

Examining the Relationship Between Preservice Teachers'
Dispositions and Teaching Performance

by

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ABSTRACT

Good teaching is said to be one of the most important factors in student achievement, but the specific characteristics that make up effective teaching are difficult to measure and remain a matter of debate. The construct of teacher dispositions has been suggested to influence a teacher's effectiveness. Some researchers and policy influencers believe that a teacher may have the necessary knowledge and skills to demonstrate effective, quality teaching, but unless they have certain dispositions, they may not activate or utilize the necessary knowledge and skills to teach effectively. Even though teacher education programs are currently required by accrediting bodies to assess teacher candidates' dispositions, there is still a need within the literature for evidence to determine a relationship between teachers' dispositions and their teaching quality and performance. Upon examination of the literature, while there was a large amount of information written about dispositions in the educational literature, research examining relationships between teacher dispositions and teaching performance was lacking. The purpose of this study was to add to the research base related to teaching dispositions and examine relationships between the preservice teacher dispositions and their teaching performance.

Stepwise multiple regression was conducted to evaluate whether preservice teacher dispositions would be found to be significantly correlated to their teaching performance. Results from this study indicate that within the sample, there are small but significant relationships among the dispositions of preservice teachers and their teaching performance. Three out of ten disposition indicators (Fallibility, Explains Teacher Success, Values Student Learning), as measured by the Star Teacher Pre Screener

(Haberman 1993, 1995), were significantly correlated with preservice teachers' student-teaching performance scores, as measured using the Big 6 TAP Indicators Rubric.

Bivariate correlation coefficients range from .127 to .191. In general these results suggest that the more preservice teachers possess dispositions related to these variables, the higher is their observed student-teaching performance, or competency, as judged by university site coordinators. Due to the correlational nature of this study the results should be viewed with caution; however, the findings provide some support to the idea that teacher dispositions are related to teacher effectiveness. Implications to the field of teacher education are discussed.

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CHAPTER I INTRODUCTION

Background

Accountability regulations set forth by the U.S. Department of Education (2014) proposes to not only hold teachers accountable for how well students do on tests, but also the teacher training programs that prepared them to become teachers (U.S. Department of Education, 2014). Data collection on these proposed regulations purports to begin in 2016; therefore, the stakes are high for teacher training programs to outturn teachers who are highly effective and take responsibility for students' learning. However, defining teacher effectiveness is yet to be accomplished, and debates have continued as to which policies and practices will help promote effective and high-quality teaching (Berry, 2010; Darling-Hammond, 2005).

Research has shown that good teaching is one of the most important factors in student achievement (Darling-Hammond, 1996). While teaching experience has consistently been found to be related to teacher effectiveness (Jacob, 2001), the specific characteristics that make up effective teaching have been difficult to measure and have remained a matter of debate (Darling-Hammond, 2000; Goldhaber, 2002). According to Talbert-Johnson (2006), those in the teacher education profession have not been proactive in defining teacher effectiveness or forthcoming about data that indicate that the teachers they prepare are able to positively affect K-12 student achievement. To examine teacher effectiveness, extant data sets are often used. For example, education and economics researchers have utilized measurable proxies, such as certification, academic degrees, and

years of experience, against students' academic performance (Goldhaber & Brewer, 1999; Harris & Sass, 2011; Rivkin, Hanushek, & Kain, 2005), resulting in weak positive relationships, (e.g., as little as 3% of the variance in student academic performance being explained by these teacher characteristics).

Discussed within the philosophical teaching literature (Noddings, 2007), there is a particular oddity faced when attempting to determine teacher effectiveness. The oddity is that a teacher's success resides not only in his or her own achievement, but also partly in another's achievement, the student's. Also discussed by Noddings (2007) in her analysis of teaching, some capable students are not responsive to learning, and teachers may not be able to motivate students with purely intellectual or academic acts; therefore as she suggests, teachers may have to show that they care about students as one way to improve student academic achievement. Caring in this sense has to do with teachers' dispositions and many educators and researchers have agreed with Noddings' sentiments (Dottin, 1989; Helm, 2006; Laddings-Billing, 2009; Socket 2009; Talbert- Johnson, 2006). Therefore, within the quest to adequately define effective teaching, another possibly related construct, teacher dispositions, has been suggested to influence teacher effectiveness (Katz & Raths, 1985).

Because student learning has often been viewed as being analogous with student achievement scores (Good, 1979; Noddings, 2007), as mentioned above, one way that teachers' effectiveness has been determined is by looking at student achievement scores. This measurement of teacher effectiveness is in line with the call for highly qualified teachers by the No Child Left Behind (NCLB) Act of 2001. The broad aims of NCLB were increased accountability, elimination of the achievement gap, and expanded school

choice; more specifically, the goals were to improve standards for low-achieving schools, to raise test scores, and to better serve K-12 students from low income homes. However, the bill was questioned for its narrow focus only on knowledge and content when attempting to capture effective teaching (Talbert-Johnson, 2006). Even before its enactment, the language of the bill was critically examined for not addressing dispositions, practices, instruction, curriculum, and policies (Darling-Hammond, 2000).

One aim of NCLB was to close achievement gaps between students in higher versus lower economic situations, as well as between students in minority versus majority populations (US Department of Education, 2002). Unfortunately, however, over a decade later researchers have suggested that the aim has not been accomplished (Darling-Hammond, 2007; Vanneman, Hamilton, Anderson, & Rahman, 2009; Reardon, Greenberg, Kalogrides, Shores, & Valentino, 2013). The “highly qualified teacher” requirement in the act was meant to be a source of equity and to ensure that all children, including disadvantaged students, had access to teachers with college degrees, full licensure, and subject-area competence (Cochran-Smith, 2005). Some researchers have concluded that the guidelines of NCLB do not adequately address the knowledge, skills, and dispositions needed by teachers because the act relies too heavily on teacher pedigrees and standardized test scores (McKinney, Fuller, Hancock, & Audette, 2006), and because it has failed to address the shortage of well-prepared teachers in high-need schools (Darling- Hammond, 2007).

In another educational improvement initiative aimed at narrowing the achievement gap, The National Council for Accreditation of Teacher Education (NCATE, 2008) adopted language that was first introduced in 1992 by the Interstate New

Teacher Assessment and Support Consortium (INTASC) to add the assessment of dispositions to the existing requirements of assessing knowledge and skills of preservice teachers (Diez, 2007). Together these agencies have set forth standards and performance indicators for teacher educators in higher education institutions. These standards and performance indicators pertain to teacher dispositions and responsibilities thought to be important in promoting equitable practices for all students, regardless of their ethnicity, race, language, socioeconomic status, and/or functioning level (Irvine, 2003, Talbert-Johnson, 2006). Currently, the Council for the Accreditation of Educator Preparation (CAEP), formerly NCATE, requires that teacher education programs provide preservice teachers with field experiences to develop and display knowledge, skills, and dispositions. Further, the programs not only must assess the knowledge and skills, but the programs must also assess the dispositions of their teacher candidates. CAEP leaves it up to the individual programs to design field experiences and to come up with dispositions that relate to their mission and purposes.

With the requirement to include dispositions as part of the accreditation process, there came a focus within the educational literature on dispositions as an integral component of teacher quality and effectiveness (McKenna, 2009). For example, in 2007 *The Journal of Teacher Education* and *The Journal of Educational Controversy* devoted entire journals to literature on dispositions. The focus on dispositions was also the result of legal proceedings brought against institutions by teacher education students about having to meet certain dispositional expectations (Gershman, 2005), as well as the reaction of conservative political analysts to the legal cases (Leo, 2005; Will, 2006). Prior

to the focus on dispositions, teacher training was primarily concerned with knowledge and skills (Schussler, Stooksberry, & Bercaw, 2010).

Within the literature, it is said that effective teaching is the intersection of teacher knowledge, pedagogical skills and disposition, and that without any one of the three, meaningful teaching and learning will not occur (Taylor & Wasicsko, 2000). According to Ritchhart and Perkins (2000), “The notion of dispositions addresses the gap between one’s abilities and one’s actions, between a temporary facilitative state and a consistently enabling trait” (p. 30). Ritchhart and Perkins cite John Dewey as having recognized this gap within the teaching field. According to Dewey (1933), “Knowledge of methods alone will not suffice: there must be the desire, the will, to employ them. This desire is an affair of personal disposition” (Dewey, 1933, p. 30). Similarly, when discussing effective teaching, Dottin (1989) explained that effective teaching is not just a matter of disseminating knowledge and skills to students. Dottin (1989) stated:

It is easy to hide behind skills and avoid relating to people. Human effectiveness is the affective use of the individual's own self: combining his/her own knowledge and sensitivity with his/her own unique ways of putting it into operation so as to be helpful to others. Learning to be a human is therefore not just learning a job it is learning a new way of being yourself. The place to improve the world is first in one's own heart and head and hands and then work outward from there. (n.p.)

According to Dottin, agreed upon characteristics are often associated with effective teachers and they include such dispositions as caring, dedication, and sensitivity.

Thornton (2006) explained that even though knowledge, skills, and dispositions are

embraced within teaching accreditation standards as essential elements of teacher preparation and teacher quality, dispositions remain a neglected part of teacher education.

Statement of Problem

Even though teacher education programs are currently required by accrediting bodies such as CAEP to assess teacher candidates' dispositions, a need still exists within the literature for empirical evidence to determine a relationship between teachers' dispositions and their teaching quality and performance (Norris, 2008).

Purpose of Study

The purpose of this study is to add to the research base related to teaching dispositions and examine the relationship between the dispositions and the content and pedagogical knowledge and skills of preservice teacher candidates in a teacher education program at a Southwestern University. The researcher proposes to test the hypothesis that student teachers' disposition scores will predict their performance on the Big Six TAP Indicators rubric, which measures pedagogical performance competencies.

Research Questions

1. Do the disposition scores of preservice teachers predict their teaching performance as measured using the Big Six TAP Indicators rubric at performance assessment one?
2. Do disposition scores of preservice teachers predict their teaching performance as measured using Big Six TAP Indicators rubric at performance assessment two?

3. Do disposition scores of preservice teachers predict a change in their performance assessment scores from the first performance assessment to the second?

Significance of the Study

CAEP accredited teacher education programs are currently required to assess the dispositions of their teacher candidates. Defining and assessing teacher dispositions has been a challenge to teacher educators (Singh & Stoloff, 2008), which is one reason for the lack of empirical research on the construct within the field of teacher education (Lund, Wayda, Woodard, & Buck, 2007). This study might be of interest to teacher educators whose job it is to prepare teachers for the 21st century classroom. This study will be of benefit in that it will determine if there is a relationship between dispositions and successful student teaching performance. If there appears to be a relationship between dispositions and success in student teaching, teacher educators could utilize candidate's dispositions scores to individualize both classroom instruction and student teaching experiences in order to ultimately provide targeted instruction aimed at producing highly effective teachers. Additionally, it is the researcher's hope that this study will increase educators' and researchers' understanding of the construct of teacher dispositions.

Psychology research has been viewed as a gradual synthesis science, and not a sudden breakthrough science. Progress is made by compiling information from a large variety of loosely related studies, each of which may be low in conclusive evidence, but if taken cumulatively, a clear picture may unfold and evidence may be uncovered

(Stanovich, 1998). In the same way, the study of teacher dispositions is the subject of a number of interlocking, but not necessarily closely related, or highly conclusive, studies. This dissertation is meant to be part of the process of looking for evidence related to teaching dispositions with the hope of moving towards a clearer picture of teacher dispositions within teacher education.

Delimitations and Limitations

The following delimitations define the boundaries of this study and outline how the study will be narrowed in scope, while the later limitations identify the potential weaknesses of this study that are out of the researcher's control (Creswell, 1998).

Delimitations

Delimitation of the current study include that the sample from which this study was drawn was not randomly selected from the entire preservice teacher population. The sample for this study was drawn from archived data sets from one competency-based teacher training program at one postsecondary institution in the Southwestern United States. Generalizations of this study cannot be made to all preservice teachers because data utilized were originally collected from a convenience sample of prospective teachers attending the competency-based teacher education program. The results of this study could be generalizable to preservice teachers from competency-based training programs; however, they may not be applicable to preservice teachers trained at more traditional teacher training programs, or to more experienced inservice teachers. A more representative sample of the target population would have allowed for more generalizable findings. Additionally, the researcher chose to utilize pre-existing data in order to engage

in secondary analysis of existing data for the purposes of answering the research questions. This narrowed the scope of analyses the researcher could utilize in this study.

Limitations

Some of the limitations of this study have to do with disadvantages which are inherent in the use of secondary data. One major limitation is that the researcher did not participate in the original data collection process and did not have access to data collection process and does not know exactly how it was done. For example whether or the extent to which fidelity measures were followed, and whether survey data were affected by problems such as respondent misunderstanding of survey questions, response bias, or social desirability bias. Also the researcher was only able to work with the data set obtained, and while it may have been originally collected, there was a lack of demographic information on the research participants within the data set available to the researcher. For example, information as to where the participants were raised, as well as the age, gender, and race/ethnicity of participants was not available. Additionally due to the confidential nature of using secondary data, participants could not be contacted for follow-up questions and additional data cannot be collected. Another limitation of this study is that the researcher chose to utilize a correlational research design; therefore, a causal relationship could not be determined.

Definition of Terms

The list below contains the operational definitions of key terms that will be used throughout this study.

Council for the Accreditation of Educator Preparation (CAEP) – CAEP is the result of the merge of the National Council for the Accreditation of Teachers (NCATE) and the Teacher Education Accreditation Council (TEAC). Founded in 1954, NCATE was a council of educators tasked to ensure and raise the quality of educator preparation. NCATE was an accreditor of teacher certification programs at U.S. colleges and universities that was recognized by the U.S. Department of Education. TEAC was also a recognized accreditor of teacher-preparation programs. The boards of these two accreditation agencies met and voted unanimously to consolidate educator accreditation under a new agency; as a result, in 2013 NCATE and TEAC merged to become the Council for the Accreditation of Educator Preparation (CAEP). CAEP followed from NCATE and TEAC to become the only recognized accreditor specialized in accreditation of U.S. educator-preparation programs. Stated on their website (<http://caepnet.org>), CAEP advances excellence in educator preparation through evidence-based accreditation that assures quality and supports continuous improvement to strengthen P-12 student learning. CAEP professional standards for the accreditation of educator preparation institutions are a primary source that informs scholarship on teacher dispositions.

