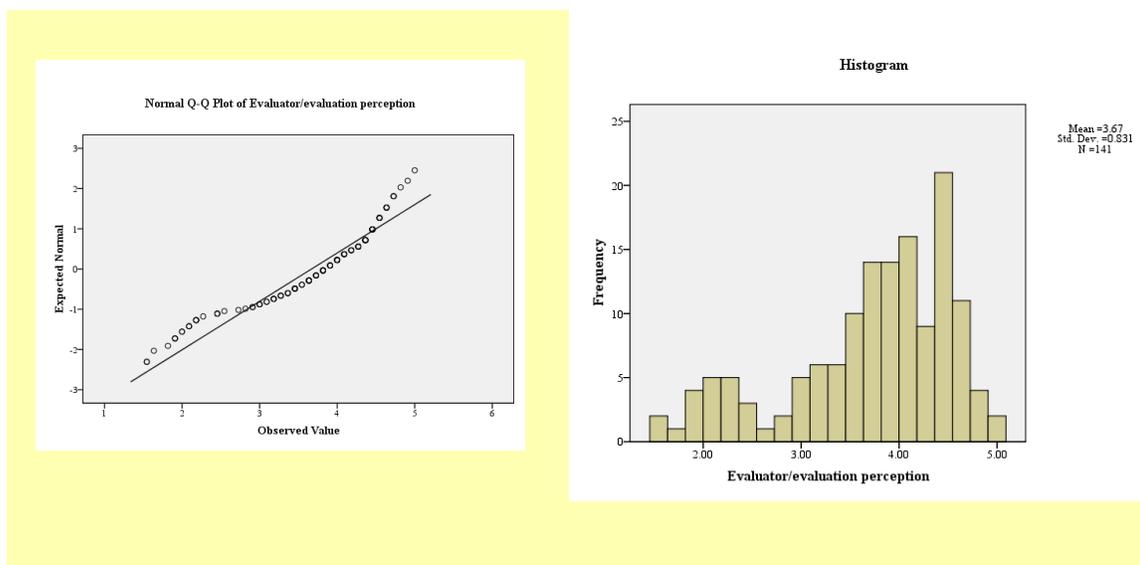


Figure 4.3. Normal Q-Q plot and histogram of Evaluator/Evaluation Perception score

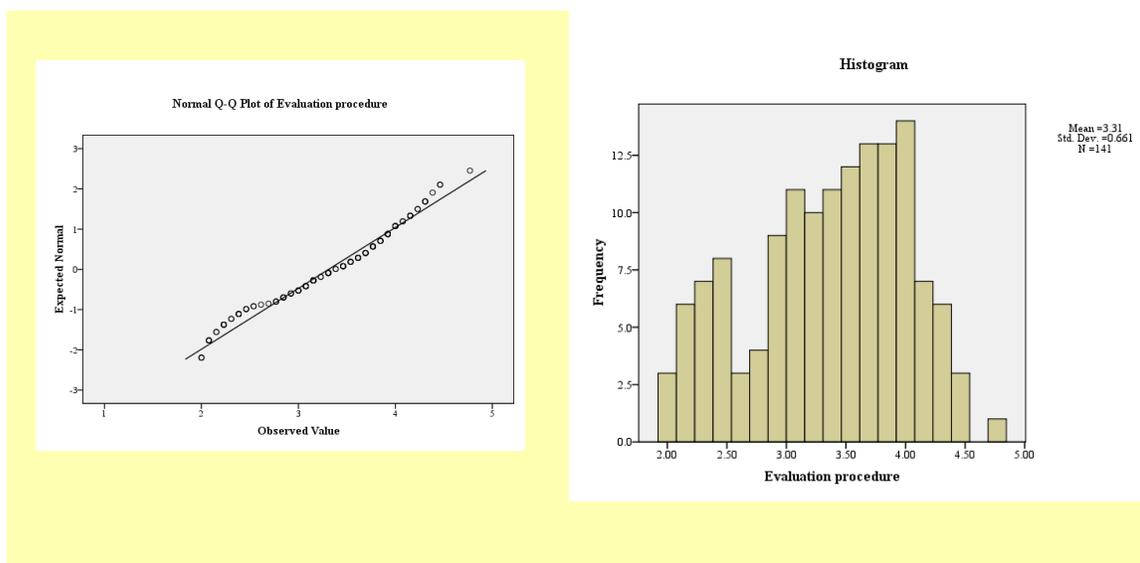


Figure 4.4. Normal Q-Q plot and histogram of Evaluation Procedure score

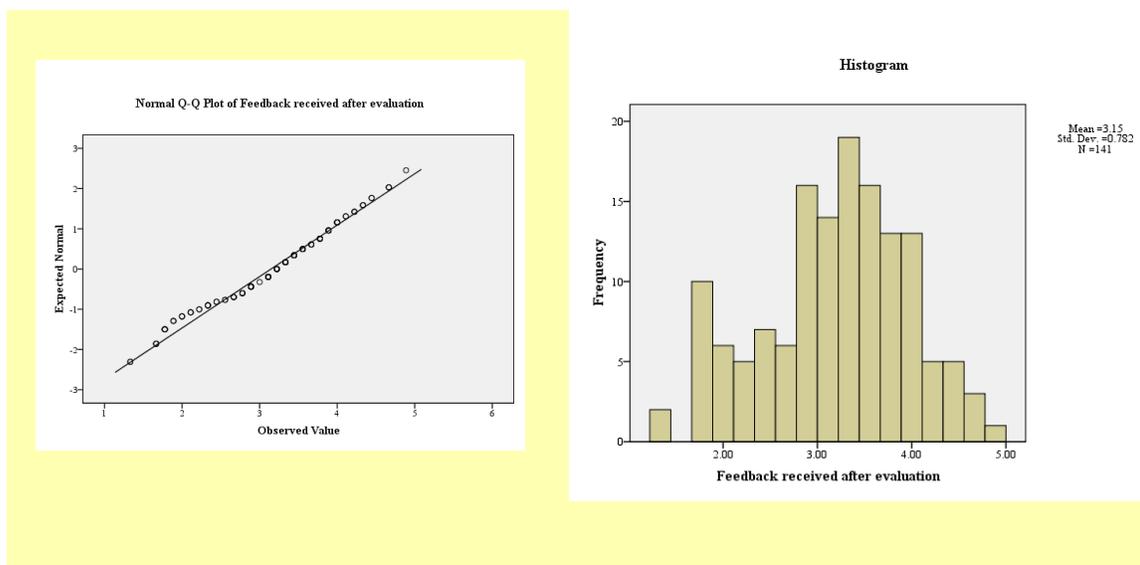


Figure 4.5. Normal Q-Q plot and histogram of Feedback Received after Evaluation score

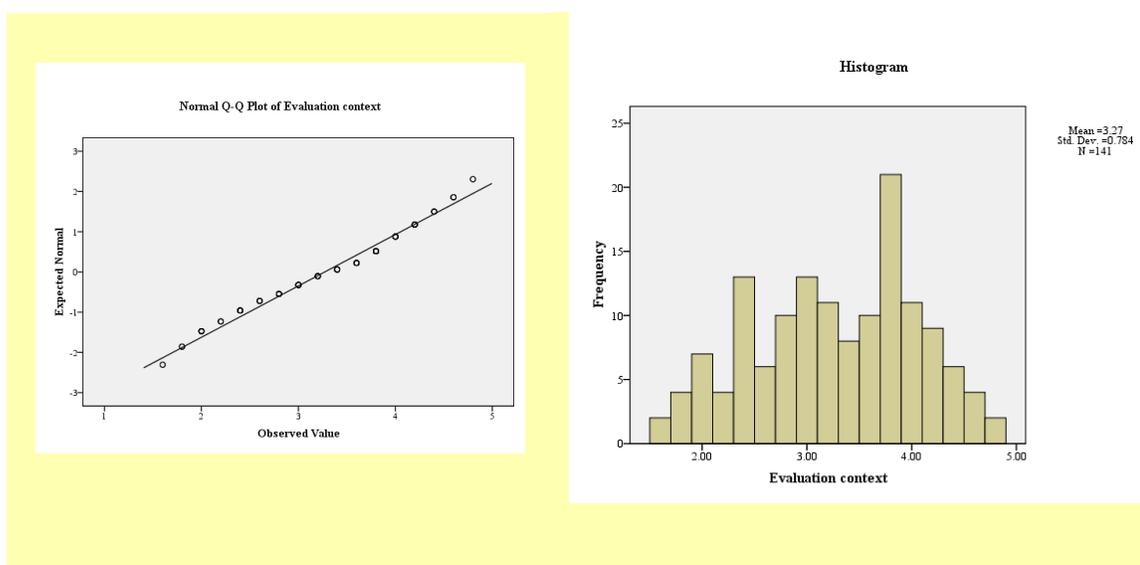


Figure 4.6. Normal Q-Q plot and histogram of Evaluation Context score

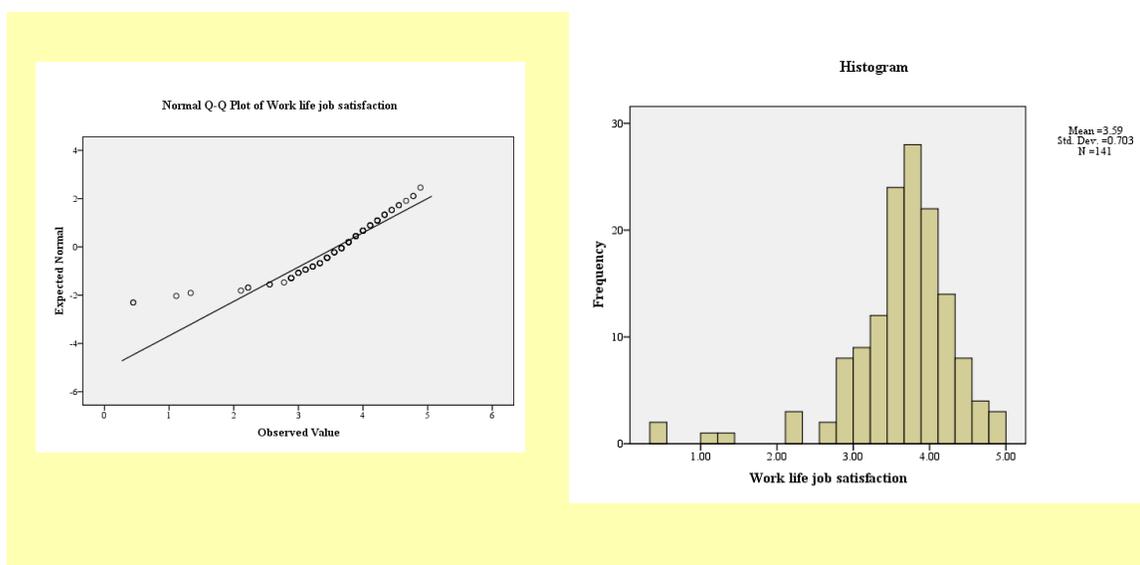


Figure 4.7. Normal Q-Q plot and histogram of Work Life Job Satisfaction score

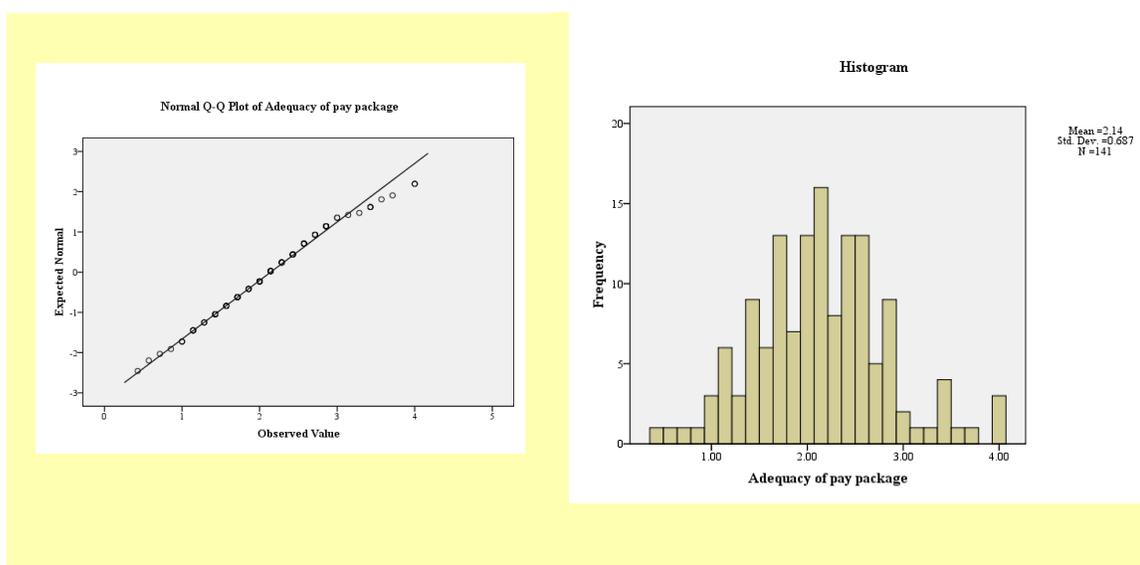


Figure 4.8. Normal Q-Q plot and histogram of Adequacy of Pay Package score

In order to employ a linear regression to test relationships, the Overall TEP (skewness = -1.495) and job satisfaction (skewness = -1.710) needed to be normalized. Following the application of appropriate data transformations, overall TEP (skewness = 0.648) and job satisfaction (skewness = 0.336) were normalized (Figure 4.9).

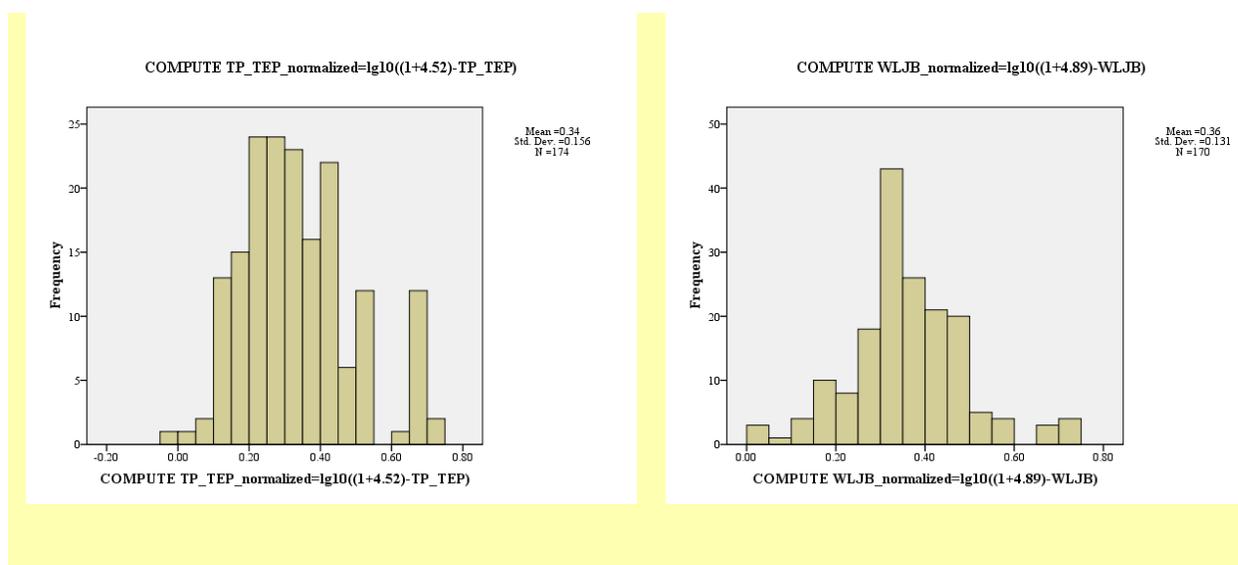


Figure 4.9. Histograms display distribution of normalized overall TEP and job satisfaction scores

Job Satisfaction and Perception of Teacher Evaluation Practices

A linear regression was employed to determine the impact of job satisfaction of technology teachers in North Carolina on their perception of teacher evaluation practices. It was concluded that job satisfaction was a good predictor of overall perception of the teacher

evaluation practice ($F_{(1,142)}=8.002$, $p<0.05$) (Table 4.15). The model was weak, explaining only 5.3% of the variation ($R^2=0.053$, $SE=0.123$). Job satisfaction was significant ($t=2.829$, $p<0.05$) with a regression coefficient of 0.240 ($SE=0.085$), which suggests that as job satisfaction increased, perception of teacher evaluation practices improved. The regression equation is as follows (Table 4.16):

$$\text{Overall teacher evaluation perception} = 0.219 + (0.240 \times \text{job satisfaction}) \pm 0.123$$

Table 4.15. Goodness of fit of regression model of Overall TEP on Work Itself Job Satisfaction: Analysis of variance

Source of variation	Df	Sum of Squares	Mean Square	F	P-value
Regression	1	0.120	0.120	8.002	0.005
Error	142	2.135	0.015		
Total	143	2.256			

Model $R^2 = 0.053$ $SE=0.123$

Table 4.16. Regression model of Overall TEP on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	0.219	0.031	7.059	0.000
Work Itself	0.240	0.085	2.829	0.005

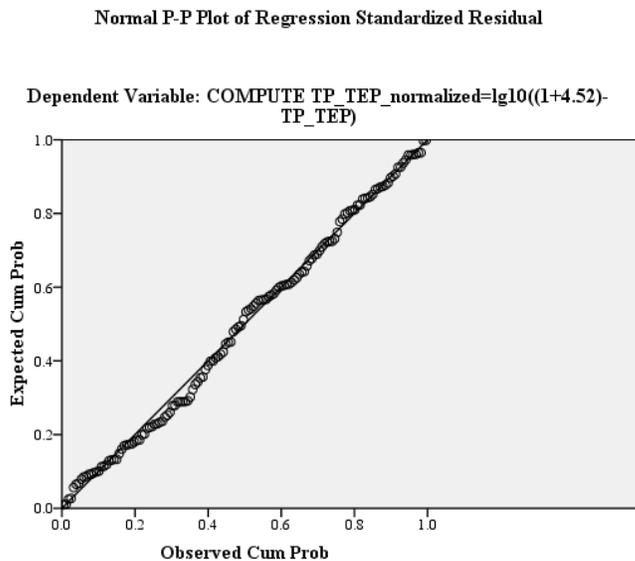


Figure 4.10. Normal Q-Q plot of regression standardized residuals with overall TEP as dependent variable

Job Satisfaction and TEP Subscales

A linear regression was used to determine the influence of job satisfaction of technology teachers on different subscales (aspects) of teacher evaluation practices. It was concluded that job satisfaction did not predict the personal attributes score of the teachers ($F_{(1,141)}=0.053$, $p>0.05$). Job satisfaction was not significant to the model ($t= -0.23$, $p>0.05$) but it is noteworthy that it registered a negative coefficient ($\beta= -0.075$) suggesting that, were a relationship to exist, the personal attributes score would decrease as job satisfaction increased (see Tables 4.17 and 4.18).

Table 4.17. Goodness of fit of regression model of TEP-A (Personnel attributes) on Work Itself Job Satisfaction: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	1	0.012	0.012	0.053	0.818
Error	141	31.201	0.221		
Total	142	31.213			

$R^2 = 0.000$ $SE=0.470$

Table 4.18. Regression model of TEP-A (Personnel attributes) on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	3.967	0.119	33.272	0.000
Work Itself	-0.075	0.325	-0.230	0.818

It was concluded that job satisfaction was a good predictor of teacher perception of the evaluation or evaluator ($F_{(1,140)}=6.139$, $p<0.05$) (Table 4.19). The model was weak, explaining only 4.2% of the variation ($R^2=0.042$, $SE=0.814$). Job satisfaction was significant to the model ($t= -2.478$, $p<0.05$) with a regression coefficient of -1.403 ($SE=0.566$), suggesting that as job satisfaction increased, perception of the evaluation/evaluator worsened. The regression equation is as follows (Table 4.20):

$$\text{Perception of evaluation/evaluator} = 4.152 + (-1.403 \times \text{job satisfaction}) \pm 0.814$$

Table 4.19. Goodness of fit of regression model of TEP-B (Perception of Evaluation/Evaluator) on Work Itself Job Satisfaction: Analysis of variance

Source of variation	Df	Sum of Squares	Mean Square	F	P-value
Regression	1	4.063	4.063	6.139	0.014
Error	140	92.651	0.662		
Total	141	96.714			

$R^2 = 0.042$ $SE=0.814$

Table 4.20. Regression model of TEP-B (Perception of Evaluation/Evaluator) on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	4.152	0.207	20.075	0.000
Work Itself	-1.403	0.566	-2.478	0.014

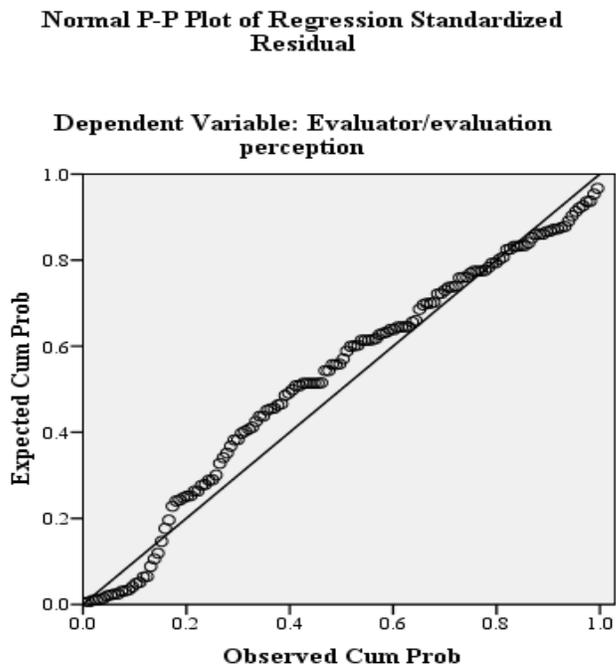


Figure 4.11. Normal Q-Q plot of regression standardized residuals with Evaluator/Evaluation Perception as dependent variable