Highly Qualified Teacher – To be highly qualified under the Elementary and Secondary Education Act (ESEA), reauthorized as No Child Left Behind in 2002, a teacher must: 1) have a bachelor degree; 2) be fully certified as defined by the State Department of Education; and 3) be able to demonstrate subject area competence in any core subject taught.

Interstate New Teacher Assessment and Support Consortium (INTASC) –

INTASC is a consortium of state education agencies and national educational organizations representing more than 30 states focused on the reform of the preparation, licensing, and professional development of teachers. The work of INTASC is guided by the one premise that an effective teacher must be able to integrate content knowledge with the specific strengths and needs of students to assure that all students learn and perform at high levels. INTASC has developed standards and an assessment process for initial teacher certification. INTASC model core standards are based on 10 principles evident in effective teaching regardless of subject or grade level. INTASC model core standards are also a primary source that informs scholarship on teacher dispositions.

Professional Dispositions – Professional dispositions are the habits of professional action and moral commitments that underlies an educator’s performance (CAEP, 2013).

Star Teacher PreScreener – The Star Teacher PreScreener (1993, 1995) is the instrument used to gather the disposition scores for this study. The Star Teacher PreScreener (1993, 1995) is a commercial, online survey instrument developed through the work of Martin Haberman for the purpose of predicting teacher success in urban classrooms and with low income students. The instrument has been used to screen job seeking teachers for the likelihood of their teaching effectiveness before hiring them. For this study, The Star Teacher PreScreener was used to assess the dispositions of preservice teaching candidates at the beginning of their teacher education program.

Teacher Advancement Program Rubric and Big Six Rubric – The Big Six Rubric was adopted based on The System for Teacher and Student Advancement Description (TAP), formerly known as the Teacher Advancement Program. What Works

Clearinghouse (2015) described the TAP system as a comprehensive educator effectiveness program that aims to improve student achievement through support and incentives that attract, retain, develop, and motivate effective teachers. The program provides teachers with leadership opportunities and associated salary increases; ongoing, school-based professional development; rigorous evaluations; and annual performance bonuses based on a combination of teacher value added to student achievement and observations of their classroom teaching. The original TAP assessment system contains 19 domains, or indicators, that outline and define research-based instructional best practices. The Big Six Rubric, which was utilized to gather data used in this study, contains six of those 19 original TAP assessment indicators.

Teacher Dispositions – Intellectual and emotional investments in events, situations, and people. Preservice and in-service educators develop positions towards teaching and learning that direct their work with students, parents, and colleagues. Dispositions are made manifest through intentional, practiced behaviors that can be challenged, developed, and enhanced even as they denote behavioral tendencies that endure over time (Breese & Nawrocki-Chabin, 2007).

Chapter Summary

This chapter introduces justification for conducting this study, and it includes pertinent background information, problem statement, importance, and purpose. A good, effective teacher is an important factor in student achievement. Exactly what constitutes effective teaching has not been conclusively established; however, literature on effective teaching suggests that a teacher's content knowledge, pedagogical skills, and dispositions are all important to student learning. Though content knowledge and pedagogical skills

are more heavily researched areas, the study of teacher dispositions is an area that needs more attention within the field of teacher education. Despite the fact that institutions of teacher education are being required to assess dispositions of preservice teachers for accreditation purposes, a clear picture of the construct of teacher dispositions has not yet emerged within the educational literature. Further, evidence of a clear relationship between preservice teacher dispositions and preservice teacher performance has not been empirically established. This study purposes to examine the relationship between preservice teachers' dispositions and their teaching performance.

CHAPTER II

LITERATURE REVIEW

This chapter provides an overview of Social Cognitive Theory and a discussion about how this theory might be utilized in the area of teacher education. Additionally, a discussion is provided about the components of teacher competency, which might include the construct of teacher dispositions. The remaining part of this review concerns teacher dispositions, including an overview and definitions of the construct, and a discussion on relevant controversy surrounding teacher dispositions. Followed by that will be a discussion on the importance of dispositions in the field of teacher education, as well as how dispositions are being assessed. The chapter will end with a discussion about the possible relationship between teachers' dispositions and their teaching performance.

Social Cognitive Theory

Overview

Social Cognitive Theory (SCT) provides a comprehensive description that explains how individuals cognitively process and interpret environmental influences and how behavior patterns are acquired and sustained (Bandura, 1978). SCT is a psychological model of human behavior that emphasizes the impact of the social context and cognitive processes to explain human functioning, behavior, learning, and personality (Bandura, 1977, 1986). Unlike other historical theories that have explained human behavior as being driven by a “unidirectional” or single mode of “causation,” such as being “shaped and controlled by environmental influences” (e.g., behaviorism), or driven by “internal dispositions” (e.g., psychoanalytic theory) respectively, SCT explains human behavior as being influenced bidirectionally, through what Bandura called triadic

reciprocal causation (Bandura, 1999, p. 6). Bandura's triadic reciprocal causation model, also known as reciprocal determinism, is a defining and foundational aspect of SCT and will be discussed in detail in the next section of this chapter.

SCT was both conceived through, and contributed to, the paradigm shift between behaviorism and cognitive psychology (Bandura, 1986). This modified view of social learning theory expanded upon classical learning theory and was grounded in the behaviorist perspective, particularly the reinforcement and punishment principles of behavioral psychology (Skinner, 1961; Thorndike, 1911; Watson, 1925); however, within the SCT framework learning is conceptualized mainly as knowledge acquired through cognitive processing of information (Bandura, 1996). Bandura (1977, 1978, 1986) acknowledged that rather than having to acquire knowledge through only the consequences of one's own actions, humans are able to gain new knowledge through reflective thought. They can comprehend their environment and solve problems cognitively. They can create, and they can plan foresightful courses of action in thought because of their capacity to use symbols. Bandura also discussed that symbolizing allows people to self-direct, and to store information for guiding their future behavior.

According to Bandura (1978), the major controversies between unidirectional and reciprocal models of human behavior involve self-influences, and what he called the "self system" (p. 344). A self-system within Bandura's theoretical framework consists of cognitive structures and sub-functions for perceiving, evaluating, and regulating behavior. Bandura's self-system contributed to the significance of social learning theories.

According to Bandura (1977, 1978), there are many determinants of a person's acts, and one of those determinants is self-produced influences. Just as a person's behavior is influenced by the environment, the environment is partly of their own making because of their actions. Experiences people generate by their own behavior also partly determine what they think, expect and can do; and as a result, their subsequent behavior is also affected. Within SCT, researchers view behavior as an interdependent factor, rather than as a dependent factor (Bandura, 1978). Additionally, according to Bandura, (1978), humans can activate differential environmental reactions apart from their behavior, by their physical characteristics (e.g., size, race, sex, and attractiveness) and socially conferred attributes, roles, and statuses. The differential social treatment affects recipients' self-conceptions and actions in ways that either maintain or alter the environmental biases.

The influence exerted by the three determinants, which are inner personal factors, external environmental factors, and behavior, will vary in different individuals and under different circumstances. Bandura (1978) asserted that external influences often affect behavior through what he calls intermediary cognitive processes, which he explains to mean that cognitive factors partly determine which external events will be observed, how they will be perceived, whether they have any lasting effects, what valence and efficacy they have, and how the information they convey will be organized for future use. According to this theoretical explanation of learning and behavior, psychological functioning involves a continuous reciprocal interaction between behavioral, cognitive, and environmental influences. Within this study, teacher dispositions are personal factors,

and are part of a teacher's psychological functioning. Teacher dispositions are believed to influence his or her behavior in the classroom.

Key Constructs

Reciprocal determinism. Triadic reciprocal causation, also known as reciprocal determinism, is a defining foundational aspect of SCT in the explanation of human functioning (1977, 1978, 1986). As discussed earlier, human behavior has been explained by one-sided deterministic models in which people are either driven by inner forces, or automatically shaped and controlled by external stimuli (Bandura, 1986, 1999). SCT, on the other hand, supports the idea that environmental and cognitive variables continually interact with one another and with behavior such that each influences the other in a reciprocal fashion. Human functioning is described as a product of the reciprocal interplay of intrapersonal, behavioral, and environmental determinants in the triadic reciprocal causation model of behavior (Bandura, 1986). (See Fig. 1)

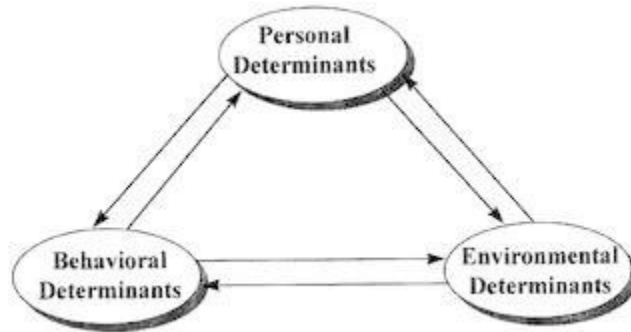


Figure 1: Bandura's Model of Reciprocal Causality

Bandura (1999) stated that in this model of reciprocal causality, internal personal factors in the form of cognitive, affective, and biological events; behavioral patterns; and environmental events all operate as interacting determinants that influence one another

bidirectionally. In other words, behavior and environmental conditions are reciprocally interacting determinants of one another; but also, internal personal factors (e.g., conceptions, and self-perceptions) are also reciprocally interacting determinants of behavior as well. For example, within SCT, teachers' efficacy and outcome expectations influence how they behave, and the environmental effects created by their actions in turn alter their expectations.

Bandura (1999) used the term causation to mean "functional dependence between events" (p. 6). When explaining the relation between the self-system and reciprocal determinism, Bandura (1978) explained that he used the term determinism "to signify the production of effects by events, rather than in the doctrinal sense that actions are completely determined by a prior sequence of causes independent of the individual" (P. 345). Prior to that publication, however, Bandura (1986) explained that the term reciprocal refers to the mutual action between causal factors and that the term determinism is used to signify the production of effects by certain factors including personal influence as part of the determining conditions (Bandura, 1986).

The components of Bandura's triadic reciprocal causation model include personal, behavioral, and environmental factors. A teacher's disposition is an example of a personal factor, and it is part of a teacher's psychological functioning. A teacher's propensity to seek out and engage in professional development activities is an example of a behavioral factor. An urban classroom setting is an example of an environmental factor. These teacher factors, according to SCT, are believed to influence teaching behavior in the classroom.

Within the model, personal factors affecting one's behavior, personality development, and learning might include cognitive, affective, and biological events such as knowledge, beliefs, values, and one's biological endowment. And such personal factors can influence how others behave as well. For example, the behaviors people display can generate social reactions, which can be said to cause or change behaviors in others. Within the model, behavior can also change one's personal characteristics (Bandura & Locke, 2003). Additionally, the environment, which includes social interactions such as instruction, modeling, and persuasion, can change personal characteristics. For example, one could say that if a teacher had little confidence in his or her ability to teach in a way such that students who exhibit difficulty learning calculus could actually master the discipline, then he or she might be inclined to focus attention on teaching calculus concepts only to those students in the classroom who the teacher believes to be capable of learning the subject. Based on his or her beliefs, the teacher decides to change the classroom environment. So the teacher divides the classroom into two groups, those who the teacher believes can easily grasp calculus, and those who the teacher believes cannot. Believing that some students just cannot possibly grasp calculus concepts, the teacher teaches calculus to the group of students who have quickly grasped the subject, but teaches only algebra to those who did not. This in turn affects the development of skills and abilities in the students. Likewise, those students who quickly displayed behaviors related to grasping calculus were able to reinforce their teacher's belief in their ability to continue learning the subject. To further exemplify the constructs of SCT, one could also suppose that students' home environments may have altered the ability of some of the students to quickly grasp difficult mathematical concepts by

providing extra attention to, or tutoring on, the subject outside of school hours. It might also be said that students may have been biologically endowed to more aptly easily difficult mathematical concepts than others.

Another foundational aspect of SCT, which will also be discussed later in this paper, is that of human agency. Human agency signifies that people have a hand in determining the directions their lives take as they are “agents of experiences rather than simply undergoers of experiences” (Bandura, 2001a, p.4). According to Bandura, self-beliefs are critical elements in the exercise of control and personal agency.

Human agency. SCT is rooted in the perspective that people possess personal agency, the idea that people are capable of making causal and purposeful contributions to their own psychosocial functioning (Bandura, 1982, 1997). This concept is representative of the theoretical paradigm shift away from the idea that human behavior is mostly controlled by the environment. To be an agent is to either intentionally engage in a behavior or not (Bandura, 1997). The self-beliefs, discussed above, are central in Bandura’s view of human agency. As discussed earlier, human agency, or to act with intent to exert control over one’s life, is foundational to SCT.

Human agency consists of four core features: Intentionality (e.g., intent to go about a particular course of action, make a plan), forethought (e.g., identify specific goals, envision possible outcomes of the behaviors or performances), self-regulation (e.g., behavior occurs through deliberate self-reactiveness, self-regulation often links thoughts to actions), self-reflection (e.g., agentic self-examination of personal experiences, thought processes, and behaviors). Through these proposed features of human agency, people are capable of using symbolization, forethought, vicarious

experiences, self-regulation and self-reflexivity as functions of adaptation and change. Using the capabilities of intentionality and forethought, and through symbols, people process and transform transient experiences into internal models that serve as guides for future actions (1986). People motivate themselves and guide their actions anticipatorily; people anticipate the likely consequences of their prospective actions; they set goals for themselves; and they plan courses of action for themselves (Bandura 1986). Through self-regulation, people have the ability to link thought to action, and act with intent. Through self-reflection people have the ability to utilize internal standards and self-evaluative reactions to their own behavior to influence their future behavior and their environment. According to SCT, through the mechanisms of human agency people are self-organizing and proactive. People can act from three modes of human agency.

According to SCT, the three ways to be an agent are through personal control, proxy control, and collective control. Personal agency, the first way to be an agent, is to act individually to exert influence on one's own functioning and on environmental events to get things done. Through mechanisms of personal agency, people have the capacity to exercise control over their thought processes, motivation affect, and action (Bandura, 1999).