It was concluded that job satisfaction was a good predictor of teacher perception of the procedures used for evaluation ($F_{(1,140)}=5.616$, $p<0.05$) (Table 4.21). The model was weak, explaining only 3.9% of the variation ($R^2=0.039$, $SE=0.649$). Job satisfaction was significant ($t= -2.37$, $p<0.05$) with a regression coefficient of -1.070 ($SE=0.451$), suggesting that as job satisfaction increased, perception of procedures used during evaluation worsened. The regression equation is as follows (Table 4.22):

$$\text{Perception of procedures used during evaluation} = 3.679 + (-1.070 \times \text{job satisfaction}) \pm 0.649$$

Table 4.21. Goodness of fit of regression model of TEP-C (Procedures Used for Evaluation) on Work Itself Job Satisfaction: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	1	2.362	2.362	5.616	0.019
Error	140	58.891	0.421		
Total	141	61.254			

$R^2 = 0.039$ $SE=0.649$

Table 4.22. Regression model of TEP-C (Procedures Used for Evaluation) on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	3.679	0.165	22.309	0.000
Work Itself	-1.070	0.451	-2.370	0.019

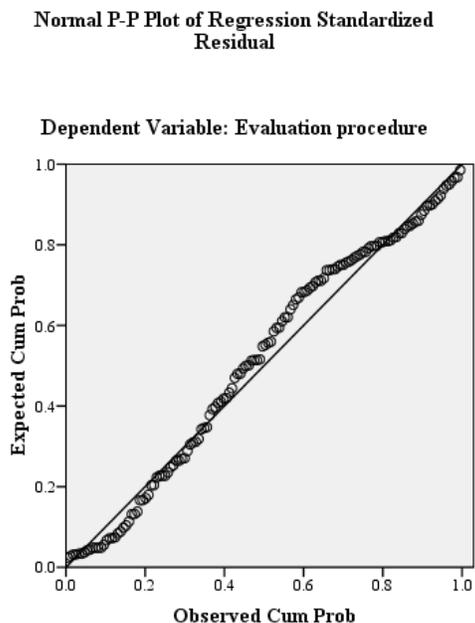


Figure 4.12. Normal Q-Q plot of regression standardized residuals with Evaluation Procedure as dependent variable

It was concluded that job satisfaction was a good predictor of teacher perception of the quality of feedback ($F_{(1,140)}=6.516$, $p<0.05$) (Table 4.23). The model was weak, explaining only 4.4% of the variation ($R^2=0.044$, $SE=0.765$). Job satisfaction was significant ($t=-2.533$, $p<0.05$) with a regression coefficient of -1.359 ($SE=0.451$), suggesting that as job satisfaction increased, perception of the quality of feedback worsened. The regression equation is as follows (Table 4.24):

$$\text{Perception of procedures used during evaluation} = 3.614 + (-1.359 \times \text{job satisfaction}) \pm 0.765$$

Table 4.23. Goodness of fit of regression model of TEP-D (Quality of Feedback) on Work Itself Job Satisfaction: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	1	3.813	3.813	6.516	0.012
Error	140	81.920	0.585		
Total	141	85.733			

$R^2 = 0.044$ $SE=0.765$

Table 4.24. Regression model of TEP-D (Quality of Feedback) on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	3.614	0.194	18.583	0.000
Work Itself	-1.359	0.532	-2.553	0.012

Normal P-P Plot of Regression Standardized Residual

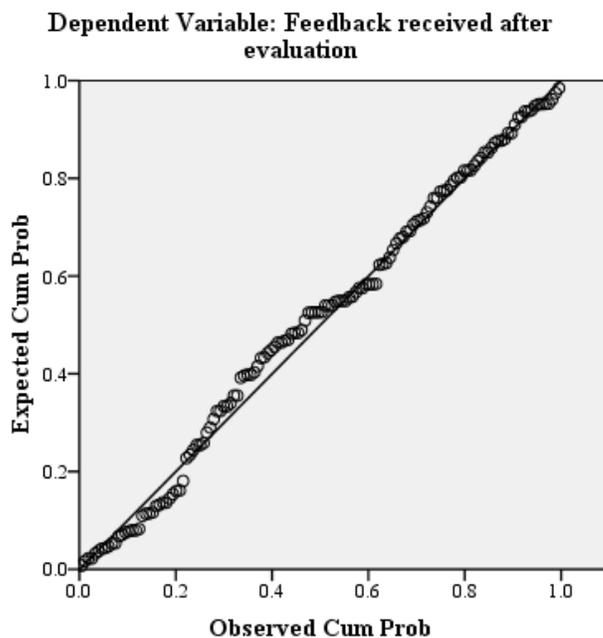


Figure 4.13. Normal Q-Q plot of regression standardized residuals with Feedback Received after Evaluation as dependent variable

It was concluded that job satisfaction did not predict the evaluation context scores of the teachers ($F_{(1,140)}=1.925$, $p>0.05$). Job satisfaction was not significant to the model ($t= -1.388$, $p>0.05$) but it is noteworthy that it registered a negative coefficient ($\beta= -0.754$) suggesting that, were a relationship to exist, the personal attributes score would decrease as job satisfaction increased (see Tables 4.25 and 4.26).

Table 4.25. Goodness of fit of regression model of TEP-E (Evaluation Context) on Work Itself Job Satisfaction: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	1	1.173	1.173	1.925	0.167
Error	140	85.298	0.609		
Total	141	86.471			

$R^2 = 0.014$ $SE=0.781$

Table 4.26. Regression model of TEP-E (Evaluation Context) on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	3.528	0.198	17.775	0.000
Work Itself	-0.754	0.543	-1.388	0.167

Job Satisfaction, Teaching Experience and Grade Assignment as Predictors of TEP

The effect of job satisfaction, years of teaching experience and grade level assignment on perception of teacher evaluation practices was also investigated. Table 4.27 displays the descriptive statistics of TEP and job satisfaction scores when grouped by years of experience and grade level assignment, and Figures 4.13 and 4.14 display these statistics graphically as box plots. Teachers who worked for 11 to 15 years had the highest job satisfaction scores ($m=3.78$, $sd=0.632$) whereas those who worked for only 1 year had the

highest TEP score ($m=3.73$, $sd=0.418$). Those teachers assigned to grades 9 through 12 had the highest job satisfaction ($m=3.64$, $sd=0.751$), whereas those who worked with grades 6 through 12 had the highest TEP scores ($m=3.61$, $sd=0.579$).

Table 4.27. Descriptive statistics of overall TEP score and Work Itself Job Satisfaction score according to Years of Teaching Experience and Grade Level Assignment

Derived Construct	Overall TEP Score					Work Itself Job Satisfaction score				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Years of teaching experience										
1 year	9	2.85	4.24	3.73	0.418	9	2.22	4.56	3.62	0.746
2 to 5 years	38	2.13	4.17	3.48	0.559	39	2.56	4.89	3.68	0.524
6 to 10 years	34	2.17	4.30	3.38	0.534	34	0.56	4.78	3.47	0.814
11 to 15 years	31	2.15	4.37	3.42	0.569	31	1.11	4.78	3.78	0.632
16 or more years	26	2.17	4.52	3.62	0.539	26	0.44	4.44	3.58	0.770
Assignment Grade level										
Grades 6 through 8	20	2.13	4.24	3.45	0.536	21	2.89	4.11	3.57	0.316
Grades 9 through 12	112	2.11	4.52	3.47	0.562	112	0.44	4.89	3.64	0.751
Grades 6 through 12	7	2.89	4.24	3.61	0.579	7	3.00	4.00	3.59	0.325

Due to an error in data collection, seven cases had to be removed from the analysis for this research question. Owing to a lack of ID, cases could not be identified during the merger of data sets in SPSS. Therefore, the cases used in this section were those for which

responses could be corroborated. In order to employ the required regression calculations, job satisfaction needed to be normalized (skewness = -2.032). Following the application of appropriate data transformations, the variable was normalized (skewness = 0.943).

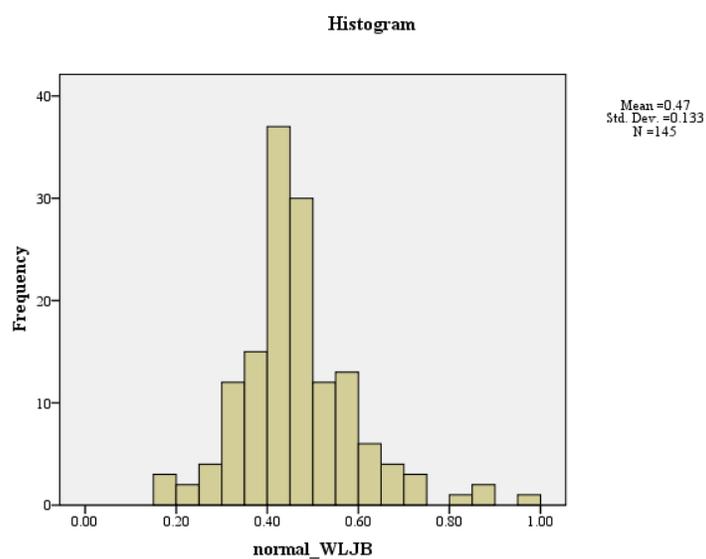


Figure 4.14. Histogram showing distribution of normalized job satisfaction scores

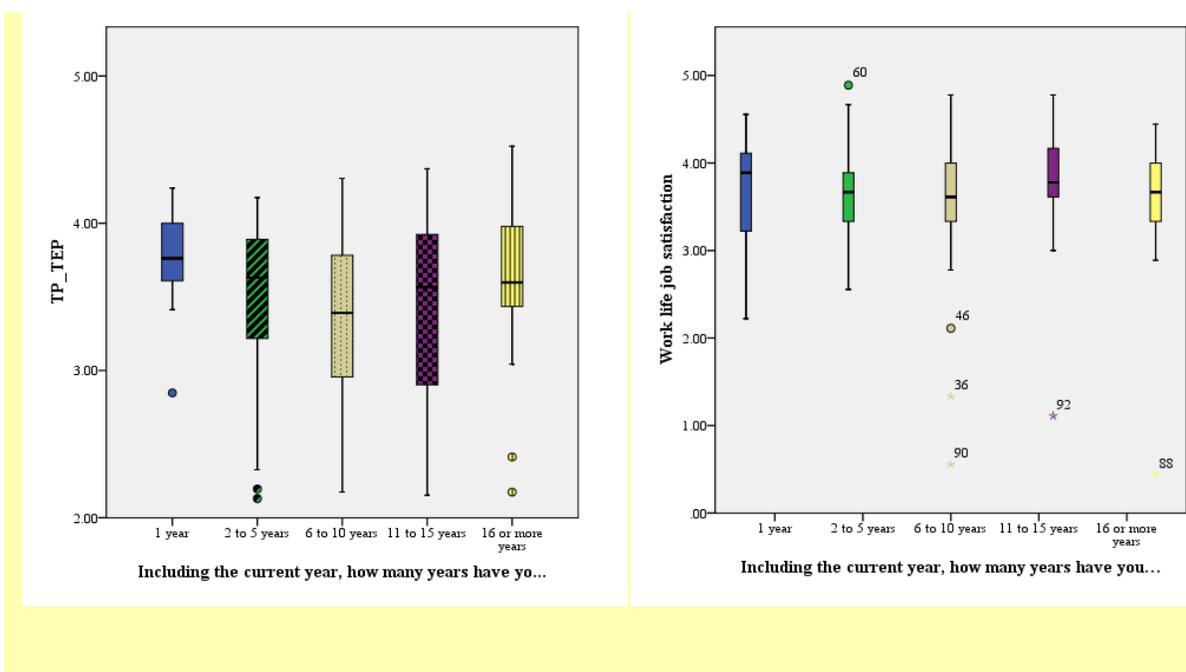


Figure 4.15. Box plots of overall TEP scores and job satisfaction by years of teaching

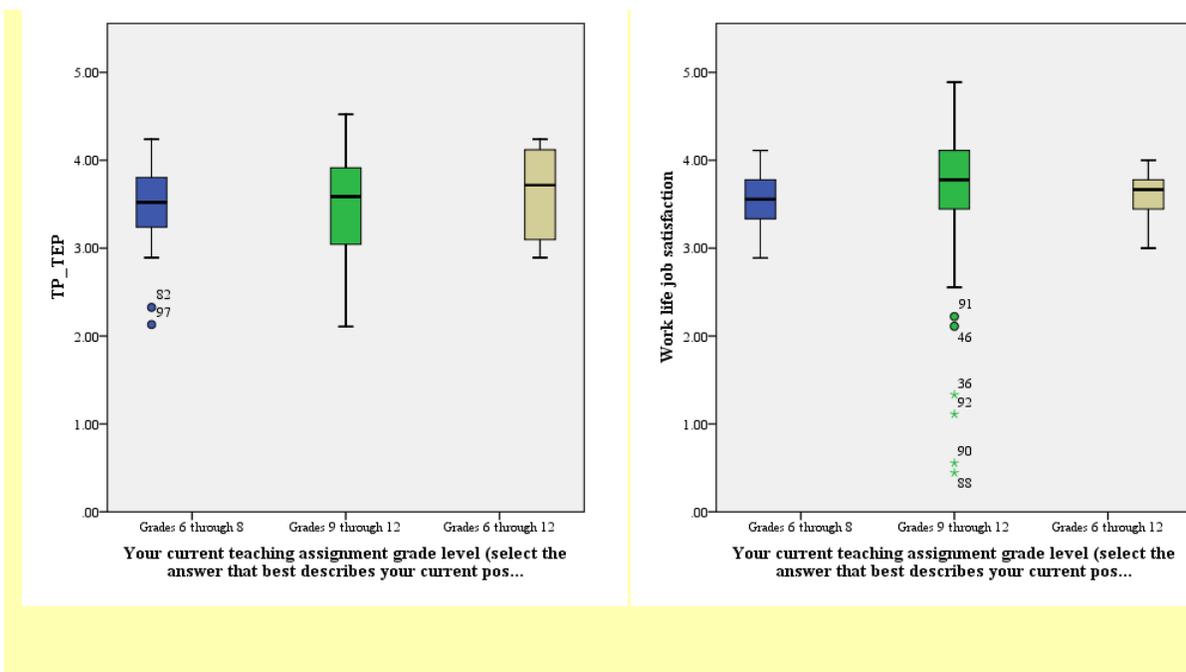


Figure 4.16. Box plots of overall TEP scores and job satisfaction by grade assignment

Multiple regression was conducted to determine if the TEP score could be reliably predicted using job satisfaction, total teaching experience and assignment grade (Table 4.28 and 4.29). The model was found to be significant ($F_{(3,134)}=3.848$, $p<0.05$). However, examination of the regression coefficients indicated that only job satisfaction was significant to the model ($t=3.357$, $p<0.05$); years of experience ($t=0.031$, $p<0.05$) and grade level assignment ($t=0.274$, $p<0.05$) were not significant. Nonetheless, the present model explained 7.9% of the variation in teachers' perception of evaluation practices. Furthermore, as all the regression coefficients were positive, it is expected that as TEP evaluation scores increase, job satisfaction, total teaching experience and assignment grade increases.

Table 4.28. Goodness of fit of regression model of Overall TEP score on Work Itself Job Satisfaction, Years of Teaching Experience and Grade Level Assignment: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	3	3.400	1.133	3.848	0.011
Error	134	39.469	0.295		
Total	137	42.870			

$R^2 = 0.079$ $SE = 0.543$

Table 4.29. Regression model of TEP-E (Evaluation Context) on Work Itself Job Satisfaction

Variable in the model	Regression coefficient	SE	Standardized regression coefficient	t	P-value
Intercept	2.853	0.269		10.611	0.000
Work Itself job satisfaction	1.175	0.350	0.279	3.357	0.001
Years of experience	0.001	0.039	0.003	0.031	0.975
Grade level assignment	0.029	0.107	0.023	0.274	0.784

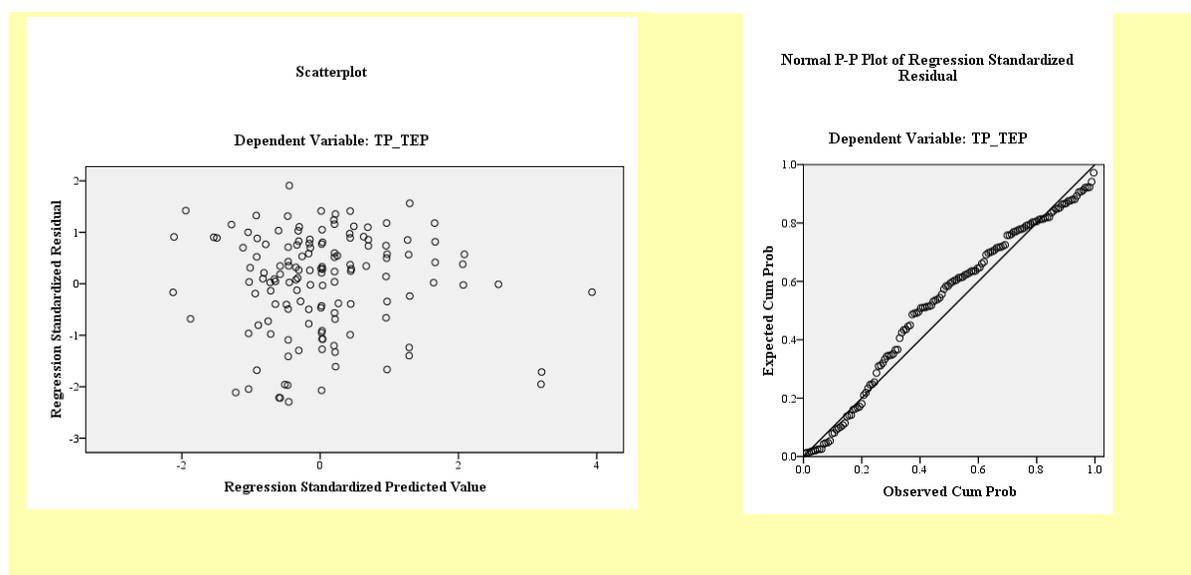


Figure 4.17. Scatter plot and normal Q-Q plot of residuals with overall TEP scores as dependent variable

Adequacy of Pay and Job Satisfaction

A linear regression was used to determine the influence of technology teachers' perception of the adequacy of their pay package on their job satisfaction. Results suggest that perceived adequacy of pay is a good predictor of job satisfaction ($F_{(1,168)}=24.510$, $p<0.05$) (Table 4.30). The model explains 12.7% of the variation in job satisfaction ($SE=0.122$). Analysis of the regression coefficient indicates that the pay package score is significant to the model ($t=-4.951$, $p<0.05$). With a negative coefficient value of -0.067 ($SE=0.013$) it is expected that as the pay package score increases the job satisfaction score will decrease. The regression model is as follows (Table 4.31):

$$\text{Job satisfaction} = 0.501 + (-0.067 * \text{pay package score}) \pm 0.122$$

Table 4.30. Goodness of fit of regression model of Work Itself Job Satisfaction on the perception regarding adequacy of pay package: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	1	0.367	0.367	24.510	0.000
Error	168	2.512	0.015		
Total	169	2.879			

$R^2 = 0.127$ $SE=0.122$

Table 4.31. Regression model of Work Itself Job Satisfaction on the perception about adequacy of pay package

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	0.501	0.030	16.713	0.000
Pay package score	-0.067	0.013	-4.951	0.000

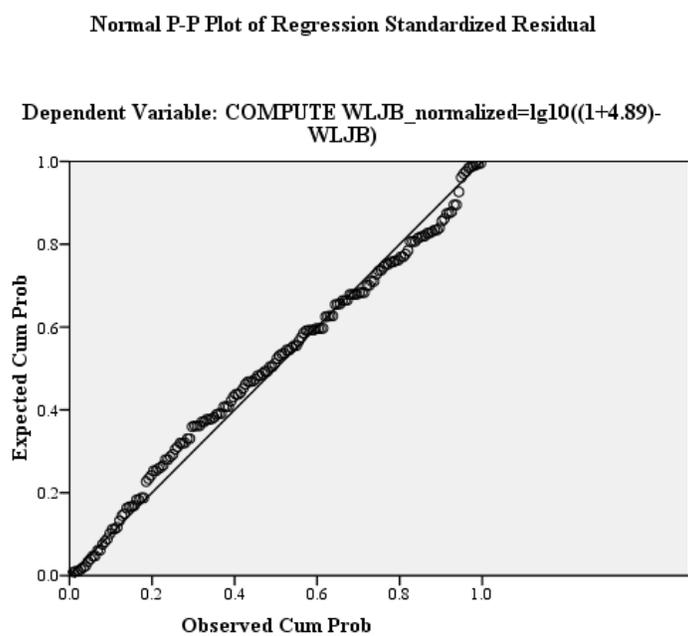


Figure 4.18. Normal Q-Q plot of regression standardized residuals with job satisfaction as dependent variable

Adequacy of Pay and TEP

A linear regression was used to determine the influence of technology teachers' perception of the adequacy of their pay package on their perception of overall teacher evaluation program (Table 4.32 and 4.33). Results suggest that perceived adequacy of pay is not a good predictor of the teachers' perception of the teacher evaluation program ($F_{(1,142)}=0.008$, $p>0.05$). Pay package score is not significant to the model ($t=0.091$, $p>0.05$), but with a positive regression coefficient, as pay package score increases perception of the TEP should also increase.

Table 4.32. Goodness of fit of regression model of overall TEP score on the perception about adequacy of pay package: Analysis of variance

Source of variation	df	Sum of Squares	Mean Square	F	P-value
Regression	1	0.000	0.000	0.008	0.928
Error	142	2.255	0.016		
Total	143	2.256			

$R^2 = 0.000$ $SE=0.126$

Table 4.33. Regression model of overall TEP score on the perception adequacy of pay package

Variable in the model	Regression coefficient	SE	t	P-value
Intercept	0.299	0.035	8.633	0.000
Pay package score	0.001	0.015	0.091	0.928

Conclusion

Several significant relationships were identified following the analysis of the data in this chapter. It was found that job satisfaction was a good predictor of overall perception of the TEP, but it was only a good predictor of the teachers' perceptions of the evaluation/evaluator, procedures used for evaluation and the quality of feedback. Only job satisfaction was a significant predictor in the regression that utilized job satisfaction, teaching experience and grade assignment as predictors. Adequacy of pay packages had an impact on job satisfaction, but it did not have an impact on overall TEP scores.