Bandura (2001a, 2001b, 2008) has discussed that because people do not live their lives with individual autonomy, circumstances exist when personal agency is not enough and people have to work with and through others to secure what they cannot accomplish on their own. Bandura has explained that in many areas of functioning, people do not have direct control over social conditions or institutional practices; therefore, they seek to alter their circumstances through the second mode agency—proxy agency. Bandura has

explained that through the exercise of proxy agency, which is socially mediated, people try to influence others who have resources, knowledge, and means to act at their behest to secure the outcomes they desire. Finally, the third mode of agency in SCT is through collective agency, in which people utilize beliefs of collective power to produce desired results. In the exercise of collective agency, people pool their knowledge, skills, and resources, and act in concert to shape their future (Bandura, 2000). Bandura (2001a) stated that with collective agency, group attainments are the product not only of the shared intentions, knowledge, and skills of its members, but also of the interactive, coordinated, and synergistic dynamics of their transactions. Within SCT, people rely on all three forms of agency in everyday functioning (Bandura, 2000).

Expectancies. Another aspect of SCT discussed in this section is concerned with whether or not a person will perform a behavior based on his or her expectancy beliefs. According to Bandura (1978), people cognitively appraise, even while in the midst of a behavior, the progression of events. Their thoughts about the probable effects of prospective actions partly determine how their acts are affected by their immediate environmental consequences. People's expectations of how their actions are likely to affect others or situations also play a role in how they behave.

In SCT, expectancy beliefs include efficacy expectations and outcome expectations. Bandura (1977) defined an outcome expectancy as "a person's estimate that a given behavior will lead to certain outcomes," and an efficacy expectation as "the conviction that one can successfully execute the behavior required to produce the outcomes" (P. 193). Bandura (1986) discussed that perceived self-efficacy involves a

judgment of one's capability to accomplish a certain level of performance; whereas, an outcome expectation is a judgment of the likely consequence such behavior will produce.

In SCT, perceived self-efficacy and outcome judgments are differentiated because individuals can believe that a particular course of action will produce certain outcomes, but they do not act on that outcome belief because they question whether they are capable of executing the necessary activities (Bandura, 1986). Bandura (1986) gave the example that the belief that one can high jump six feet is an efficacy judgment; the anticipated social recognition, applause, trophies, and self-satisfactions for such a performance constitute the outcome expectations. Bandura explained outcomes as the consequence of an act, not the act itself. Self-efficacy expectations, on the other hand, involve a person's belief in his or her ability to produce desired results by his or her own actions. A person's self-efficacy beliefs influence the outcome expectancies.

Bandura (1997) explained that both efficacy beliefs and outcome expectations assist in the prediction of behaviors, but that efficacy expectations are stronger predictors. He says that, for example, the expectations that high grades gain students entry to medical school and that medical practice yields high incomes will not steer undergraduates into premedical programs who have serious self-doubts that they can master the science requirements. On the other hand, "efficacious individuals who cannot gain valued outcomes through personal accomplishments will not necessarily cease trying" (p.21).

Self-Efficacy. According to Bandura (1997), people's belief in their causative capabilities is the focus of inquiry in self-efficacy (Bandura, 1997). He stated, "Among the mechanisms of agency, none is more central or pervasive than beliefs of personal

efficacy (Bandura, 1977, p. 2). Bandura (1997) defined perceived self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). The self-efficacy component of SCT occupies a pivotal role in the theory because it acts upon the other classes of determinants and influences knowledge acquisition and skill development (Bandura, 1997).

The development of self-efficacy beliefs is also an important component of reciprocal causation because of the role that these self-beliefs play in accomplishing tasks and related goals. Self-efficacy is foundational to human motivation and is a critical determinant of self-regulation (Pajares, 2002). A key aspect of self-efficacy according to SCT is that it is a motivational construct which is based on a person’s perception of his or her competence rather than on the actual level of competence. Self-efficacy beliefs are not static; they fluctuate depending on a person’s interpretations of mastery and vicarious experiences, physiological arousal, emotional reactions, and verbal persuasion (Bandura 1997; Usher & Pajares, 2008).

According to SCT, there are four sources through which a person’s self-efficacy develops: enactive mastery experiences, vicarious experience, verbal and social persuasions, and emotional and physiological states (Bandura, 1986). These four sources of self-efficacy are believed to influence a person’s unique development of efficacy beliefs. The most effective way of creating a strong sense of efficacy is through mastery, or first-hand experiences (Bandura, 1994). Enactive mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can muster whatever it takes to succeed (Bandura, 1997). Successes can build a robust belief in one's personal efficacy while failures undermine it,

especially if failures occur before a sense of efficacy is firmly established (Bandura, 1994, 1997). Measurement of mastery experiences aimed at being consistent with Bandura's (1997) conceptualization of this source of self-efficacy should be mindful that mastery experiences are interpretations individuals make of experienced events rather than objective performances themselves (Usher & Pajares, 2008). These same authors reported that Lane (2002) and Lopez, Lent, Brown and Gore (1997) found that perceptions of mastery are better predictors of self-efficacy than are objective results.

Vicarious experiences, the second source of self-efficacy, include individuals' interpretations of observations of others such as significant peers or adults. Through various social models, when people see others succeed, for example, they come to believe that they too have what it takes to succeed (Bandura, 1986, 1997). As discussed earlier in this paper, model and observer characteristics influence the utilization of this source of self-efficacy. For instance, modeling can be more influential when observers view the model as similar to themselves and as being competent. Schunk (1989) suggested that for students, peers offer the best basis for vicarious experiences. Competent models can also build observers' self-efficacy by conveying necessary knowledge and skills.

The third source involves social or verbal persuasions, which are messages from others about capabilities that can include intended and unintended messages. Bandura (1997) explained that if people are persuaded that they have what it takes to succeed then they exert more effort and avoid focusing on their doubts when problems arise. Further he discussed that people, such as teachers, can arrange things for students that bring about success. Likewise, teachers can avoid placing students in situations prematurely, where they will fail.

The fourth, and final, source of self-efficacy proposed by Bandura are emotional and physiological states. Emotional and physiological states involve the perception of feelings and physical reactions, and/or antecedents that individuals' experience. These emotional or physiological feelings, either positive or negative, can effect self-efficacy beliefs. People often tell themselves stories about their own physical and emotional states, not always correctly, and make judgments about their personal capabilities based on those feelings. States including stress, fatigue, and depression can lower one's sense of efficacy (Bandura, 1997). As explained by Bandura (1977), emotional arousal often results from stressful situations, and for one person the feelings of arousal associated with a particular situation might translate into a sense of personal competency; however for someone else, that same emotional arousal might translate into feeling that they lack competence. Because of this, for example, emotional arousal is considered a source that can affect a person's perceived self-efficacy in coping with threatening situations (Bandura, 1977). According to Bandura, people judge their anxiety and vulnerability partly on their state of physiological arousal, and people may focus on fear-provoking thoughts about their ineptitude, which in turn is more likely to debilitate behavioral performance.

The development of self-efficacy is based on people's cognitive appraisal; therefore, the development of self-efficacy through these four sources does not happen directly. As an example, when speaking of the development of teacher self-efficacy within teacher education students, this cognitive appraisal involves the selection of the types of information student teachers use from the different sources, as indicators for self-efficacy. This cognitive appraisal also has to do with how student teachers attend to,

interpret, and integrate the self-efficacy information into creating their self-efficacy.

According to Bandura (1997), personal and situational factors, including perceived task difficulty, effort spent, support received during a task, and the outcome of a task, are all part of the development of a person's perceived self-efficacy.

Bandura (1997) stated that student teachers' self-efficacy is most pliable at an early stage of the learning process. For example, he explained that students who enter the first year of a teacher education program have an early global or general idea of teaching and teaching competences. This early global concept is based on prior knowledge, teaching experiences drawn from their student role, and, in general, very limited or no teaching experience as a teacher. First year student teachers encounter new teaching experiences; they interpret these experiences and that forms a new and better understanding of the teaching practice and required teaching competences. In line with Schunk and Meece (2006) who stated that students' school experiences help shape their self-efficacy beliefs, it is plausible that the development of teacher competences runs parallel with the development of first year student teachers self-efficacy. This implies, according to the theoretical assumption of Eccles, Wigfield, and Schiefele (1998), that first-year student teachers enter the first year of a program with a more global undifferentiated teacher self-efficacy. As students have more teaching experiences, a differentiation takes place from a broad understanding to a partly differentiated self-efficacy, which eventually leads to a more fine-grained sense of teacher efficacy.

Modeling and observational learning. According to Bandura (1997), modeling is one main factor that influences human functioning. Within SCT, modeling is not defined as imitation, in which one organism matches the actions of another (Bandura,

1986; Rosenthal & Zimmerman, 1978). Rather, knowledge acquisition, learning, and behavior change can be thought of as being correlated to the observation of models. Learning can happen by observing others and modeling their behaviors (Rosenthal & Bandura 1978). Bandura (1986) discussed that in SCT modeling is a construct that can influence others in broad psychological ways, and modeling can serve as a way to cultivate human competencies by imparting conceptions and rules for generating variant forms of behavior to suit different purposes and circumstances. Within SCT, modeling not only happens through live visual or verbal demonstrations of behavior, but additionally, observational learning can occur via indirect modeling through media involving video, audio, or written behavior. Through observational learning, observers can acquire cognitive skills and new patterns of behavior, and such learning can involve new behavior patterns, judgmental standards, cognitive competencies, and generative rules for creating behaviors (Bandura, 1971; Rosenthal & Zimmerman, 1978).

Through modeling and observational learning, the consequences or the outcomes that others receive can serve as reinforcers or as deterrents in whether or not a particular learner will choose to imitate behaviors learned through observing models. Bandura (1977) stated that modeling is also influential in human behavior in that it can serve to strengthen or to weaken inhibitions over behavior that has been previously learned. Vicarious reinforcement can have a facilitation effect when observers see others being reinforced for the behavior, and vicarious punishment can have an inhibition effect when observers see others being punished for a behavior. Further, modeling may encourage previously forbidden behaviors or behaviors that a learner perceives to be wrong. In such a case, vicarious reinforcement can have a dis-inhibition effect when previously inhibited

behaviors start occurring, and this has been observed to happen when an observer sees a model either exhibiting the inhibited behavior or reinforced for the inhibited behaviors. When positive incentives are provided, observational learning, which has previously remained unexpressed, is promptly translated into action (Bandura 1965; Dubanoski & Parton, 1971; Madsen 1968). Modeling not only has been shown to influence frequency of behaviors learned in the past, modeling can teach new behaviors, and modeling can also increase frequency of similar behaviors; however, humans are selective in choosing whom to imitate.

Factors involving both the learner and the model play a role in whether or not observational learning is demonstrated. Model characteristics, whether real or perceived by an observer, play a role in the influence of observational learning and behavior through the actions of live, symbolic, and verbal models. Effective models have been suggested to include those that are viewed as competent, respected, possessing a high social status, or powerful by an observer. Models who behave in stereotypical or gender appropriate ways according to the observer have also been suggested to be more effective in producing effective observational effects via modeling (Bandura, 1986). Attention to models can be channeled by the functional value of their models as well as by their attractiveness (Bandura, 1996). Observers are more likely to perform modeled actions they believe are appropriate and will result in rewarding outcomes, and observers are likely to attend to models who demonstrate behaviors that help observers attain the goal. According to social cognitive theories (Bandura 1977, 1986; Mischel, 1990; Mischel et al., 1996; Rotter 1954; Shoda and Mischel, 1996), in order for a behavior to occur a

person must decide that a situation is relevant enough or has personal value such that it will initiate goal driven behavior.

Observational learning, according to SCT, involves the four cognitive processes of attention, retention, production, and motivation. Bandura (1977, 1986) suggested that these four processes are essential for a person to model what they learned observationally. These four processes can be divided into two phases that consist of an acquisition phase and a performance phase. In the acquisition phase, attention is involved in observational learning in that a learner must attend to information in order to retain it (i.e., attention and retention). In the performance phase, a person decides if he or she will demonstrate what was learned through observational learning (i.e., production and motivation). In SCT, the distinction between acquisition and performance is emphasized because people do not enact everything they learn. Observers also attend to models when they believe they are capable of learning or performing the modeled behavior. The developmental level of the observer, model prestige and competence, vicarious consequences, outcome expectations, goal setting, and self-efficacy are all factors that influence observational learning (Schunk, 2000).

In realizing their own agentic influence, as well as the power of the environment as an influence on learning and behavior, teacher educators have attempted to impart more covert teaching behaviors, such as dispositions. For example, Helm (2006) discusses that one key to cultivating dispositions is for teachers in teacher education programs to make students aware of particular dispositions, and then model them for the duration of the program. Collier (2005) discussed instruction with a focus on constructing caring environments and the use of caring as a catalyst for expanding teachers'

perception of their power to make a difference in the lives and performance of their students. By modeling caring behaviors consistently, teachers can influence and motivate caring behaviors in their students.

Applying SCT in Teacher Education

SCT can be utilized to explain and make predictions about how cognitions affect the behavior of teachers and preservice teachers and to study the influence of teacher preparation. SCT can also be used to cultivate developmental processes (Pajares, 2002). According to Breese and Nawrocki-Chabin (2007), SCT provides a way to address dispositional development within teacher education. In this section, I will review literature grounded in SCT that has provided insight into teacher behavior, as well as touch upon literature which might be used to guide teacher educators towards processes that aid in the development of positive dispositions within preservice teachers.

Teacher self-efficacy. The construct of self-efficacy has been utilized within educational research to examine how teachers' self-efficacy beliefs relate to their behavior and classroom outcomes (Tschannen-Moran, Wolfolk Hoy, & Hoy, 1998). Historically, the construct of teacher self-efficacy has been conceptualized and measured differently from various perspectives. Teacher efficacy has been defined in various ways including: "the extent to which the teacher believes he or she has the capacity to affect students' performance" (Berman, McLaughlin, Bass, Pauly, & Zellman, 1997, p. 137); "teachers belief in their ability to have a positive effect on student learning" (Ashton, 1985, 142); and "the extent to which teachers believe they can affect students learning" (Dembo & Gibson, 1985, p. 173). Teacher sense of efficacy is defined as the teacher's belief in his or her capability to organize and execute courses of action required to

successfully accomplish a specific teaching task in a particular context (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Dellinger, Bobbett, Oliver & Ellett (2008) utilized Bandura's (1977) original definition of self-efficacy and defined teachers' self-efficacy beliefs, as teachers' individual beliefs about their own abilities to successfully perform specific teaching and learning related tasks within the context of their own classrooms.