CHAPTER 5: DISCUSSION

Introduction

In this chapter, major findings from this study of the relationship between technology teacher evaluation practices and teacher job satisfaction are discussed. The findings of this study were based on data collected in the form of two instruments: the Teacher Evaluation Profile and the Teacher Job Satisfaction Questionnaire. Using these instruments, the relationship between evaluation practices and teacher job satisfaction for technology teachers in North Carolina was explored. This discussion seeks to achieve an interpretation of the empirical analysis of the data and assess the extent to which the results of the research concur with the literature review or with the views of other researchers. The chapter also gives directions for future research and suggests how teachers' satisfaction can be increased in order to improve their perception of teachers' evaluation practices. Potential implications for future policy and how to retain teachers and keep them satisfied with the profession are presented. The study concludes with recommendations for future research and lessons learned about the research process from the perspective of the researcher.

Summary of Findings

There have been discussions regarding supervision and evaluation of teachers in the U.S. public education system since its inception. A common belief of evaluators is that quality teacher evaluation practices will improve students' ability to learn (Protheroe, Lewis, & Paik, 2002). The evaluation practices employed in today's classrooms are student focused

and geared towards improving the growth of the teachers by evaluating their performance. The performance based evaluation of teachers is often perceived differently by the teachers based on their level of satisfaction with the job. This gap in perception can lead to teachers leaving the profession (Ingersoll, 2001). With the advent of STEM education, schools are working harder than ever to ensure that STEM teachers are well satisfied with their jobs so that they may reduce the labor turnover. The effectiveness of institutions has been shown to improve when teachers' performance improves. When teachers are satisfied in their profession, high retention rates and quality teachers are retained in the classroom (Protheroe, Lewis, & Paik, 2002).

This study carried out comprehensive analyses of data collected from technology teachers currently teaching in the North Carolina Public Schools. The Teacher Evaluation Profile (TEP) and the Teacher Job Satisfaction Questionnaire (TJSQ) were used to gather descriptive and quantitative self-reported data from 182 licensed technology teachers. Of the surveyed teachers, the highest percentage had taught for 2-5 years (28.7%). The smallest proportion of 6.6% had taught for 1 year and those who had experience of 6 to 10 years comprised 24.9% of the total number of participants. A total of 23.3% of teachers had taught for 11-16 years whereas 16.6% of the participants had taught for more than 16 years. A total of 54% of the respondents were male while the remaining 46% were female. A total of 51.1% of the participants had their evaluation conducted in the academic year 2011-2012, 44.4% had their evaluation done in the most recent academic year 2012/2013, 2.8% were

evaluated in year 2010-2011, 1.1 % were evaluated in year 2009-2010 and 0.6% were last evaluated before 2009.

One of the biggest challenges that educational institutions face is recruiting and retaining highly motivated teachers. The literature review noted that nearly one third of teachers (33%) leave their jobs within 3 years of employment and about 50% leave within 5 years. Most teachers leave their job due to job dissatisfaction which is in part caused by school structure and administration policies. As such, the purpose of this quantitative study was not to document what we know about teacher retention but rather to expand upon this knowledge and look into factors that affect job satisfaction of technology teachers in North Carolina.

Research Questions and Summary of the Findings

Research Question 1: What is the impact of job satisfaction of technology teachers in North Carolina on their perception of teacher evaluation practices?

The first research question was addressed by employing linear regression with Overall TEP score derived as explained above as the dependent variable and the derived score on Work Itself subscale of TJSQ as the independent variable. The result revealed that job satisfaction was a good predictor of the overall perception of the teacher evaluation process ($F_{(1,142)}=8.002, p<0.05$). According to the results, job satisfaction was found to be a significant determinant of perception of teacher evaluation practices. The t-statistic was found to be greater to the value of t-critical, meaning the variable was a significant

determinant of the dependent variable. The P-value was also found to be smaller than the level of significance, meaning the independent variable was an important determinant of the dependent variable (perception of teacher evaluation practices). The P-value was 0.005 and the level of significance was 0.05. The decision criterion using the P-value is to reject the null hypothesis when the P-value is less than the level of significance and accept the alternative hypothesis and conclude that job satisfaction had a significant impact on teachers' perception of their evaluation practices.

The result also revealed that the job perception of teacher's evaluation practices is not only determined by job satisfaction but may also be determined by other factors. This is indicated by the value of coefficient of determination (R-Squared). The value was 5.3% meaning that the independent variable only explains 5.3% of the variation in the dependent variable. This means that 94.7% of the variation in the perception of teachers' evaluation practices is determined by other factors not included in the model. However, it is important to note that the model managed to reveal job satisfaction as an important determinant of the perception about teacher's evaluation practices. The coefficient of the regression also indicated that the perception about teachers' evaluation practices increases with increase in job satisfaction.

Research Question 2: What is the influence of job satisfaction of technology teachers on different subscales (aspects) of teacher evaluation practices?

For the second question, the analysis described for research question 1 was repeated with the same independent variable (job satisfaction) but taking each of the five subscales of TEP as the dependent variable one by one. The emphasis was laid on aspects of teacher evaluation practices such as personal attributes score. The results did not portray job satisfaction as a significant determinant of personal attributes score of the teachers ($F_{(1,141)}=0.053$, $p>0.05$). The P-value of 0.818 was greater than the level of significance which was 0.05, suggesting that job satisfaction is insignificant as a determinant of personal attributes. This may contradict the theoretical knowledge about this relationship. The personal attributes score may co-integrate in the long run with job satisfaction. The coefficient of regression that was obtained revealed that the personal attribute scores are likely to decrease with job satisfaction. This relationship will only be significant in the long run. In the short run, however, there would not be a significant relationship. Based on the research, job satisfaction/dissatisfaction is likely to affect personal attributes scores. However, the results showed that personal attributes scores of the teachers will decrease as job satisfaction increases. Job satisfaction was found to be a good predictor of perception of teacher evaluation practices. The perception of procedure used in evaluation of teachers declined as job satisfaction increased. When the teachers are satisfied with their position, they may not have much concern about the evaluation practices that are carried out. Job satisfaction (based on procedure of evaluation) only explained 4% of the variation in the perception of teacher evaluation. The rest is a result of many other factors. This is based on the procedure that is used in evaluation. When teachers are satisfied, they may be interested

in the procedures that are used in evaluating them. The management of an institution may not have a hard time adopting any kind of procedure for evaluation, provided the teachers are satisfied. This would enable them to make decisions without much strain or resistance.

Another aspect that was reviewed was the perception of the evaluation as related to job satisfaction. Job satisfaction was found to be a significant determinant of teacher perception of evaluation ($F_{(1,140)}=5.616, p<0.05$). The regression equation (*Perception of evaluation/evaluator = 4.152 + (-1.403 x job satisfaction) ± 0.814*), indicates that the two variables have an inverse relationship. When job satisfaction increases by one unit, perception of evaluation decreases by 1.403 units. The P-value (0.014) was also less than the level of significance (0.05) suggesting that the null hypothesis should be rejected and the conclusion made that job satisfaction is an important determinant of perception of the evaluation. Job satisfaction, according to the analysis results, only explained 4.2% of the variation in perception of evaluation. There may be other factors that explain 95.8% of the variation in perception of evaluation.

The relationship between the procedure used in evaluation and job satisfaction was also investigated. Job satisfaction was found to be a significant determinant of the procedure used in evaluation ($F_{(1,140)}=5.616, p<0.05$). This is according to the t-ratios that were obtained. The P-value of 0.019 was also obtained which was less than the level of significance suggesting that the null hypothesis should be rejected and the conclusion made that job satisfaction is a significant determinant of the procedure used in evaluation. The regression equation estimated (*Perception of procedures used during evaluation = 3.679 + (-*

$1.070 \times \text{job satisfaction} \pm 0.649$) showed that when job satisfaction increases by one unit, the perception of procedures used in evaluation decreases by 1.070.

Quality of feedback is another aspect of teacher perception. This parameter revealed that job satisfaction does not have a significant influence on the evaluation context cores of the teachers. However, job satisfaction was found to be a significant determinant of teachers' perception of quality feedback ($F_{(1,140)}=6.516, p<0.05$). This conclusion was made through the use of t-test in testing the significance of variables. The P-value of 0.012 was also less than the level of significance, meaning that the null hypothesis was rejected and the alternative hypothesis that job satisfaction is a significant determinant of the perception of quality of feedback by the teachers was accepted. The regression equation (quality of feedback = $3.614 - 1.359 \times \text{job satisfaction}$) shows that job satisfaction is inversely related to the perception of quality of feedback. The perception of the quality of feedback decreases (by 1.359) when job satisfaction increases (by one unit). According to the coefficient of determination, 4.4% of variation in perception of quality of feedback is explained by job satisfaction. This means that there are other factors that are not included in the model but have an impact on the perception of the quality of feedback.

The last aspect of TEP that was reviewed was evaluation context score. Its relationship with job satisfaction was investigated. The analysis revealed that job satisfaction did not have a significant influence on evaluation context scores ($F_{(1,140)}=1.925, p>0.05$). Job satisfaction was not significant to the model as was concluded from the t-ratios that were calculated. The P-value (0.167) was greater than the level of significance ($\alpha = 0.05$)

indicating that job satisfaction was not a significant determinant of evaluation context scores. The regression line that was estimated was as follows: *Evaluation context scores* = 3.528 - 0.754**Job satisfaction*. This model shows that evaluation context scores would decrease by 0.754 when job satisfaction increases by one unit.

Most of the subscales of teacher evaluation perception were found to be significant determinants of Work Itself job satisfaction. The quality of feedback was the subscale that did not reveal a significant relationship with work itself job satisfaction.

Research Question 3: Apart from job satisfaction of technology teachers, what is the role of total experience in teaching and assignment grade in determining their perception of teacher evaluation practices?

To answer question 3, multiple regressions were employed to evaluate the contribution of each of the independent variables, with TEP score as the dependent variable and job satisfaction, total teaching experience and assignment grade as the independent variables. The results of this multiple regression analysis revealed that only job satisfaction was a significant determinant of perception on teachers' evaluation practices ($F_{(3,134)}=3.848$, $p<0.05$). The years of experience of the teachers and assignment grade did not appear as significant determinants of TEP. The model is portrayed as being very weak by the coefficient of determination. It showed that job satisfaction, years of experience of teachers, and assignment grade jointly only accounted for 7.9% of the variation in the teachers' perception of the evaluation practices. However, a slight relationship between these

variables, although not significant, is inferable from the regression coefficients. The regression coefficients were all positive meaning that the teacher's perception of evaluation practices is directly related to job satisfaction, teaching experience, and assignments. Any slight increase in these variables will improve teachers' perception on the evaluation practices.

Research Question 4: What is the influence of technology teachers' perception of the adequacy of their pay package in determining their job satisfaction?