The popularity of self-efficacy spurred research on teacher self-efficacy. A thorough review is beyond the scope of this chapter; however, a summary of findings is presented. Wiesel and Dror (2010) surveyed 139 general education teachers from 17 elementary schools to examine the effects of school organizational and educational climate, and their sense of efficacy on their attitudes toward inclusion of students with special needs. Results using correlation and multiple regression analyses suggested that school climate, teachers' sense of efficacy, and special education training were positively associated with teachers' attitudes toward inclusion; however self-efficacy was the single most important factor affecting attitudes.

Research has also suggested that teacher self-efficacy can account for individual differences in teaching effectiveness. Self-efficacy beliefs influence teachers' persistence when things do not go smoothly and their resilience in the face of setbacks (Tschannen-Moran and Woolfolk Hoy, 2001; Wheatley, 2002a, 2002b). Research has suggested that teachers with a strong sense of efficacy are more open to new ideas and are more willing to experiment with new methods to better meet the needs of their students (Tshannen-Moran & Woolfolk Hoy, 2001). According to SCT, teachers who do not expect to have teaching success with certain students are likely to extend less effort towards the preparation and delivery of their instruction (Tschannen-Moran & Wolfolk Hoy, 2006).

However, Wheatley (2002a) discussed that having and recognizing doubts about current effectiveness is beneficial and may act as a motivator for teachers' continued learning and growth. For example, though strong teacher self-efficacy may leave teachers with little reason to reflect, having uncertainty or doubts about teaching efficacy actually supports processes like teacher reflection and help-seeking, which are beneficial in instances when changes in teaching is a desired goal (Wheatley, 2002a). For efficacy doubts to be beneficial, according to Wheatley (2002a), teachers must have confidence that they can learn to be more effective in the future.

Along this same line of thinking, Wheatley, (2002b) suggested that in the face of setbacks, a teacher's reflection and persistence influence one another reciprocally. Wheatley (2002b) defined teacher persistence as a disposition, in that "persistent individuals have a habit of persisting in many situations, and thus, persistence is a disposition" (p. 2). Wheatley stated that continuing to work hard at teaching is part of what constitutes teacher persistence, but working hard alone is not teacher persistence. Instead, his definition of teacher persistence is a tendency to persist steadfastly, until successful, in the many specific courses of action that constitute teaching. To further clarify, Wheatley gave the example that teacher persistence is not just to teach math concepts again and again each day, but to persist with "those three students until they understand fractions" (p. 3). According to Wheatley (2002b), thoughtful reflection in conjunction with persisting in the face of setbacks prevents teachers from persisting blindly with ineffective teaching approaches. Wheatley (2002b) called for teacher educators to foster greater persistence in teaching candidates by: 1) emphasizing the knowledge that makes persistence a rational response to the daily challenges of teaching,

2) helping preservice teachers develop the skills that help teachers persist, and 3) helping preservice teachers develop the disposition of persisting when faced with setbacks.

Wheatley's ideas about reflection and persistence relate to SCT and Bandura's (1995) sentiment that achieving success by overcoming difficulties fosters a more robust sense of efficacy than does achieving success easily.

The construct of teachers' self-efficacy has been utilized to study the influence of teacher preparation. Using Bandura's (1986) model of efficacy expectations, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) examined the influence of teacher preparation on teacher's self-efficacy. Utilizing Bandura's four sources of self-efficacy, teacher education has the ability to purposefully set out to support mastery experiences, positive emotional cues, vicarious experiences, and verbal persuasion. Experiences of success for student teachers can be planned and supported through mentoring and coaching, which supports positive emotional cues rather than anxiety and the sense of defeat that accompanies experiences of failures. Student teaching also invites numerous vicarious experiences in which learning through watching successful teachers can take place. Finally, through constructive feedback from supervisors, coaches, and mentor teachers, teacher education can set out to instill verbal persuasions that support positive self-efficacy beliefs in student teachers. Studies have suggested relationships exist between teachers' self-efficacy and feelings of preparedness for teaching (Darling-Hammond, Chung, and Frelow, 2002; Hall, Burley, Villeme, and Brockmeier, 1992; Raudenbush, Rowen, and Cheong, 1992).

Researchers studying teachers' self-efficacy have also associated the construct with student educational outcomes. For example, controlling for previous levels of

student achievement, Caprara, Barbaranelli, Steca, and Malone (2006) found that teachers' self-efficacy affected student academic achievements in a positive way. Additionally, research concerning reading skills (Ross, 1998) and math skills (Mujjs and Reynolds, 2001) has suggested that students of teachers with high self-efficacy performed better than students of less efficacious teachers. However, in their extensive review of research on self- and collective efficacy, Klassen, Tze, Betts, and Gordon (2011) concluded that there was a lack of research attention paid to how teacher self-efficacy influences student outcomes, and they found only a modest empirical support linking teacher self-efficacy to student outcomes.

Based on their meta-analysis, Klassen and Tze (2014) reported empirical evidence supporting a relationship between teachers' self-efficacy and their teaching performance. According to Klassen and Tze (2014), prior to their investigation, within the research literature, the association between teacher self-efficacy and teaching effectiveness was not well established. In their prior review, Klassen, Tze, Betts, and Gordon (2011) found that even though there was an extensive quantity of self-efficacy research within the literature, the quality of the literature was lacking because over 99% of the studies were within teacher outcomes, such as self-report measures, rather than external measures of teaching effectiveness, such as student achievement or teacher performance evaluations. Klassen and Tze (2014) report that within the literature there was only mostly the assumption that teachers' psychological characteristics are associated with teaching effectiveness. To test this assumption, they conducted a meta-analytic investigation to examine the magnitude of the relationship between the two teachers' psychological characteristics of self-efficacy and personality, and the external measures of teaching

effectiveness of evaluated teaching performance and student achievement measures. They reported that their analysis, containing 43 studies and 9216 participants, revealed a small effect size of $r = .10$ between overall psychological characteristics and teaching effectiveness. Interestingly, they found that the strongest effect size of $r = .28$ was for self-efficacy on evaluated teaching performance.

Research shows that there is a relationship between teacher self-efficacy and job satisfaction (Klassen and Chiu, 2010). According to Siwatu and Chestnut (2014), Bandura's self-efficacy theory can be useful for understanding the difficulty of recruiting and retaining individuals into the teaching profession. They state that teachers' self-efficacy beliefs can influence their career aspirations and career longevity in that teachers who are inadequately prepared to teach may doubt their capabilities to manage daily classroom challenges, are likely to experience higher levels of burnout, and, thus, leave the profession (Schwarzer & Hallum, 2008; Skaalvik & Skaalvik, 2007). Siwatu and Chestnut, (2014) focused their discussion on Lent, Brown, and Hackett's Social cognitive career theory (SCCT) (Lent, Brown, & Hackett, 1994) that extends upon Bandura's SCT (Bandura, 1986). SCCT focusses on the following three variables that work together to facilitate personal agency in decision-making and career development: 1) self-efficacy, 2) outcome expectations, and 3) goals. Lent et al. discussed that SCCT can be used to explain specific problems associated with the recruitment and retention of highly qualified teachers, and they suggested relative implications to teacher education. One implication they suggested is to carefully structure preservice teachers' clinical experiences.

SCT and cognitive developmental processes. SCT fits well with attempts to cultivate developmental processes. For example, Pajares (2002) stated that through the use of SCT as a framework

teachers can work to improve their students' emotional states and to correct their faulty self-beliefs and habits of thinking (personal factors), improve their academic skills and self-regulatory practices (behavior), and alter the school and classroom structures that may work to undermine student success (environmental factors) (p. 2).

In the same way and related to teacher dispositions, teacher educators can direct preservice teachers to become aware of their dispositions. In recognizing that humans have agency and can choose which learned behaviors they display, teacher educators might set up learning situations that target the acquisition of not only teaching skills, but also the dispositions determined to be in line with the philosophy of the university or the particular teacher education program. Breese and Nawrocki-Chabin (2007) suggested the use of SCT as a way to address preservice teachers' dispositional development, enabling them to learn to choose effective dispositions which lead to beneficial consequences.

According to Breese and Nawrocki-Chabin (2007), the role of teacher educators is to structure opportunities for candidates to examine the relationships among teacher behaviors, their impact on teaching and learning, and the dispositions such behaviors signal to students, colleagues, administrators, and parents. Breese and Nawrocki-Chabin (2007) suggested that Bandura's emphasis on self-assessment is key to constructive self-analysis and growth in that "optimal knowledge and progress and the consequent drive to perfect a given behavior resides in the individual candidate's capacity to recognize and

critique her own behavior” (p. 34). Breese and Nawrocki-Chabin (2007) pointed out the need for teacher educators to guide preservice teachers by asking reflective questions. Breese and Nawrocki-Chabin (2007) further suggested that dispositional growth and development results from the repeated and sustained practice of self-assessment by preservice teachers.

Additionally, teacher educators can perhaps challenge their students to ask themselves metacognitive questions such as the following: How are they choosing to orient themselves to the information being taught, and how are they filtering the information being taught? How are they using agency to shape their learning path, their educational and career path? Teacher educators can also task their students to turn this around and begin to anticipate the challenges of teaching by imagining learning to teach from the perspective of the learner, their own future students in K-12 schools.

In line with SCT, teachers are models in ways that students are able to acquire skills in various areas, partly by observing the behavior of the teacher. Another implication of SCT which is central to teacher education involves the use of mentor teachers, who model first-hand classroom teaching experiences to student teachers. While teaching students in classroom settings, mentor teachers provide valuable observational learning opportunities for student teachers to acquire pedagogical knowledge and skills. Mentor teachers also have the ability to powerfully influence the teaching dispositions of future teachers (Helm, 2006). Teacher educators rely on mentor teachers to act as a primary role model of positive and professional teaching dispositions. How a mentor teacher treats students and whether they demonstrate the belief that all students can learn for example, exemplify ways in which student teachers’ teaching dispositions can be

shaped and influenced by mentor teachers. Mentor teachers could be chosen based on holding dispositions that are in line with the programs view of valuable dispositions.

Bandura's reciprocal determination model might also be used in the following ways to aid in the development of positive preservice teacher dispositions. With preservice teacher dispositions being the personal factors, teacher educators might work to help make preservice teachers aware of their own dispositions so that they can reflect upon the dispositions they are presently holding, and either keep them or adjust/develop/evolve them as they progress through their educational program. This then, will hopefully affect their teaching effectiveness, which is a behavioral factor; and hence, also affect the environmental factors, such as the situation with a particular student, or the diverse classroom. Additionally, the academic achievement of the students might improve, leading to what is seen as teacher effectiveness.

Teacher Effectiveness and Quality

According to Darling-Hammond (1997), teachers are said to be the most important factor in improving schools. Other factors, however, are associated with specific qualities that define a teacher and the teaching approach in the classroom. According to Giovannelli (2003), these other factors connected to effective teaching are multiple and complex, and research in the area of teacher effectiveness lacks a clear consensus regarding which qualities constitute effective teaching. Currently, researchers have agreed that having a competent or effective teacher makes a difference in how well students perform (Darling-Hammond (2000). Good (1979) defined teacher effectiveness as "the ability of a classroom teacher to produce higher than predicted gains on standardized achievement tests" (p. 53). However, prior to the 1970s, there had been a

minimal amount of systematic research linking teacher behavior to student achievement (Brophy & Good, 1986).

One historical research trend was the emphasis on the curriculum over the teacher (Walker & Schaffarzick, 1974) when examining effects on student outcomes. Additionally, the effects the school had on student outcomes were of more interest than teacher effects, and this seemed to indicate that teachers were not thought to be as important in effecting student achievement (Good, Biddle, & Brophy, 1975). The use of direct observation to study teaching in the early 1970s was another trend that helped to better understand teachers' effects on their students' academic achievement (Rosenshine & Furst, 1973).

One factor that influenced progress in the study of teachers' effects on students' academic achievement was funding from federal agencies, such as The Office of Education (OE) and the National Institute of Education (1974), which allowed researchers to conduct large scale process-product research. Process-product variables concern actual teaching activities that take place in classrooms and include observable behaviors of teachers and students.

The investigation of which specific teacher behaviors could be linked to improving student performance became a focus in the effort to examine and define teacher competency (Anderson, 1991, 2004, Borich, 1988, 1996, Brophy, 1986, 1988). Pedagogical behaviors were identified (see Borich, 1996), and continue to be identified. For example, according to Anderson (2004), a positive classroom climate is necessary in order to bring out the best in students, and teachers need to create a psychological environment that is perceived positively and similarly by students. As discussed by

Gallavan, Peace, and Thomason (2009), there has been much research delineating content knowledge and pedagogical skills suitable to teaching in general, germane to teaching specific academic disciplines, and applicable to teaching particular groups and individual types of students (Gardner, 1993, Shulman, 1987, Vygotsky, 1986). According to Giovannelli (2003), critics of research on effective teaching have pointed out that statistical correlations between most individual teaching variables and measurements of student achievement are low. In reply to that critique, Giovannelli (2003) discussed that even weak relationships can be important for making a difference in practice because improvements in attitude and behavior are linked to small improvements, which over time can add up to a worthwhile total change.

Research related to content knowledge and pedagogical skills has informed and supported the development of conceptual frameworks and curricular foundations for accredited teacher preparation programs and the courses included in those programs, and the various views of the knowledge and skills needed to teach well has been used to guide the development and use of standardized tests that institutions and states mandate for teacher candidates to pass prior to beginning their classroom internships, and their teaching careers (Gallavan, Peace, & Thomason, 2009). In addition to using students' achievement scores to reflect teacher effectiveness, test scores reflecting teachers' pedagogical and content knowledge has also been used to reflect teaching competency.

By the 1980s, focus shifted to competency-based teacher education and standardized tests required for teacher certification. Testing teachers for certification was the law in most states in 1986 (Darling-Hammond, 1986). Darling-Hammond (2000) found that the percentage of well qualified teachers, defined as the proportion holding

both full certification and a college major in the field being taught, was the strongest predictor of how well a state's students perform on national standardized tests. However based on student achievement scores, teacher certification tests failed to prove whether an individual would be an effective teacher. Additionally, effective teaching is hard to quantify because making good grades in a teacher training programs does not always equate to becoming an effective teacher. As Berchinin (2015) has stated, "The academically best students are not necessarily the best teachers" (p. 21). Within the topic of what makes up teacher quality, effectiveness, and competence, some researchers have been most interested in the more cognitive and human elements that could be linked to effective teachers.