Question 4 was answered using the derived pay package score which was used as an independent variable in the regression analysis with job satisfaction as the dependent variable. The influence of technology teachers' perception of the adequacy of their pay package on their job satisfaction was the main objective. The perceived adequacy to pay was found to be a significant determinant of job satisfaction ($F_{(1,168)}=24.510$, $p<0.05$). This was based on the results of a t-test, which explains 12.7% of the variation in job satisfaction as indicated by the coefficient of determination. However, the relationship between the two variables is inverse, suggesting that job satisfaction decreases with increase in pay package score. According to the regression model ($Job\ satisfaction = 0.501 + (-0.067 * pay\ package\ score) \pm 0.122$), job satisfaction will decrease by 0.0767 when pay package score increases by one unit. The test of goodness fit was done for work itself job satisfaction on the perception regarding adequacy of pay package. The F-test revealed that perception regarding adequacy of pay package is a significant determinant of work itself and job satisfaction.

Research Question 5: What is the influence of technology teachers' perception of the adequacy of their pay package on their perception of overall teacher evaluation program?

The final question was addressed by repeating the analysis plan for question 4, changing the dependent variable to the overall score of TEP. An alpha level of 0.05 was used to determine the statistical significance of the data. In addition, demographic data was used to generate information to assist the analyses. The test involved determining the influence of teachers' perception of the adequacy of their pay package on their perception of the overall teacher evaluation program ($F_{(1,142)}=0.008$, $p>0.05$). Based on the results obtained, the perceived adequacy of pay is not an important determinant of TEP. The regression model obtained was $TEP = 0.229 + 0.001 * \text{Pay package score}$. This shows that if the pay package score increases by one unit, the TEP will increase by 0.001. Based on the P-value of 0.928, the null hypothesis cannot be rejected. The null hypothesis is normally rejected when the P-value is between 0.1 and 0.05 and when it is less than the level of significance. The null hypothesis that related to this point is that there is no statistically significant relationship between teachers' perception of current teacher evaluation practices, as measured by a revised Teacher Evaluation Profile survey and their opinion regarding the adequacy of their pay package. Since the level of significance used is $\alpha = 0.05$. The P-value = 0.928 is greater than the level of significance $\alpha = 0.05$, suggesting that the perception of teachers regarding the adequacy of the pay package is not a significant determinant of TEP.

Results from this Study Compared to Other Studies

Comparing these results with similar studies in the literature review, there appears to be a need to investigate how to improve teachers' satisfaction so that student's achievement may also be improved. The presence of well qualified teachers in the classroom is highly correlated with students' achievement (McDonnough, 2007). The U.S. Department of Education (2009) developed the Race to the Top legislation and included steps to improve recruiting, developing, retaining and rewarding effective teachers and principles. Although there have been developments in this area, an unsatisfied teacher may still view job evaluations negatively. Stronge and Tucker (2003) stated that evaluation practices used by institutions have suffered from bias, questionable criteria, and limited substance. Therefore, the perceived job satisfaction may have an impact on the effectiveness of these evaluation practices. Brewer (1996) described that effective teaching is determined by a number of factors including constant reassessment of policies regarding academic performance, the innate skills and intelligence of teachers to teach, and the collaboration that exists among the stakeholders.

As stated by Stiggins and Bridgeford (1985), the evaluation practices are done solely to satisfy the requirements that are set by the educational bureaucracy system and not meant to improve the welfare of the teachers. While the evaluation practices are crucial to school administrators, principals, and other dignitaries, they need to be carried out in the right environment for them to be effective. As suggested by (Popham, 1999), the major anomaly of the practice of evaluation is that it subjects teachers to standardized achievement tests.

Teachers in different areas and grades are partially assessed based on student testing programs. They may have several levels of satisfaction and, therefore, the outcomes will be erroneous or misleading. However, teachers with different level of satisfaction will still exhibit negative perception of TEP despite being evaluated based on grades and personal attributes.

Concerning job satisfaction and compensation, Kennedy (1960) argued that the country cannot manage to hire well trained teachers without compensating them well. This study suggests that job satisfaction is dependent on the perception of adequacy of pay. Technology teachers who are not well compensated may consider looking for a profession in their area of concentration which provides higher compensation. Kennedy (1960) also emphasized that work environments may make the teacher dissatisfied. When there are harsh working conditions, teacher job satisfaction is impacted and, therefore, they are likely to move to a profession with a more conducive work environment.

Parker (2006) commenting on the grade levels stated that teacher satisfaction can vary between grade levels but what is important is support and ancillary leadership roles. Norton and Kelly (1997) and Shann (1998), stated that teachers were found to be dissatisfied with administrative routines and accompanying paperwork; concerns about the evaluation of student performance and school grading practices; low pay; concerns about relationships with administrative personnel and peers; declining respect for the profession; few possibilities for career promotion or growth; problems related to the teacher's workload. The

literature reviewed suggests that any evaluation system that can be adopted in North Carolina will only be as effective as the administrator who is implementing it.

Limitations and Lessons Learned

There are several limitations to this study. The first is that it included technology teachers located just in North Carolina. Therefore, the results obtained in this study are not intended to be generalized to teachers in schools located in all areas of the country. Due to this being a non-random study where technology teachers were able to opt in or out, there could be some selection bias introduced. However, since teachers that did participate in the study are relatively similar to the general population of teachers in the county, it is likely that selection bias is not in play. As a result, the study did not identify teachers by schools or region. Teachers are nested within schools, which implies that the data in this study is non-independent. Non-independence can lead to biased estimate and standard error, increasing a Type 1 error. As a result of external limitations placed on data collection by the University's review board, this problem could not be avoided.

Another limitation was that it is difficult to accurately acquire email addresses of technology teachers in North Carolina due to confusion of the term "technology" as it pertains to education. The email addresses of participants were obtained through the North Carolina Department of Public Instruction and through the District Central Office personnel. The researcher added a question to the TEP regarding subject area taught in order to help

assure that technology teachers were adequately represented. The question offered specific areas of teaching. Below is a breakdown of the responses in percentage:

1. Agriculture education 3%
2. Business, finance, and information technology education 6%
3. Technology engineering and design education 65%
4. Trade and industrial education 24%
5. Other 2%

Due to confusion regarding licensure of technology teachers in North Carolina, a question was added to the TEP about the type of licensure held by the participants. Below is a breakdown of the 176 responses by percentage and number:

1. Standard Professional 1 (SP1) Professional Educator's License 45% (80)
2. Standard Professional 2 (SP2) Professional Educator's License 31% (55)
3. Lateral Entry License 14% (25)
4. Other 9% (16)

In reviewing the survey procedures and findings, the teachers' perceptions of the survey items may influence the findings. Although participants were asked to indicate the extent to which they believed each item in the survey was important to job satisfaction, some participants may have misinterpreted what they were being asked. That is, some teachers may have believed that the survey was asking them about whether an item was present at their school. If interpretation was different from intention, then the validity of the instrument may be undermined. However, this limitation is indicative of many survey questionnaires

(Schaefer and Dillman, 1998). A disadvantage of surveys is the possibility that all respondents may not interpret the items in the same way.

In conducting this study, there were several lessons learned within the research process. From the perspective of the researcher, it was important to fully understand the process of the quantitative design. Developing a quality research design saves many steps at the end of the process. When developing the design, the researcher learned that it is important to know what variables exist in the study and what questions need to be asked within the survey to assist with answering the research questions being studied.

The research explored variables that affect the perception of technology teachers' evaluation practices. The coefficient of determination for the relationship between job satisfaction and TEP shows that there are too many variables that have been excluded in the model. Job satisfaction only accounted for 5.3% of the variation in the perception of teachers' evaluation practices. This means that about 94.5% of the variation in TEP is not accounted for. Job satisfaction is a significant determinant of TEP, but there are many other determinants that have not been explored. Future studies could explore more variables in order to have a clearer view of what influences TEP.

The other area that needs further research is the issue of factors that influence job satisfaction. There could be other factors of the TEP that can be explored. Most of them have a very low value for their coefficient of determination (R-Squared) meaning there is no single factor that fully explains variation in job satisfaction. Future studies could investigate additional criteria to improve the coefficient of determination, and more variables need to be

included in the models. The cost of overall significance of the factors that affect job satisfaction was also not calculated in this research. In addition, there is the need to conduct multiple regression analyses for all the factors that influence job satisfaction in order to assess the extent to which they jointly influence job satisfaction.

How Technology Teachers' Job Satisfaction can be Improved

The research explored one factor that influences job satisfaction. Adequacy of pay was analyzed against job satisfaction and was shown to have an impact on job satisfaction. It was found that an increase in pay package score decreases job satisfaction. Any time an organization wishes to improve job satisfaction, pay package scores are a factor that cannot be ignored. However, in North Carolina there is a set pay scale for teachers that does not take into account the easily transferable technology skills achieved by many technology teachers. Other factors that affect job satisfaction that should be reviewed include improving work environments, incentives like giving employee bonuses, job security, health insurance, training, and career development chances among others. Technology teachers need to be assured that the evaluation process administered by school leaders is a tool for improvement which is flexible and relevant to their particular teaching circumstance. The institutions should not just concentrate on evaluation of teachers' performance but should also look at factors that may affect evaluation practices like job satisfaction. The benefits mentioned above may help increase job satisfaction and directly or indirectly influence the perception of

teachers' evaluation practices, but further research is needed to gauge which areas have the greatest overall influence.

As outlined in the literature review, Jyoti (2009) stated that job satisfaction is dependent on intrinsic, extrinsic, and demographic factors. If the authorities in schools do not recognize these factors, they might encounter low quality of delivery by teachers because of their dissatisfaction. Ingersoll (2001) and Mueller and Price (1990) stated that employees who make inadequate effort, lack the drive to work, interact with co-workers, and who perform poorly are generally considered unhappy and dissatisfied in their work conditions. These factors should be appropriately checked by the administrators and policy makers in a school if they want to see positive impact on TEP. As outlined by Berns (1990), this will lead to a change of profession by teachers, and especially technology teachers who have a skillset which allows them to move with ease to the business world. Technology teachers should, therefore, be treated uniquely because they offer unique services and skillsets to students.

Recommendations for Application and Further Research

Further research is needed to deepen our understanding of why technology teachers perceive the evaluation process the way they do and how job satisfaction correlates to these perceptions. Researchers suggest that job satisfaction is a factor that affects the way teachers feel about the processes and procedures of the evaluation practices as well as the administrator who conducts the appraisal. It would be of interest to analyze the differences in rural, suburban and urban schools to see if the correlations would carry over to how teachers

perceive the evaluation differently depending on the individual school culture, district or region. Moreover, a longitudinal study with the same participants may produce different results, especially after the new North Carolina evaluation instrument has been implemented over time. Therefore, the study could explore the impact of standardized test scores as part of the teacher evaluation for technology education once the national standards have been implemented and administered. Changes in the administration staff conducting the evaluations may also affect results.