The differing conceptualizations of teacher effectiveness or teacher competence within the literature not only relate to teachers' success in producing achievement gains in students, teacher effectiveness also relates to teachers' success in socializing students and promoting their affective and personal development (Brophy & Good, 1986). In her review of research, Darling-Hammond (2000) found that effective teachers have strong content knowledge and pedagogical training in their teaching field, as well as an understanding of their students and how they learn. Additionally, along with content knowledge being an important variable, prior research has found that students' trust in teachers and the belief that teachers care about them are strong variables for academic success, particularly among Black children (Gay, 2000; Ladson-Billings, 2009).

Similarly, according to Parkay and Stanford (2009), along with the need to be knowledgeable about the subjects they teach, teachers need to acquire a number of abilities to effectively respond to the complexities of teaching. Some of these abilities

include being to be able to understand their students' educational and emotional needs; they also need to be able to communicate, inspire trust and confidence, and motivate their students. Additionally, they must be able to recognize and respond to individual and cultural differences in students such that they can activate different teaching methods that will result in higher student achievement. Parkay and Stanford (2009) also state that effective teachers must have the ability to work cooperatively and communicate effectively with other teachers and staff, parents, and members of the community in which they work. Parkay and Stanford suggested the following four kinds of knowledge are necessary to be able to respond effectively to the complexities of teaching: knowledge of yourself and your students, knowledge of the subject, knowledge of educational theory and research, and knowledge of how to integrate technology into teaching.

Some researchers and policy influencers believe that a teacher may have the necessary knowledge and skills to demonstrate effective, quality teaching, but unless they have a certain dispositions, they may not activate or utilize the necessary knowledge and skills to actually teach effectively (Freeman, 2007). For example, a teacher of English, language arts (ELA) may possess the knowledge and pedagogical skills to differentiate reading instruction for her diverse classroom of students, but will not do so without the appropriate underlying dispositions.

Giovannelli (2003) demonstrated that a reflective disposition toward teaching was related to effective teaching, especially in the domains of instructional behavior, classroom organization, and teacher expectations. Based on reflective disposition scores obtained from preservice teachers' responses to a questionnaire and effective teaching scores from field instructors assessing the same preservice teachers' student teaching

performances, Giovannelli (2003) examined how variations in reflective disposition toward teaching influence effective teaching. The reflective disposition variable, which was the predictor variable, was defined as making decisions and formulating ideas about educational goals, practices, and outcomes that are subjected to careful reconsideration in light of information from current theory and practice. The outcome variable of effective teaching was defined as the consistent performance of teaching behavior in the four domains of classroom management, instructional behavior, classroom organization, and teacher expectations for students' success. Giovannelli stated that in terms of variance explained, the multiple regression analysis results suggested that a reflective disposition towards teaching made a small but statistically significant contribution to effective teaching. However, Giovannelli used a method to standardize the coefficients in her study, and she explains that in terms of the standardized coefficients were all relatively large, suggesting that reflective disposition had a fairly strong influence on effective teaching. With regards to demographics, preservice teachers' age was associated with effective teaching, whereas preservice teachers' GPA was not. Giovannelli discussed her findings as being not only important to gaining a clear understanding of effective teaching, but also in relation to the issue of admissions to teacher training programs. She suggested the importance of assessing candidates' dispositions as part of recruitment and admissions prior to admittance to a teacher education program. She stated that the results of her study support the idea that members of admissions committees utilize a more balanced approach to selecting and admitting students into teacher education programs, by balancing their concerns for the results of standardized tests and GPA with attention to attitudes, values, beliefs, and emotions of teacher candidates.

Teacher quality includes the areas of content knowledge, pedagogical skills, and dispositions (Schutle, Edick, Edwards, & Mackiel, 2004). Content and pedagogical knowledge, skills, and dispositions are essential characteristics needed by professional educators to impact learners (Richardson, 2001). As discussed by Lang (2005), identifying teachers as highly qualified, simply by focusing on their knowledge relative to design and content, that is hands on teaching knowledge and subject area knowledge, is to infer that knowledgeable teachers are effective and highly qualified. Lang said this misses the issue that was recognized by INTASC years ago, that regardless of knowledge possessed, teacher candidates without appropriate dispositions are less than qualified. Lang (2005) stated, “If a teacher does not believe in advocacy for their [sic] students or ethical actions, knowledge of anything won’t fix their [sic] decisions or make them [sic] qualified” (p. 2). Also attesting that teacher competency involves more than content knowledge and skills, when discussing a limitation of NCLB, Talbert-Johnson (2006) stated: “The [NCLB] mandate specifically identifies the content knowledge and skills of candidates: however, the report fails to mention such intangibles as care for students, efficacy, enthusiasm, and a caring, affirming disposition for all K-12 students” (p. 152).

According to McKenna (2009), teacher education programs commonly examine teacher competency in terms of content-area pedagogical knowledge and skills, and dispositions. Edwards and Edick (2006) studied the case files of 92 teacher candidates identified as being in jeopardy of failing the program and found that issues of concern were primarily rooted in teacher dispositions rather than in teacher skills and knowledge. School administrators also utilize data related to teachers’ knowledge, skills, and disposition. In giving reasons for teacher contract non-renewal, school administrators

more often cited dispositions as the reason for the contract non-renewal of probationary teachers, than for reasons more directly connected to student learning (Nixon, Packard, & Douvanis, 2010).

In sum, to date there is no universal agreement as to which qualities equate directly to teacher effectiveness, but there is agreement that teachers do make a difference in student learning leading to academic achievement or lack thereof. Knowledge of subject matter and pedagogy are key factors related to quality instruction; however, teacher educators and researchers argue that knowledge of subject and pedagogy are not sufficient for successful teaching; dispositions also play a key role in quality and successful teaching (Diez, 2007; McIntyre, Hulan, & Maher, 2010; McKenna, 2009; Richardson, 2001; Schussler, Stooksberry, & Bercaw, 2013; Schutle, Edick, Edwards, & Mackiel, 2004). Although educational researchers have abundantly delineated guidelines related to content knowledge and pedagogical skills, fewer guidelines have been published regarding teachers' professional dispositions (Gallavan, Peace, & Thomason, 2009). As stated by Kindle and Schmidt (2011), despite widespread use of the term dispositions, there is neither a single definitive definition of disposition, nor a uniformly agreed-upon list of the dispositions needed for effective teaching.

Teacher Disposition

Overview

Within the psychological, philosophical, and educational literature, dispositions are viewed as being impactful on people's thoughts and actions. Dispositions are said to be the cement that binds heart and mind (Nixon, Dam, and Packard, 2010). According to

Thornton (2006), the literature on dispositions in the field of teacher education is grounded in philosophy and psychology. Teacher dispositions have to do with people's beliefs, but they go beyond beliefs because they concern the tendency for a teacher's beliefs to be put into practice in the classroom and with students (Costa & Kallick 2000, 2008). Various dispositions have been studied within the field of education including dispositions to use technology in the classroom (Jung, Rhodes, & Vogt, 2006), teachers disposition towards science technology, engineering, and math (Knezek, Christensen, & Tyler-Wood, 2015), critical thinking dispositions (Heijltjes, Van Gog, Leppink, & Paas, 2014), and culturally relevant dispositions (Marshall, DeCurr-Gunby & McDulloch 2013, Villegas & Lucas, 2002).

As discussed by Halpren, (1998) concerning critical thinking dispositions, critical thinking is more than the successful use of a particular skill in an appropriate context, it also involves having the disposition to recognize when a skill is needed and the willingness to apply it. Along the same line, teaching competency not only involves the ability of preservice teachers to acquire relevant content and pedagogical knowledge and skills, but also the disposition to select—based on the needs of the student(s)—and apply one's knowledge and skill in ways that lead to effective teaching and students' academic success. Borko (2007), Liston, and Whitcomb (2007) reported that Taylor and Wasicsko (2000) claimed that “there is a significant body of research indicating that teachers' attitudes, values, and beliefs about students, about teaching, and about themselves, strongly influence the impact they will have on student learning and development” (p.359).

Villegas (2007) discussed that a teaching disposition is contingent on a set of skills, and as pointed out by Katz and Rathz (1985), even if a teacher is competent in a certain skill, there is no guarantee that skill will be used in the classroom or on particular students by that teacher. This idea is one of the big points of addressing dispositions in teacher education. Villegas (2007) points out that beliefs held by teachers either lend support to or serve as barriers to teacher dispositions, such as the disposition to teach all students equitably; or on the other hand, the disposition to teach differently based on the belief that not all students can learn. For example, Villegas (2007, p. 375) provided a list of skills or actions that might suggest a teacher holds the disposition that all students can learn, and/or whose practice is informed by principles of social justice might act in ways that give all students access to knowledge. Villegas (2007) suggested the following actions that might infer that the candidate or teacher has developed the disposition that all students can learn:

setting high performance goals for all students and holding them accountable;
planning and implementing an enriched curriculum that challenges every learner to develop critical thinking skills; helping students examine text from multiple perspectives; ensuring that learning activities offer appropriate adaptations for English language learners and for students with special needs; helping students see connections between what they are asked to learn in school and their everyday lives outside school; selecting and using materials that are relevant to students' individual and cultural experiences; using examples and analogies from students' lives to clarify new concepts; using varied instructional strategies to accommodate differences in approaches to learning; ensuring that all students are actively

engaged in learning activities; providing encouragement for all learners to excel; and creating an inclusive classroom culture. (p.375)

According to Thornton (2013), there are foundational dispositions which impact pedagogical decisions that teachers make, and their impact on teaching and learning cannot be ignored; however, the research on underlying teacher dispositions remains inconsistent. Discussing the words of Dewey (1910), which warn that the dispositions and attitudes of the teacher effect student learning, Richardson and Ongwuegbuzie (2003) emphasized the necessity to determine which dispositions, attitudes, or habits of mind are best for the students involved in the education process. The topic of teacher dispositions remained a topic of discourse within teacher education literature years after teacher education units were mandated to assess teacher candidate dispositions (McKenna, 2009). This is evidenced by the fact that two national education journals, *The Journal of Teacher Education* (2007) and *The Journal of Educational Controversy* (2007) published issues dedicated solely to dispositions.

Within the educational research, the field of teacher education has struggled with the idea of measuring and identifying candidate dispositions largely due to the lack of clear understanding and definition of dispositions. The following section of this review will include various ways in which the educational research literature is defining dispositions related to teacher education.

Definitions of Teacher Dispositions

Teacher dispositions are often neglected because they are difficult to define and assess (Pang, Nichols, Terwilliger, & Walsh, 2014). There is a range in the way

dispositions are being defined in the education field. One conceptualization includes the idea of dispositions being mostly related to or summarized by behaviors and actions, and demonstrated in the behavior of individuals (Katz & Raths, 1985, 1993). Another conceptualization views dispositions as being mostly cognitive in nature and not necessarily demonstrated in behavior. For example, as being a component of one's intelligence, Ritchart (2000, 2001), Thornton (2006), and Schussler (2006) have all pointed out the importance in focusing on internal mechanisms when defining dispositions. According to Schussler, Bercaw, and Stooksberry (2008), there are three domains of dispositions: an intellectual domain, a cultural domain, and a moral domain. Finally, because institutions of teacher education are expected to assess the professional dispositions of their candidates, there are definitions of dispositions relative to teacher accreditation and teaching standards which will also be discussed in this section.

Dispositions are visually demonstrated in behavior. Katz (1993) cited Buss and Craik (1983, p. 105) as having proposed a formal definition of dispositions as “summaries of act frequencies” that represent trends or frequencies of acts. Katz (1993) said that according to this definition, a person exhibiting a relatively high frequency of a behavior could be said to have the disposition related to that high frequency behavior. Using the definition provided by Buss and Craik, Katz and Raths (1985) applied the construct of dispositions to teacher education. As explained by Murrell, Diez, Feiman-Nemser, and Schussler (2010), Katz and Raths provided one of the earliest references to dispositions in teacher education literature when they described a teacher who refused to re-explain a concept to a student as punishment for not paying attention. In this instance, Katz and Raths point out the difference between a teacher possessing a skill and

explaining and using that mastered skill when requested to do so. For Katz and Rath, dispositions are about specific kinds of actions and their frequency, not a set of beliefs or attitudes. Katz (1993) defined dispositions as patterns of behaviors that are exhibited frequently and intentionally in the absence of coercion, representing a habit of mind. To distinguish that there is a difference between habits and dispositions, Katz (1993) discussed that to call a behavior a habit would be to assume that it is performed without conscious attention, and dispositions on the other hand require some attention to what is occurring in the context of the action. For example, Katz and Rath (1985) differentiated between habits and dispositions by stating the following:

Inasmuch as intentionality is a mental process, we see dispositions as “habits of mind” –not as mindless habits. They are classes of intentional actions in categories of situations, and they can be thought of as “habits of mind” that give rise to the employment of skills and are manifested (ideally) by skillful behavior. (p. 303)

Further, Katz and Rath (1985) argued that dispositions should be measured as a class of outcomes in teacher education. They emphasized that while some teaching dispositions are helpful in achieving the goals of teaching, others dispositions may interfere or undermine the achievement of teaching goals. They use the term disposition not to indicate a cause of behavior; but rather, behaviors exhibited by a person, and in a number of contexts and on frequent occasions, are seen as being descriptive of their dispositions.

Within the context of teaching, Katz and Rath (1985) defined dispositions as “an attributed characteristic of a teacher, one that summarizes the trend of a teacher’s actions

in particular contexts” (p. 301). They provide the example that a teacher does not praise students because he has a disposition to be supportive. Rather, a teacher observed to make use of praise in a number of contexts and on frequent occasions, might be described as having a supportive disposition. In the article, Katz and Rath (1985) contrasted their definition and use of the term dispositions to skills, attitudes, habits, and traits by defining each of those terms differently than the term dispositions. Katz and Rath (1985) stated that according to their definition of the term, “a disposition describes trends or summaries of frequencies of given categories of actions” (p. 307). Regarding dispositions, what Katz and Raths did not deal with was what motivated the frequency of a person’s actions (Murrell, Diez, Feiman-Nemser, & Schussler, 2010).