The research results also noted that school culture can have an effect on how teachers' perceived the evaluation correlates as well. With the upcoming state and federal initiatives calling for an increase in vocational offerings available to students, this survey may reveal new results reflecting these changes. A pre and post survey could be compared to explore this, and changes in job satisfaction and perception of the evaluation and survey results from students and teachers could be considered. Additionally, further studies could look into the extent of equipment and resources available to support the technology curriculum and how these factors impact job satisfaction. Furthermore, the data from the TEP indicated that there appears to be movement of technology teachers between school districts in North Carolina, especially during the first 15 years of teaching experience. Questions could be added to the survey to explore this phenomenon. Finally, qualitative studies exploring job satisfaction and evaluation practices may reveal additional factors and provide a deeper understanding into what may lead to low technology teacher retention rates.

The research suggests some possible applications for how the data from this study may be utilized by teachers, administrators and policy makers. This researcher believes it is important to ascertain exactly how many technology teachers there are in North Carolina and how they are distributed throughout the state. This study revealed the difficulty involved with identifying technology teachers and exposed a problem that exists with acquiring email addresses for licensed technology teachers in North Carolina.

This study indicated that the level of compensation for highly skilled technology teacher needs to be considered. First, the current North Carolina pay scale for teachers does not take into account the technical skill level and knowledge that many technology teachers possess. Businesses across the country report the lack of qualified candidates with specialized technology skills. This is a factor which may contribute to low retention rates of technology teachers. Secondly, technology teachers need to be assured that the evaluation process administered by school leaders is a tool for improvement and not just a burdening administrative process simply designed to weed out ineffective teachers. This study indicates that the evaluation instrument needs to be flexible, simplified, and relevant to the unique training process that occurs in the technology classroom. The evaluation instrument could also include additional data provided by students and parents through a survey process. Thirdly, institutions should not just concentrate on the evaluation of teachers' performance but also look at factors that may affect evaluation practices such as job satisfaction, pay and perceptions of the feedback provided from the evaluator. Many of the factors perceived as influential in this study could be used by schools to develop programs or implement policies

to retain technology education teachers. For example, schools could develop induction and mentoring programs to increase the likelihood of retaining technology education teachers. Finally, this study suggests that policies could be enacted to create a more collaborative work environment with shared decision making, methods to recognize successful teachers, and cross-curriculum programs to create relevant teaching experiences that benefit both students and teachers.

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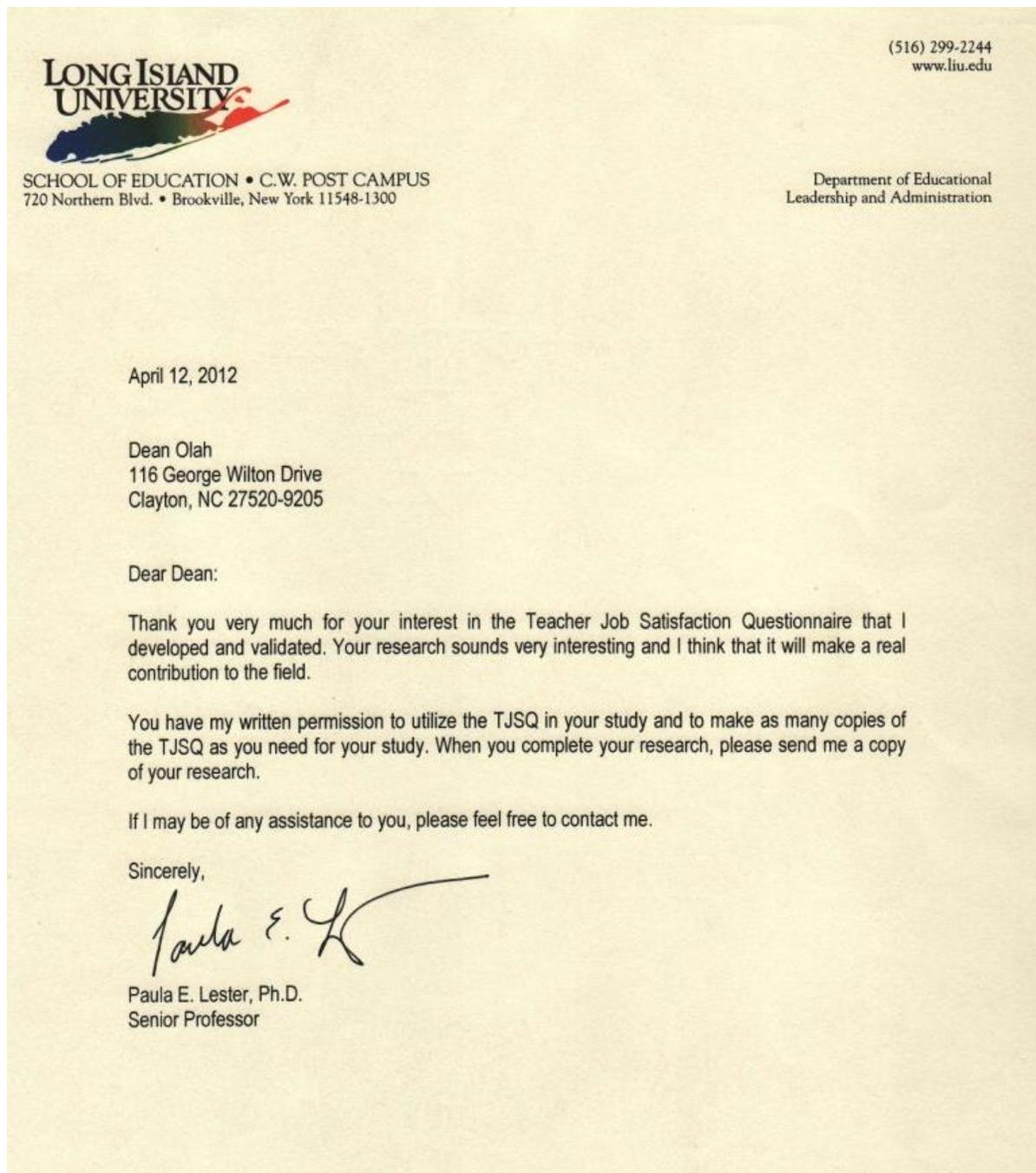
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APPENDICES

APPENDIX A: LETTER OF PERMISSIONS

Letter of Permission from Paula Lester:



APPENDIX A: LETTER OF PERMISSIONS

Letter of Permission from the Northwest Regional Laboratory

Hello Dean,
 You may certainly use the Teacher Evaluation Profile as you have requested.
 Best of luck

Caridan Craig
 Marketing Director
 Education Northwest
 101 SW Main Street, Suite 500
 Portland, OR 97204
[503.275.9185](tel:503.275.9185) or [800.547.6339](tel:800.547.6339)
Caridan.Craig@educationnorthwest.org
<http://educationnorthwest.org>

-----Original Message-----

From: website@educationnorthwest.org [mailto:website@educationnorthwest.org] On
 Behalf Of Dean Olah
 Sent: Wednesday, February 29, 2012 2:17 PM
 To: Caridan Craig
 Subject: Category: Copyright and Permissions - Subject: Permission to use Teacher
 Evaluation Profile (TEP)

Name: Dean Olah
 Email: olahd@ncsu.edu
 Subject: Permission to use Teacher Evaluation Profile (TEP)
 Category: Copyright and Permissions
 Message:

Greetings from Raleigh, NC. My name is Dean Olah and I am a doctoral candidate at the North Carolina State University. I am interested in using the "Teacher Evaluation Profile (TEP): A questionnaire reviewing your most recent teacher evaluation experience" as one of the instruments in my dissertation study.

In researching a 2006 dissertation by Vici Hughes at the University of Missouri entitled Teacher Job Satisfaction and Teacher Evaluation Practices I see that she utilized the TEP. In additional dissertations, I have noticed that permission to use the TEP has been given by Northwest Regional Educational Laboratory. I am interested in using it in a similar study.

I am requesting permission to use this tool with Technology Teachers in the North Carolina

Public Schools. Are you able to grant approval for the use of the revised version of the original TEP as used by Rindler?

Thank you, in advance, for help with this component of my study. Dean Olah
daolah@ncsu.edu

APPENDIX B: COVER LETTER

Cover Letter to Technology Teachers
Dean Olah
116 George Wilton Dr.
Clayton, NC 27520
919-931-4401
daolah@ncsu.edu

Dear Technology Teacher,

I am a doctoral student at the North Carolina State University and am completing a dissertation with the department of Technology Education. I am requesting your assistance in a study examining the relationship between technology teacher evaluation practices and teacher job satisfaction in the North Carolina Public Schools. Your responses will provide data that will enrich the knowledge base related to teacher evaluation practices.

Your participation is completely voluntary and anonymous, and you may stop at any time during the study. Completion and submission of the survey signifies your informed consent. Every certificated technology teacher currently teaching in a North Carolina public school will be asked to participate in the study. All data collected will be confidential and all individual rights and privacies will be protected. The findings of the study will be compiled in aggregate form and distributed as anonymous data in summary.

To participate in the study you are being asked to complete two survey instruments. Completion of both surveys should not take more than 20 minutes.

If you are willing to participate, please click on the flowing link to begin. If you have specific questions or want additional information about the survey instruments, please contact me at the address, phone number or email listed above. If you have questions regarding the study please contact Dr. William Deluca at 919-515-1715. Please contact the NCSU Campus Institutional Review Board at 919-515-7721 for questions regarding your rights as a participant in research.

Thank you, in advance, for your time and effort.

Sincerely,
Dean Olah

APPENDIX C: TEACHER EVALUATION PROFILE

Greetings

The Definition of Teacher Evaluation

Teacher evaluation takes different forms in different programs. For the purpose of this study, teacher evaluation procedures may include all or some of the following:

- Classroom observations
- Student evaluation of teachers
- Meetings with teacher evaluators
- Peer evaluation
- Examination of lesson plans, materials or other artifacts
- Self-evaluation
- Student achievement

When reference is made in this questionnaire to teacher evaluation, it should be understood to encompass any of these procedures that are followed in the evaluation program within your school district.

Overview

This form has been designed to allow you to describe in some detail your most recent experience with teacher evaluation in your school district. Your responses will be combined with those of other career and technical teachers to yield a picture of the key components in the teacher evaluation experience in North Carolina. The goal of this survey is to determine how the evaluation process can be revised to help it serve relevant and useful purposes. Your frank and honest responses are important to reach this goal and will remain anonymous.

While this questionnaire is designed to be comprehensive in scope, it will take only a short time to complete.

Instructions

Please use the scales provided on the following pages to describe yourself and the nature of your most recent teacher evaluation experience in your school district. Do this by:

- Considering each of the items carefully,
- Studying the scale to be used to describe each,
- Selecting the response on the scale that best represents your views

Section 1: Demographic Information

Including the current year, how many years have you taught in your current district?

- 1 year
- 2 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 or more years

If you have taught in multiple districts, including the current year, how many total years have you taught?

- 1 year
- 2 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 or more years

Your current teaching assignment grade level (select the answer that best describes your current position)

- Grades 6 through 8
- Grades 9 through 12
- Grades 6 through 12

What subject(s) are you currently teaching?

- Agricultural Education
- Business, Finance, and Information Technology Education
- Technology Engineering and Design Education
- Trade and Industrial Education
- Other

What is your gender

- Male
- Female

What level of teaching licensure do you current hold?