Dispositions are part of one’s intelligence. Building on Dewey’s (1922,1933) work, which addresses the cultivation of habits of mind necessary for effective teaching, Ritchhart (2001) viewed dispositions as a collection of cognitive tendencies that capture one’s patterns of thinking. Ritchhart’s definition is grounded in a dispositional view of intelligence and is premised on the concept that “intelligent performance is more than an exercise of ability. ...dispositions concern not only what one can do, one’s abilities, but also what one is disposed to do. Thus dispositions address the often-noticed gap between our abilities and our actions.” (Ritchhart, 2001, p.3). For example, Ritchhart and Perkins (2000) explained that in defining dispositions, they have gone beyond the definition used by some in personality and social psychology that explain dispositions as being purely a descriptive category used to characterize a behavior (e.g., see Buss & Craik, 1983).

Ritchhart and Perkins (2000) defined a disposition as a psychological element consisting of three components: sensitivity, inclination, and ability. They stated that

sensitivity is an awareness of and alertness to occasions for engaging in certain behavior; inclination is the motivation or habit toward carrying out a particular behavior; and ability is the capability of carrying out that behavior. With the addition of sensitivity, rather than just inclination, in this definition, Ritchhart and Perkins said that they are addressing the problem of the standard conceptions of dispositions that often implicitly assume ability while focusing attention on the role of inclination in bridging the ability-action gap. They say that sensitivity to occasions is distinct from general inclination and it provides an important construct in explaining behavior, and sensitivity is often the principal bottleneck (Perkins & Tishman, 1997; Tishman, Perkins, Andrade, Ritchhart, & Donis, 1997). In other words, when one possesses the ability to do something, one must first recognize the occasion as one appropriate for bringing that ability into play.

Another conceptualization of dispositions, as being grounded in intelligence, is that of Thornton (2006), who, as mentioned earlier, cited Goleman's (1995) model of emotional intelligence and Perkin's (1993) connections between neurological, experiential and reflective intelligence acknowledge the impact of dispositions on people's thinking and judgements. Thornton (2006) developed the following definition of dispositions in action (DIA): "Dispositions are habits of mind including both cognitive and affective attributes that filter one's knowledge, skills, and beliefs and impact the action one takes in classroom or professional setting. They are manifested within relationships as meaning-making occurs with others and they are evidenced through interactions in the form of discourse."

Dispositions are not always visually observable. In her conceptualization of dispositions, Schussler (2006) stated that dispositions involve awareness, inclination, and

reflection on behaviors and thinking—not just the behaviors or the thinking themselves. In exploring the nature of dispositions, Schussler (2006) pointed out the flaw in defining dispositions by the behavior of a person, rather than viewing the disposition as defining the behavior. When understanding dispositions in education, Schussler stressed the importance of focusing on internal mechanisms, rather than only considering behaviors, or tendency of behaviors when she states:

I contend that dispositions operate as a point of convergence, whereby external influences of the teaching environment meet the teacher's individual schemata, and also as a point of inception, whereby a teacher's thinking and actions emanate. Focusing on dispositions as a centralizing core that both affects and is affected by teachers' external behaviors, thoughts, and the context of their teaching environment provides a broader view of dispositions than only considering them as frequencies of behaviors. To only consider behaviors, even tendency of behaviors, is to focus on the external while ignoring the internal. (p. 258)

Schussler (2006) asserted that teacher dispositions are related to knowledge and skills, yet conceptually distinct from them; and therefore, assessing dispositions in the same way in which knowledge and skills are assessed does not make sense. Depending on the context, a person's dispositions may or not be evident or acted upon. Further, traditional disposition measures do not take into account an important contextual element inherent in dispositions.

Schussler (2006) further explained teacher dispositions as

a point of convergence, representing a filter through which thinking and behaviors related to teaching are framed, and a point of inception, from which knowledge and behaviors emanate. This dispositional filter encompasses the teacher's awareness, inclination, and ability to reflect. (p. 251)

Within this description of teacher dispositions, Schussler has depicted the teacher as a filter. Teaching is seen as a constant act of perceiving, and the individual teacher is said to be the instrument through which perception occurs. Schussler (2006) has stated that dispositions can be described as a teacher's filter or internal structures of knowledge and affective, cultural, and moral aspects of one's perceptual framework. Every person's cognitions, beliefs, and values have developed individually through his or her own unique past life experiences; therefore, not all preservice teachers introduced to the same knowledge base and common educational experiences will think about and act upon that knowledge, or even interpret information in the same way because knowledge and experiences are being uniquely filtered. Also within this description of teacher dispositions, Schussler has stated that the point of convergence where perception takes place is essentially a teacher's disposition. In other words, she says dispositions are a guiding source for a teacher's ability to process knowledge and act in particular ways.

In line with thinking dispositions and following from the triadic model of dispositions (Perkins, Jay, & Tishman, 1993; Perkins, Tishman, Ritchhart, Donis, Andrade, 2000; Ritchhart, 2002; Ritchhart & Perkins, 2000; Tishman, Jay, & Perkins, 1993), Schussler asserted that awareness, inclination, and reflection are the three characteristics that clarify how dispositions operate. Schussler (2006) stresses the importance of teachers to develop an awareness of the self, of their own filters and how

they operate. Reflection, Schussler has said, includes cognizance and analytical skills about teaching and the teaching context in such a way that the teacher mindfully considers the ramifications of their own thinking and behaviors on/to students. Teaching candidates must be encouraged to identify their values and assumptions (Gitlin, 1995; Ladson-Billings, 1994), then develop their awareness for how this value system affects their responses to various teaching situations (Schussler, Bercaw, & Stooksberry, 2008). This triadic model of dispositions, according to Schussler (2006), addresses one's awareness to when it is advantageous to engage in a particular behavior and one's inclination to do so, which again, moves beyond the definition of dispositions given by Katz and Raths (1985). Schussler (2006) concluded that if the ultimate goal is effective teaching that maximizes student development, "then researchers and policy makers must wade through murky waters by continuing the theoretical and empirical conversation around the concept and implementation of teacher dispositions." As mentioned previously, Schussler, Bercaw, and Stooksberry (2008) suggested that there are three domains of teacher dispositions. The intellectual domain involves "the inclination to think and act around issues related to content and pedagogy;" the cultural domain involves the "inclination to meet the needs of diverse learner in the classroom;" the moral domain involves "the awareness of one's own values, the inclination to think through the assumptions and ramifications behind one's values" (p. 40).

In studying preservice teachers via qualitative analysis, Schussler (2006) and Schussler, Bercaw, and Stooksberry (2008) found that dispositions involve a process, operating at a point of convergence and inception. Schussler and her colleagues say that in essence, dispositions are a two-way filter affecting how teacher candidates are inclined

to receive information and experiences (convergence) and then process this knowledge and make decisions regarding their actions (inception). Schussler, Bercaw, and Stooksberry (2008) have said that teacher candidates must develop their ability to reflect on their thinking and their actions so that they develop an awareness of their dispositions across the three domains of dispositions.

Definition of dispositions for accreditation purposes. Professional associations and state departments of education have developed standards that reflect what teachers should know and be able to do (Parkway & Stanford, 2009). Some professional standards that have had the greatest impact on teacher education programs nationally were developed by the Interstate New Teacher Assessment and Support Consortium (InTASC, and The National Council for Accreditation of teacher Education (NCATE). According to NCATE (2008), dispositions are the professional attitudes, values, and beliefs towards students, families, colleagues and community, demonstrated by educators through both verbal and non-verbal behaviors that affect student learning, motivation and development as well as educator's own professional growth. According to The Council for the Accreditation of Educator Preparation (CAEP, 2013), professional dispositions are "the habits of professional action and moral commitments that underlie an educator's performance" (CAEP, 2013).

Teacher Dispositions Controversy

Decades before dispositions were deemed essential elements within professional educational standards used to grant teaching certifications, experienced teaching academics have studied dispositions necessary to being effective educators (e.g., Arthur W. Combs; Martin Haberman). However, controversy surrounding dispositions exist in

the field of education including unclear and inconsistent definitions of the term, leading to unclear and inconsistent assessment; and related to this, controversy exists about the appropriateness of including dispositions in the accreditation standards, as well as the assessment of candidates as part of the teacher education admissions process for “dispositional fit” (Borko, Liston, & Whitcomb, 2007, p. 359; Wasicsko, 2007).

Concerns also exist about the perpetuation of a social or political agenda of indoctrination by teacher education programs that incorporate curriculum and assessments supporting particular dispositions (Hess, 2006).

Within current educational literature, the term disposition has been seen as an evolving construct, making the utilization of the construct for research and practical purposes difficult (Damon, 2007; Freeman, 2007). Within the professions of teaching and teacher education there is little consensus regarding the meaning, purpose, and use of dispositions (Murrell, Diez, Feiman-Nemser, and Schussler (2010). There is a proliferation of terms associated with dispositions, such as tendencies, values, habits of mind, attitudes, and behaviors, which makes it difficult to establish the usefulness of dispositions as a concept and to build on one another’s research (Ritchhart, 2001).

Additionally the field of education utilizes the term dispositions for various reasons, and for various purposes (Damon, 2007). Some researchers contend that dispositions have become a catchall construct for aspects of teaching aside from knowledge and skills (Schussler & Knarr, 2013). Schussler (2006) calls for a common understanding of the nature of teacher dispositions. Damon (2007) called for a more rigorous definition of the term disposition within the field of education, and related this to concerns about the

assessment of a construct so loosely defined by the very entity that is requiring the assessment of the construct.

In his plea for a more rigorous definition of dispositions, Damon (2007) discussed the need within the field of teacher education to move toward a more useful and prudent approach when defining and assessing dispositions in educational research. He discussed in detail that the concept of dispositions in the behavioral sciences has a particular meaning, based on long-term systematic scientific study, which to his knowledge has never been contested. He defined a disposition as

a trait or characteristic that is embedded in temperament and disposes a person toward certain choices and experiences that can shape his or her future. It is a deep-seated component of personality, with roots going back to the origins of our temperaments and with tentacles that bear major import for who we are and who we shall become. (p. 367)

Damon argued that the field of education uses various contrasting, ambiguous meanings of the term, which could have strong implications in teacher education. His discussion centers on the use of dispositions as a basis for evaluating candidates for teaching credentials, despite the fact that the field continues to have no clear definition for the construct. He stressed that any evaluation process must rely on clearly defined constructs that cannot be interpreted in open-ended ways to suit the subjective biases of the evaluator. In a related controversy, teacher education programs have been criticized for holding liberal bias and agendas, using dispositional focus to impose views onto preservice teachers (Shibley, 2005; Will, 2006). Igniting this view was the fact that

NCATE used the term social justice, among other terms, as an example of professional dispositions, which became an object of political controversy.

In 2002, the guidelines from NCATE stated that teacher dispositions should be considered alongside knowledge and skills and gave social justice as an example of a disposition, which according to Sockett, (2012) irritated conservatives. Damon (2007) dissected the NCATE (2001) definition of dispositions as follows:

It is clear from this definition that NCATE intended the term dispositions to signify “beliefs and attitudes” that reflect stances toward moral issues large and small, from “caring” on an interpersonal level to “social justice” on a broader societal scale. It also seems from the construction “Dispositions are guided by beliefs and attitudes: that the candidate must not only have such beliefs and attitudes but be guided by them. (p. 366)

Here, Damon (2007) pointed out that this definition utilizes the word for dual purposes. He states that NCATE (2001) used the term dispositions to indicate kinds of moral beliefs and attitudes –a particular set of which it deems appropriate for teachers—and it used the term to indicate a behavioral tendency to be guided by them. Damon says his concern surrounds the idea that

Those who are granted the authority to assess teaching candidates are given unbounded power over what the candidates may think or do, and those who are subjected to this authority (the candidates) must guard their expression of belief and behavior. (p. 368)

He cites an example (from Gershman, 2005, p. 1) of students of a higher education school who complained, some involving legislation that the college uses the disposition standard to foist upon them ideological beliefs they disagree with. The point Damon wanted to make was that in the field of teacher education, “Dispositions is an empty vessel that could be filled with any agenda you want” (Gershman, 2005, p. 1). This is because NCATE, now CAEP, specified in their accreditation standards that it is up to the individual teacher education institutions to decide which dispositions they value and choose to assess.

Will (2006), who is well known to be a politically right leaning journalist, lamented that “Many education schools discourage, even disqualify, prospective teachers who lack the correct ‘disposition,’ meaning those who do not embrace today’s ‘progressive’ political catechism” (p. 98). Due to such political controversy in both professional literature and popular media, NCATE eliminated the term social justice as an example of a professional disposition (Murrell, Diez, Feiman-Nemser, & Schussler, 2010; Wasley, 2006). This move by NCATE to drop the term also became controversial by groups dedicated to addressing issues of diversity, who viewed it as backing down from an important stance related to social justice. Demonstrations were held at American Educational Research Association (AERA) for the purpose of restoring social justice as one of NCATE’s glossary examples of professional definitions.

Teacher education researchers have addressed the above criticisms related to the social justice controversy (Misco & Shively, 2007; Sockett, 2012; Villegas, 2007). Sockett (2012) explained that social justice is not a disposition, but rather social justice is an educational goal. Sockett (2012) discussed that institutions of teacher education in the

contemporary political framework are required by accreditation bodies to provide statements of desirable teacher dispositions as targets to be reached by their institutions; yet, the way Sockett has seen it, there is confusion between teacher dispositions and educational goals. He states: “Social justice cannot be a virtue or a disposition, of itself, however desirable it may be as an educational goal. A line has to be drawn between distinguishing social goals for education and the dispositions required of the professional” (p. 172).

Misco and Shiveley (2007) addressed the political criticisms by pointing out that NCATE asserted that social justice does not appear in their standards, but rather references to social justice are only in the glossary as a definitional reference to dispositions. Further, they say, NCATE clarified their requirements for teacher education schools and departments, which are to provide assessment data of knowledge, skills, and dispositions, including dispositions that “value fairness and learning by all students,” and encourage these institutions to “develop additional dispositions that fit their mission” (NCATE, 2006). According to Misco and Shirvely, “NCATE does not ‘expect institutions to inculcate candidates with any particular social or political ideology’, but rather relegates this charge to institutions and their unique mission, which ultimately results in a great deal of variance” (p.2).

Villegas (2007) further discussed that it is legitimate to explore issues of social justice in the preparation of prospective teachers because with teaching comes a moral and ethical dimension. Villegas (2007) explained that teachers have a moral and ethical responsibility to teach each student fairly and equitably because teachers, whether or not they realize it, play a critical role in a sorting process. This sorting process, she has

explained, has to do with the idea that students who do well in school are more likely to have access to higher-paying jobs and better positions in the economic order; on the other hand, students who do least well in school tend to get stuck in positions at the economic bottom and live in poverty. Villegas discussed that a substantial body of research confirms that teacher beliefs about students significantly shape the expectations they hold for student learning, and erroneous teacher expectations lead to differential treatment of students based on these expectations. The differential treatment towards students by teachers can play a role in students' academic performance, aspirations, and self-concepts which correspond to the teacher's expectation of the students. "Teachers do indeed develop erroneous expectations for their students, and these expectations predict student motivation and achievement even after statistically controlling for students' previous motivation and achievement" (Madom, Jussim, & Eccles, 1997, p. 792). Along the same lines some researchers have discussed that a focus on developing culturally responsive dispositions is especially crucial when teachers and children do not share similar cultural, linguistic, and socio-economic backgrounds (Kidd, Sanchez, & Thorp, 2008).

Haberman (1996) discussed the meaning of "normal" and "typical" in relation to factors such as "urban," "poverty," and "cultural diversity" that are seen through the eyes of Euro-American teachers as causing individual children to develop "special needs." Haberman (1996) cited Garbarino, Dudrow, Kostelny, and Pardo (1992) when he discussed the notion that children growing up in urban poverty and violence have been viewed to suffer the same range of ailments and emotional impediments to normal development as children who grow up in a war zone. Haberman viewed this conceptual stance as erroneous because it "relegates all the distinctions made about children's

cultural backgrounds and societal influences as simply other forms of exceptionality, conceptually akin to any other handicapping condition” (p. 750). Haberman viewed this conceptual stance as the explanation why many Euro-American teachers and teacher educators continue to use the term “minority” even when most of the students in a given school district are a statistical majority. He states that the term “minority” becomes another euphemism for an adverse condition that intrudes on an individual’s development and learning. He says that pre and in-service teachers have not been taught to define normal as typical, which would have led them to see that those who grow up in violence or poverty are making perfectly normal responses to undesirable social conditions. From this conceptualization Haberman said teachers and teacher educators tend to make “normal” synonymous with “healthy and desirable;” therefore,

if children grow up in adverse conditions they cannot be conceived of as developing normally or making normal responses or even being normal because, obviously, they are learning bad things and behavior perceived as undesirable and cannot possibly be defined as normal. (p. 750)

Haberman said that when this perception of growth and development is combined with cultural diversity, the result is frequently insensitivity and nascent racism.

Minority” cannot be perceived as being a normal condition if the perceiver regards it as less than desirable. In this way, even when there is the statistical reality of a new majority, the perceiver holds on to the conception of minority in order to signal that there are serious problems with even a majority of individual children. (p. 750)

Even though Haberman's tone and statements sound provocative, the literature has shown that for decades minorities have been disproportionately overidentified as having disabilities (Sullivan & Bal, 2013, Klingner, Artiles, Kozleski, Harry, Zion, Tate ...Riley, 2005) for reasons including teacher rating bias (Cullinan & Kauffman, 2005), bias related measurement (Skiba, Knesting, & Bush, 2002), and processes in education that are predisposed to favor majority language and culture (Harry, Klinger, & Hart, 2005). Additionally, researchers studying deficit dispositions have uncovered findings in line with Haberman's statements on the subject. According to Sharma (2015), educators often struggle with recognizing their own personal biases, and they rarely critically examine the biases inherent in educational institutions and programs, even when the very aims of the programs they work in are meant to overcome biases that lead to deficit dispositions. For example, Sharma (2015) gathered qualitative data on teachers and teacher candidate participants who were part of a program aimed at reducing deficit thinking towards inner city students. Sharma found that the narratives of the teacher and teacher candidate participants demonstrated a lack of addressing deficit thinking assumptions and practices, even though they were taught culturally relevant and responsive pedagogy (CRRP) so they would be more evolved against deficit thinking. According to the authors, the narratives provided insights as to why the teachers were not addressing deficit thinking in their classroom. For example, when asked how the program addresses the deeper roots of deficit thinking in inner city schools, the participants' responses were the evidence of "stereotyping" and teachers who "reinforce and perpetuate the status quo" (Sharma, 2015, p. 1259). Specifically, one associate teacher added to stereotyping, by only focusing on the difficult circumstances of inner city youth

and emphasizing how different they are. Additionally, one teacher candidate said she felt that she had to empower the inner city students to talk about race so they would not assume everything is equal. The authors point out that the teacher candidate contradicted herself by claiming that teachers teach that students are equal, and then in her act of “empowering” the students, she demonstrated that there is a power difference between her (a Caucasian teacher) and the students (racially marginalized students). Researchers have also collected journal narratives of preservice and in-service teachers that while not identical, may be indicative of Haberman’s sentiments; however, after exposure to certain student teaching courses and environments, and with reflection, preservice teachers have adjusted their beliefs and stated their intentions to change their thinking and behavior as a result (Frederiksen, Cooner, & Stevenson, 2012; Kidd, Sanchez, and Thorp, 2008; Warren, Nofle, Ganley, Quintanar, 2011). This signifies an evolution in their disposition, giving justification for the legitimacy of social justice as a goal in teacher education.

Villegas (2007) stated:

Given the negative views many prospective teachers have about students of color and their potential for learning, teacher educators must create space in preparation programs for candidates to critically inspect their beliefs about diverse students as an initial step in the process of learning to teach a diverse population. Equally important, teachers-to-be must be helped to understand the connections between and among teacher beliefs about students, teacher actions in classrooms, and student outcomes. Challenging deficits perspectives and promoting affirming views of diverse students is a precursor to building teacher candidates’ disposition to teach all students equitably. (p. 375)

Numerous teacher education faculty and researchers have contributed to the literature by detailing the approaches they have used within their teacher training programs to engage in dialogue on dispositions to satisfy dispositional purposes in non-politicized and non-doctrinal ways (Borko, Liston, & Whitcomb, 2007; Misco & Shively, 2007; Shussler & Knarr, 2013; Villegas, 2007). Borko, Liston, and Whitcomb (2007) discussed two opposing positions concerning the inclusion of dispositions in the NCATE Standards (e.g., the specification that candidates must demonstrate the professional knowledge, skills, and dispositions necessary to help all students learn). One position includes those making the case for dispositions in teacher education who claim that dispositions are essential to effective teaching, and that dispositions predict actions of future teachers, including whether teachers in the field are likely to apply what they learned in their teacher preparation program (Wilkerson, 2006). As Borko, Liston, and Whitcomb (2007) discussed about the many proponents who do acknowledge the concern related to difficulties in soundly assessing dispositions, they also argue that the field ought not side step dispositions while research is ongoing.

The other position includes those making the case against explicit attention to dispositions within Standards. This position is mostly supported by concerns that no agreed-upon definition of the construct of dispositions exists and that methodology remains uncertain. For example, it was questioned whether dispositions can even be measured reliably and validly when the construct to some is seen as inherently “fuzzy and difficult, if not impossible to define operationally” (Borko, Liston, & Whitcomb, 2007, p. 362; Johnson, Johnson, Farenga, & Ness, 2005). Despite the controversy, teacher dispositions continue to play an increasing role within the field of teacher education.

Why Dispositions Are Important in Teacher Education

In the last couple of decades within the field of teacher education, the interest in dispositions has become popular (Smith & Skarbek, 2013). One main reason for the interest of dispositions within teacher education is because disposition-related standards are part of the teacher accreditation process. Researchers contend a relationship exists between the quality of a teacher and dispositions, and students learn more from teachers with certain characteristics (Notar, Riley, Taylor, Thornburg, & Cargill, 2009; Talbert-Johnson, 2006; Wayne & Young, 2003). Because researchers have linked dispositions to teacher effectiveness and student outcomes, state and national accrediting agencies have included dispositions as an essential element of professional educator preparation (Erickson, Hyndman, & Wirtz, 2005). And because dispositions are mentioned within the standards, teacher education programs have been charged with related responsibilities (Almerico, Johnston, Henriott, & Shapiro, 2011). Being that dispositions are now in the standards as an important component or characteristic of a teacher, more researchers have become interested in researching ways in which to cultivate and develop the dispositions of teacher education students. Another reason for the interest in dispositions within teacher education is that dispositions have been proposed as a criteria in the processes related to recruiting, admitting, and retaining students in education programs (Wasicsko, 2007; Wasicsko, Wirtz, & Resor, 2009). Dispositions have also been studied for use in the process of post-certification teacher hiring process.

Dispositions and accreditation standards. One reason within the literature for the interest in dispositions within teacher education is that because accrediting agencies require teacher education programs to monitor and assess candidate dispositions, teacher

educators have the responsibility to communicate to teacher candidates the expectations for their dispositions, to explain how dispositions will be monitored and assessed, and to develop or select existing measures that ensure consistency and limit assessor subjectivity (Almerico, Johnston, Henriott, & Shapiro, 2011). The growing role of dispositions within teacher education is largely due to standards, adopted by the National Council for the Accreditation of Teacher Educators (2008), which assert the importance of behaviors of teachers who reflect professional attitudes and belief systems thought to promote learning and student development. Accreditation bodies have mandated teacher education programs to measure the dispositions of teacher education students; and additionally, there exists direct language of dispositions within standards that are utilized by many states as a basis for judging teacher education programs leading to licensure.

According to Kinderwater (2013), the two primary documents that inform scholarship related teacher dispositions are the InTASC Model Core Teaching Standards and the CAEP Professional Standards for the Accreditation of Teacher Preparation Institutions. The Interstate Teacher Assessment and Support Consortium (InTASC) is a consortium of state and national education agencies and organizations focused on teacher preparation, licensing, and professional development. Created in 1987, InTASC is led by the belief that effective teachers must be able to integrate content knowledge with the specific strengths and needs of their students to assure that all students learn and perform at high levels. Currently it is stated on the CAEP website that

NCATE expects institutions to assess professional dispositions based on observable behaviors in educational settings. The two professional dispositions that NCATE expects institutions to assess are fairness and the belief that all

students can learn. Based on their mission and conceptual framework, professional education units can identify, define, and operationalize additional professional dispositions. Retrieved from <http://caepnet.org/resources/glossary/>

According to InTASC (2013),

Today’s learners need both the academic and global skills and knowledge necessary to navigate the world—attributes and dispositions such as problem solving, curiosity, creativity, innovation, communication, interpersonal skills, the ability to synthesize across disciplines, global awareness, ethics, and technological expertise. (p.4)

Dispositions influence teacher effectiveness and student outcomes. Many educational leaders believe that teacher dispositions are as important as pedagogical skills and content knowledge in helping students learn (Conderman & Walker, 2015). Further, literature links teacher dispositions and core beliefs to teacher effectiveness (Hartlep and McCubbins, 2013). According to Talbert-Johnson (2006), “The personal belief systems of teachers significantly influence the behaviors displayed in the classroom and the instructional decisions teachers make” (p. 152).

In an effort to add to the research on teacher quality and student achievement and to validate an instrument to measure teacher dispositions, Osler and Russell, (2013) used a mixed methods approach, and set out to determine the relationship between student achievement and teacher attitude. They reported that results of their Tri-Square Results suggest that teacher disposition does have an effect on student achievement especially in a diversely populated elementary school. In another study, utilizing both quantitative and

qualitative methods, Hong and Shull (2009) studied the impact teachers' dispositions have on high school students' ability to become self-determined individuals. They discuss that their data yielded significant correlations and broad-based themes towards supporting the hypothesis that a relationship exists between teachers' dispositions and teachers' responsiveness, relatedness, quality of teaching, and treatment of students and students' development of self-deterministic behavior.

In another study related to teacher dispositions and student outcomes, utilizing case-study interviews with successful engineering students, Hong and Shull (2011) explored the impact that faculty have on the learning outcomes of undergraduate engineering students. They found that faculty variables do significantly influence the students towards the completion of their educational programs. Hong and Shull discussed that with respect to the relationships with their professors, the student participants felt that the majority of their professors were insensitive to their learning and personal needs. In describing behaviors of professors that have significantly altered their lives, students said professors who were enthusiastic, engaging, helpful, caring, relatable, personal, prepared, able to listen, open, sensitive, fun, approachable, nice, and friendly improved their educational experiences.

Dispositions as teacher education admissions criterion. Behavior that conflicts with expected dispositions is one reason for the removal of students from education programs. According to Olson, Clough, and Penning (2009), the failure to exhibit required dispositions, not teaching practices, accounted for most all the students who had to be removed from student teaching during the 2008-09 academic year. In another study, as previously mentioned in this review, Edwards and Edick (2006) studied the case files

of 92 teacher candidates identified as being in jeopardy of failing the program and found that issues of concern were primarily rooted in teacher dispositions rather than in teacher skills and knowledge.

Assessment of dispositions has been utilized by teacher education faculty to determine the fit of students wishing to enter or remain in teacher education programs “as a gate in the admission process” (Wasicsko, 2007, Wasicsko, Wirtz, & Resor, 2009). Related to recruitment of students to programs of education, some researchers have suggested focusing on the dispositions of potential recruits prior to their admission to teacher education programs (Harrison, Smithey, McAfee, & Weiner, 2006; Wasicsko, Wirtz, & Resor, 2009; Bulger, Jones, Taliaferro, & Wayda, 2015).

Wasicsko, Wirtz, and Resor (2009) studied the use of disposition assessment in program admission and concluded that the use of dispositions screening can improve the quality of the students selected. They explained that because of various dissatisfactions with previous candidates, dispositions of students seeking to enter the program would be taken into account prior to being admitted, and students would be admitted based on a set minimum dispositions criterion. On the one hand, they found that often the students whose disposition scores were lower (i.e., did not measure up to those deemed to be important for effective teaching) lacked the ability to recognize this lack of dispositional fit, and some of these students were resistant to deselect themselves from pursuing teaching credentials. In contrast, they discussed that students receiving high disposition scores were able to more accurately self-assess themselves regarding their dispositional fit for a career in education.