- Standard Professional 1 (SP1) Professional Educator's License
- Standard Professional 2 (SP2) Professional Educator's License
- Lateral Entry License
- Other

Date of most recent evaluation

- During the academic year 2012-2013
- During the academic year 2011-2012
- During the academic year 2010-2011
- During the academic year 2009-2010
- Prior to 2009

Section 2: Overall Rating Please reflect on your most recent experience with the evaluation process in your school district. Consider the entire evaluation process including planning for evaluation, observations, or other procedures and feedback.

Rate the overall quality of the evaluation:

- Very poor quality
- Below average quality
- Average quality
- Above average quality
- Very high quality

Rate the overall impact of the evaluation on your professional practices.

Note: A rating of "Strong impact" would reflect a strong impact leading to profound changes in your teaching practices, attitudes about teaching, and /or understanding of the teaching profession. A rating of "No impact" would reflect no impact at all and not changes in your practices, attitudes, and/or understanding.

- No impact
- Very little impact
- Some impact
- Above average impact
- Strong impact

Section 2: Rating Attributes of Evaluation A. Describe yourself in relation to the following attributes:**The strength of your professional expectations of yourself**

- I demand little
- I am not very demanding
- average
- I demand above average expectations
- I demand a great deal

Orientation to risk taking

- I avoid risks
- I avoid risks most of the time
- average
- I sometime take risks
- I take risks

Orientation to change

- I am very slow to change
- I am relatively slow to change
- average
- I am relatively flexible to change
- I am very flexible to change

Orientation to experimentation in your classroom

- I don't experiment
- I occasionally experiment but with hesitation
- average
- I experiment occasionally but would like to do more
- I experiment frequently

Openness to criticism

- I am very closed
- I am relatively closed
- Neutral
- I am relatively open
- I am very open

Knowledge of technical aspects of teaching

- I know very little
- I am somewhat knowledgeable
- average knowledge
- I have above average knowledge
- I know a great deal

Knowledge of curriculum content

- I know a little
- I am somewhat familiar
- average knowledge
- I have above average knowledge
- I know a great deal

Experience with teacher evaluation prior to most recent experience

- Waste of time
- Not very helpful
- average experience
- Somewhat helpful
- Very helpful

B. Describe your perceptions of the person who most recently evaluated your performance:

Credibility as a source of feedback

- Not credible
- Very little credibility
- Neutral
- Somewhat credible
- Very credible

Working relationship with you

- Adversary
- Not helpful
- Neutral
- Somewhat helpful
- Helper

Level of trust

- Not trustworthy
- Very little trust
- Neutral
- Somewhat trustworthy
- Trustworthy

Interpersonal manner

- Threatening
- Somewhat Threatening
- Neutral
- Occasionally Threatening
- Not Threatening

Temperament

- Very impatient
- Somewhat impatient
- Neutral
- Somewhat patient
- Very patient

Flexibility

- Rigid
- Often inflexible
- Neutral
- Somewhat flexible
- Very flexible

Knowledge of technology teaching

- Not at all knowledgeable
- Very little knowledge
- Neutral
- Some knowledge
- Very knowledgeable

Capacity to model or demonstrate needed improvements

- Very low
- Low
- Neutral
- High
- Very high

Familiarity with your particular teaching assignment

- Unfamiliar
- Somewhat unfamiliar
- Neutral
- Somewhat familiar
- Very familiar

Usefulness of suggestions for improvement

- Completely useless
- Somewhat useless
- Neutral
- Somewhat useful
- Very useful

Persuasiveness of rationale for suggestions

- Not at all persuasive
- Occasionally persuasive
- Neutral
- Somewhat persuasive
- Very persuasive

C. Describe the attributes of the procedures used during your most recent evaluation: Standards are the criteria used to evaluate your teaching. Describe the procedures related to standards in the items below:

Were standards communicated to you?

- Not at all
- Somewhat
- Neutral
- With some detail
- In great detail

Were the standards clear to you?

- Very vague
- Somewhat vague
- Neutral
- Somewhat clear
- Very clear

Were standards endorsed by you as appropriate for your teaching assignment?

- Not endorsed
- Very little endorsement
- Neutral
- Somewhat endorsed
- Highly endorsed

Were the standards.....

- The same for all teachers
- Slightly changed for some teachers
- Not tailored for the unique needs of my teaching assignment
- Somewhat tailored for the unique needs of my teaching assignment
- Tailored for the unique needs of my teaching assignment

To what extent were the following sources of performance information considered as part of the evaluation?

Observation of your classroom was.....

- Not at all considered as part of the evaluation
- Very little was considered as part of the evaluation
- Neutral
- Somewhat used as part of the evaluation
- Used extensively as part of the evaluation

Meeting of evaluator was.....

- Not at all considered
- Very little was considered
- Neutral
- Somewhat used
- Used extensively

Examination of artifacts (lesson plans, materials, home/school communication)

- Not at all considered
- Very little was considered
- Neutral
- Somewhat used
- Used extensively

Examination of student performance

- Not at all considered
- Very little was considered
- Neutral
- Somewhat used
- Used extensively

Student evaluations

- Not considered
- Very little was considered
- Neutral
- Somewhat used
- Used extensively

Peer evaluations

- Not considered
- Very little was considered
- Neutral
- Somewhat used
- Used extensively

Self-evaluations

- Not considered
- Very little was considered
- Neutral
- Somewhat used
- Used extensively

Describe the extent of the observations of your classroom, based on your most recent evaluation experience in your school district. (Note: In these items, formal refers to observations that were pre-announced and/or were accompanied by a pre- or post- conference with the evaluator; informal refers to unannounced drop-in visits.)

Number of formal observations per year

- 0 observations
- 1 observations
- 2 observations
- 3 observations
- 4 observations
- 5 formal observations or more

Approximate frequency of informal observations per year

- 0 observations
- 1 observations
- 2 observations
- 3 observations
- 4 observations
- 5 informal observations or more

D. Please describe the attributes of the feedback you received during your last evaluation experience:

Amount of information received

- None
- Very little
- Some
- Significant amount
- Great deal

Frequency of formal feedback

- Never
- Rarely
- Sometimes
- Often
- All of the time

Frequency of informal feedback

- Never
- Rarely
- Sometimes
- Often
- All of the Time

Depth of information provided

- Shallow
- Little
- Some
- A Lot
- In-depth

Quality of the ideas and suggestions contained in the feedback

- Very low
- Low
- Average
- High
- Very high

Specificity of information provided

- Vague
- General
- Somewhat specific
- Specific
- Very specific information provided

Nature of information provided

- Judgmental
- Non-descriptive
- Average
- Descriptive
- Very descriptive

Timing of feedback

- No feedback given
- Delayed
- Somewhat delayed
- Quickly
- Immediate

Feedback focused on standards

- Ignored the standards
- Ignored most of the standards
- Included one standard
- Reflected some of the standards
- All reflected the teaching standards

E. Please describe these attributes of the evaluation context: Resources available for evaluation:

Amount of time spent on the evaluation process, including your time and that of all other participants.

- None
- Little
- Some
- A Lot
- Great Deal

Time allotted during the semester for professional development

- None
- Little
- Some
- A Lot
- Great Deal

Availability of training programs and models of good practices

- None
- Little
- Some
- A Lot
- Great Deal

District values and policies in evaluation:

Clarity of policy statements regarding purpose of evaluation

- Non-existent
- Vague
- Neutral
- Clear
- Very Clear

Intended role of evaluation

- Teacher accountability
- Student engagement
- Unknown
- Student evaluation
- Teacher growth

Continue to the next portion of the survey

APPENDIX D: TEACHER JOB SATISFACTION QUESTIONNAIRE

TJSQ Intro

TEACHER JOB SATISFACTION QUESTIONNAIRE (TJSQ)

Directions: The following statements refer to factors that may influence the way a teacher feels about his/her job. These factors are related to teaching and to the individual's perception of the job situation. When answering the following statements, select the response which represents the degree to which you agree or disagree with the statements.

Key:

Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

TEACHER JOB SATISFACTION QUESTIONNAIRE (TJSQ) Directions: The following statements refer to factors that may influence the way a teacher feels about his/her job. These factors are related to teaching and to the individual's perception of the job situation.

Teaching provides me with an opportunity to advance professionally.

- Strongly Disagree
 Disagree
 Neither Agree nor Disagree
 Agree
 Strongly Agree

Teacher income is adequate for normal expenses.

- Strongly disagree
 Disagree
 Neither Agree nor Disagree
 Agree
 Strongly Agree

Teaching provides an opportunity to use a variety of skills.

- Strongly Disagree
 Disagree
 Neither Agree nor Disagree
 Agree
 Strongly Agree

Insufficient income keeps me from living the way I want to live.

- Strongly Disagree
 Disagree
 Neither Agree nor Disagree
 Agree
 Strongly Agree

My immediate supervisor turns one teacher against another.

- Strongly Disagree
 Disagree
 Neither Agree nor Disagree
 Agree
 Strongly Agree

No one tells me that I am a good teacher.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

The work of a teacher consists of routine activities.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am not getting ahead in my present teaching position.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Working conditions in my school can be improved.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I receive recognition from my immediate supervisor.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I do not have the freedom to make my own decisions.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor offers suggestions to improve my teaching.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching provides for a secure future.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I receive full recognition for my successful teaching.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I get along well with my colleagues.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

The administration in my school does not clearly define its policies.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor gives me assistance when I need help.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Working conditions in my school are comfortable.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching provides me the opportunity to help my students learn.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I like the people with whom I work.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching provides limited opportunities for advancement.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My students respect me as a teacher.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am afraid of losing my teaching job.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor does not back me up.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching is very interesting work.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Working conditions in my school could not be worse.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching discourages originality.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

The administration in my school communicates its policies well.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I never feel secure in my teaching job.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching does not provide me the chance to develop new methods.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor treats everyone equitably.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My colleagues stimulate me to do better work.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching provides an opportunity for promotion.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am responsible for planning my daily lessons.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Physical surroundings in my school are unpleasant.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am well paid in proportion to my ability.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My colleagues are highly critical of one another.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I do have responsibility for my teaching.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My colleagues provide me with suggestions or feedback about my teaching.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor provides assistance for improving instruction.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I do not get cooperation from the people I work with.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching encourages me to be creative.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor is not willing to listen to suggestions.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teacher income is barely enough to live on.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am indifferent toward teaching.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

The work of a teacher is very pleasant.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I receive too many meaningless instructions from my immediate supervisor.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I dislike the people with whom I work.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I receive too little recognition.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching provides a good opportunity for advancement.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My interests are similar to those of my colleagues.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am not responsible for my actions.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor makes available the material I need to do my best.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I have made lasting friendships among my colleagues.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Working conditions in my school are good.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor makes me feel uncomfortable.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teacher income is less than I deserve.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I try to be aware of the policies of my school.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

When I teach a good lesson, my immediate supervisor notices.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor explains what is expected of me.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Teaching provides me with financial security.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My immediate supervisor praises good teaching.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I am not interested in the policies of my school.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I get along well with my students.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Pay compares with similar jobs in other school districts.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My colleagues seem unreasonable to me.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Block 1

Thank you for completing the Teacher Evaluation Profile survey and the Teacher Job Satisfaction Questionnaire!