Edwards and Edick (2006) provided evidence of the impact of dispositions on preservice teachers' ability to be successful in their program, and interestingly the study initially quantitatively looked at candidates' academic qualities and found no differences between the successful and unsuccessful ones. However, the researchers suggested they were able to find common dispositional qualities amongst the unsuccessful candidates via their qualitative data. In this study, Edwards and Edick (2006) set out identify any common attributes of teacher candidates who were at risk of being unsuccessful in completing their teacher training program, and they examined archival records of "conferences of concern," which were conferences initiated when faculty or cooperating teachers indicated areas of concern for particular preservice teachers. Edwards and Edick (2006) initially conducted t-tests on the files of the 92 teacher candidates who participated in a conference of concern from January 1996 until June 2001. The purpose of this analysis was to determine if the sample was representative of teacher candidates at large during the same time period. Based on t-test results, the sample had a slightly lower grade point average than the comparison students; however, differences were not found in ACT or PPST scores. Because these academic data did not point to what might set the students in the sample apart from their successful peers, the researchers then gathered quantitative data to look for commonalities amongst their sample. Upon initial reading of the 92 files representing their sample, the researchers determined that the issues addressed in the conferences of concern were rooted dispositions, not in teacher skills and knowledge. Using grounded theory, constant comparative method to uncover the candidates' conference of concern experiences, the researchers suggest that of 219 issues of concern, two common themes emerged, professional relationships with students and

professional relationships with colleagues. The researchers report that the most common theme amongst the teacher candidates at risk for non-completion of their program, representing 92 of the 219 issues, was an inability to work with other adults in the field of education. The other broad theme uncovered, which was found in 63 of the 92 candidates in the study, was an inability to build relationships with students. Based on this study, Schulte, Edick, Edwards, and Mackiel (2004) stated that in a particular university in the Midwestern United States about 10% of the students enrolled in teacher preparation programs during a five-year period from January 1996 to June 2001 lacked the necessary dispositions to be effective teachers. These authors developed the Teacher Dispositions Index (TDI) to quantitatively assess preservice teacher dispositions because they say there is a need to identify such students early in their teacher education programs.

Dispositions as a teacher education outcome. Being that dispositions are now in the standards as an important component or characteristic of a teacher, more researchers are interested in researching ways in which to cultivate and develop the dispositions of teacher education students. Darling-Hammond (2000) alluded to the importance of cultivating dispositions in teacher education when she stated that “the capacity to understand another is not innate; it is developed through study, reflection, guided experience, and inquiry” (p. xx.) She discussed that individuals who have had no powerful teacher education intervention often maintain a single cognitive and cultural perspective that makes it difficult for them to understand the experiences, perceptions, and knowledge bases that deeply influence the approaches to learning of students who are different from themselves.

Resnick (1987) used the term disposition in a discussion of “cultivating the disposition to higher order thinking” (p. 40) and gave the following definition: “The term disposition should not be taken to imply a biological or inherited trait. As used here, it is more akin to a habit of thought, one that can be learned and, therefore, taught” (p. 4; italics Resnick’s). Research on teacher dispositions in urban settings have suggested that preservice teachers’ dispositions can be developed and are malleable to change through relevant coursework, field experiences and opportunities to engage with parents while assigned to classrooms in an urban setting (Frederiksen, Cooner, & Stevenson, 2012; Warren, Nofgle, Ganley, & Quintanar, 2011).

According to Thornton (2013), there are foundational dispositions which support pedagogical decisions that teachers make. “Teachers who exhibit more responsive dispositions tend to emphasize student learning that is focused on deep understanding; students are encouraged to ask questions, examine assumptions, and construct new meanings” (Thornton, 2013, p. 3). Focusing on the cultivation of responsive dispositions to meet the needs of diverse adolescent students, Thornton (2013) conducted a longitudinal case study analysis of a middle level teacher education program. Participants were four middle level teachers from a cohort of 12, and data were collected utilizing interviews and observations at three points in time (student teaching, first year, and fifth year). The research findings suggested that the teachers who are more responsively disposed provided more evidence of best practice and developmentally responsive teaching. Further, this study indicates that it is likely that the dispositions that preservice teachers demonstrate at the end of their preparation program remain relatively constant as they enter their beginning years as professional educators.

Because of possible connections between good teachers and their dispositions, it makes sense that teacher educators seek to cultivate and develop dispositions in candidates through self-awareness of beliefs. Studies show a relationship between changes in dispositions based on coursework and internship experiences that broaden and challenge belief systems (Frederiksen, Cooner, & Stevenson, 2012; Kidd, Sanchez, & Thorp, 2008; Warren, Noftle, Ganley, & Quintanar, 2011).

In order to determine whether there was a significant difference between the perceived dispositions in preservice teachers in urban settings versus non-urban settings Frederiksen, Cooner, and Stevenson (2012) studied how dispositions develop in preservice teachers. They found that dispositions can and do change when preservice teachers are given authentic experiences in the classroom. In this mixed methods study, qualitative data were gathered on candidates from a one-year master's plus teaching license program. The researchers utilized the ten InTASC Principles and Dispositions Indicators and quantitative data utilizing the Teacher Disposition Index (Schulte, Edick, Edwards, & Mackiel, 2004).

Kidd, Sanchez, and Thorp (2008) provided evidence changes in preservice teacher dispositions as a result of processes that took place during a two year period of their teacher education program. Kidd, Sanchez, and Tharp (2008) systematically looked at the various types of program experiences that contribute to preparing preservice teachers who exhibit dispositions and teaching practices that are responsive to their students' socio-cultural and linguistic backgrounds, providing insight for teacher educators interested in addressing and developing culturally responsive teaching dispositions that take into account issues of race, culture, poverty, and social justice.

Kidd et al. (2008) explored preservice teachers' perceptions of the types of program experiences that contributed to developing awareness and understanding of cultures different from their own and teaching practices that respond to the diversity of the children. Their two research questions were: 1) What types of program experiences did preservice teachers cite as contributing to the development of culturally responsive dispositions and teaching practices?, and 2) In what ways did the preservice teachers perceive that the experiences interacted with each other to influence the development of culturally responsive dispositions and teaching practices?

Using qualitative methodologies, Kidd et al. analyzed preservice teachers' narratives to understand their beliefs. They modified post-then-pre retrospective approach to first analyze the guiding principles' narratives for reported changes in dispositions across a two-year period of a teacher education program, and then to determine what program experiences the preservice teachers cited as influencing those changes. This approach involved first coding the preservice teachers' narratives into three categories: (a) beliefs and attitudes held prior to or early in the program, (b) dispositions held and teaching practices valued at the completion of the program, and (c) specific program experiences or defining moments identified as influencing dispositions and teaching practices across the program. They then identified passages or stories that specifically related to the preservice teachers' culturally responsive dispositions and teaching practices and analyzed that data using constant comparative narratives analysis to determine the types of experiences that were reported as contributing to the preservice teachers' culturally responsive dispositions and teaching practices at the time of writing the guiding principles narrative.

Within their findings, five types of experiences emerged and were suggested to be contributing factors leading preservice teachers to reexamine their beliefs; and in turn, these experiences affected changes to their related dispositions and teaching practices. The five types of experiences which emerged from the study were: 1) purposeful and selected readings related to issues of race, culture, poverty, and social justice; 2) internship experiences in diverse communities; 3) interactions with diverse families; 4) critical reflection; and 5) discussion and dialogue. With regard to the fourth and fifth experience above, preservice teachers in the study made known that what was key was not the specific activities that provided discussion and dialogue, but rather it was through thinking about and discussing experiences in a critical and systematic manner that preservice teachers realized the significance of what they learned. Teachers' coming to awareness of their own values and beliefs, and realizations of just how their own values and beliefs affect their teaching are two things talked about by the preservice teachers. For these researchers, it appears that dispositions involve awareness and beliefs.

In their discussion, Kidd et al. stated that that the impact of the experiences varied from preservice teacher to preservice teacher depending on the preservice teachers' experiences, where they saw themselves on this particular journey, the nature of the experience, and their openness or readiness for change. Through the identification process within their study, these authors say that they came to realize that developing culturally responsive dispositions and teaching practices is a developmental process that differs from person to person, and it is not an easy journey for the preservice teacher or the teacher educator. However, they say for teacher educators who are working to create or refine teacher preparation programs that focus on issues of race, culture, poverty, and

social justice, the key is to use a multifaceted approach and provide multiple opportunities for preservice to interact with issues of culture, race, poverty, and inequalities.

By investigating how teacher attitudes toward family and community involvement changed after taking a course meant to equip urban teachers with the knowledge and skills of how to effectively involve their students' families and communities, Warren, Nofle, Ganley, & Quintanar (2011) explored how graduate coursework can impact urban teachers knowledge, skills, and dispositions. Their results indicated a significant change within the teachers in the three global areas of their professional knowledge and skills, professional dispositions, and authentic relationships with students and their families, and the community. The authors stated that their findings can be used by teacher education programs, university professors, and school districts to structure and implement programs that support and encourage teachers' interfacing with their students' families and communities.

Dispositions as a criterion in teacher hiring and contract renewal.

Researchers have looked at how the study of dispositions might improve the ability of principals to avoid retaining incompetent probationary teachers (Nixon, Packard, and Douvanis, 2010) and the selection of effective teachers during the hiring process (Wasicsko, 2006). Interestingly, Nixon, Packard, and Douvanis (2010) studied reasons for teachers losing their employment, and school administrators more often cited dispositions as the reason for the contract non-renewal of probationary teachers, than for reasons more directly connected to student learning. School administrators have noted, "even if an educator meets acceptable criteria of both knowledge and skills, if they lack

necessary dispositions to work with student, they are unlikely to be considered highly qualified or effective” (Nixon et al., 2010, p. 48).

Nixon et al. (2010) investigated the survey responses from school principals, in Alabama, Georgia, and South Carolina, pertaining to the reasons why probationary teachers are recommended for contract non-renewal. Responses were classified according to teacher knowledge, skill, or disposition. Results indicated that the principals identified dispositions as being most related to the likelihood of contract non-renewal. Specifically, ethical violations and teacher misconduct were identified as the most likely reason for teacher contract non-renewal. They found that dispositions were the reason for non-renewal of probationary teachers 53% of the time (Nixon et al., 2010).

Nixon et al. (2010) also discussed the far reaching and often long term problems that result from hiring incompetent teachers who lack appropriate teaching dispositions. Among the problems discussed is that when attempting to dismiss incompetent teachers, principals must go through a teacher dismissal process that is time consuming and requires detailed documentation, is emotionally taxing, and is highly expensive; and this, they say, is among the reasons why principals often avoid recommending incompetent teachers for contract non-renewal. According to Bridges (1992), principals are inclined to tolerate and protect incompetent teachers for reasons including teachers’ legal employment rights and the principals’ desire to avoid conflict. But by being more effective in the initial teacher selection, principals can decrease the need for contract non-renewals and also decrease problems related to teacher retention.

Nixon et al. (2010) concluded that being selective about which teachers to hire and to retain and enforcing the contract non-renewals of ineffective teachers improve

outcomes for student achievement. Nixon et al. (2010) recommended that principals make it a priority to provide comprehensive induction and support to novice teachers, and to view tenure of teachers as earned and based on compelling evidence of full competency. They further suggest that the dispositions of teachers and preservice candidates are of great importance. They insist that principals will benefit if they focus on the assessment of preservice teaching candidates' dispositions during the hiring/selection/interview process. In sum, they emphasize that future problems may be avoided if due diligence is applied up front during the teacher selection process. They also recommend that teacher preparation and certification programs provide additional focus and instruction on appropriate dispositions and ethical responsibilities.

The assessment of teacher dispositions has also been utilized by K-12 school administrators as part of the hiring process. For example, through The National Network for the Study of Educator Dispositions, founded by Mark Wasisko at Northern Kentucky University, numerous people from various school districts have been trained and certified to determine how to avoid hiring teachers who do not possess dispositions of effective teachers based on a particular dispositional assessment system (Wasicsko, 1977, 2005) founded on the work of Arthur Combs. There are other teacher selection instruments which will be discussed later in this paper. According to Rockoff, Jacob, Kane, and Staiger (2011), the use of commercialized teacher selection instruments has grown considerably; however, that there is little systematic evidence on the power of commercial selection instruments.

Assessing Teacher Dispositions

Within the field of education, the assessment of dispositions is being utilized in an effort to impart progress in the selection, training and evaluation of students from various academic interests including teacher education and educational leadership programs (Allen, Wasicsko, & Chirichello, 2014; Stoddard, Braun, Dukes, Koorland, 2007) and counselor education (Combs & Soper 1963; Redekop & Wlazelek, 2012).

Assessing dispositions is linked to how one is defining dispositions. Schussler (2006) discussed the confusion and stagnation in teacher education that resulted from accrediting agencies forging through with policy requiring teacher educators to address and assess the ill-defined construct of teacher dispositions, despite there being no consensus on a conceptual definition of the construct within the field of education. Schussler (2006) asserted that, in order to maintain construct validity for such assessment, it is imperative for a teacher education program to first develop some common understandings about the nature of dispositions and, only after that, to explore how teacher education should be addressing them and assessing them. As Schussler has stated, "For how we conceive the meaning of dispositions informs how we integrate them into teacher education programs and how we assess them" (p. 257).

Assessing dispositions may be linked to how disposition is defined, but other researchers have suggested that assessing disposition also focus on improving programs. For example, Pang, Nichols, Terwilliger, and Walsh (2014) suggested that preservice teacher disposition assessment results should be utilized for programmatic improvement. Further complicating possible disposition assessment, Almerico et al. (2011) discussed that preservice teachers' dispositions continually evolve during their progression through

their teacher preparation programs; thus, an initial disposition assessment is likely to change. Along the same lines, McKenna (2009) called for teacher education professionals to act with teacher development in mind as their central focus when examining dispositions.

According to McKenna (2009), initially the mandate to assess dispositions led teacher educators, some of whom were under pressure of reaccreditation, to a scramble, utilizing checklists, scales, and rubrics of varying complexity, without prior, appropriate exploration of why or how to do so. However, in the same article McKenna has said that the views from teacher education accreditation seems to have turned from simply fulfilling the mandate to assess dispositions to a thoughtful discourse in which more teacher educators are participating and contributing to the definition and role of dispositions in teacher education. She discussed a presentation by two former teacher candidates at the 2008 AACTE Annual Conference in New Orleans, Louisiana (Lamberth & Opalinski, 2008) who said they were grateful for their programs having a focus on dispositions; however, they lamented that they and their peers received little help for understanding what was acceptable and what was not acceptable in the learning processes for understanding and exploring teacher dispositions. The two former teacher education candidates discussed their concerns about the dispositions that were modeled to them by teachers during student teaching experiences which were contradictory to what they believed to be preferable dispositions by teachers in the classrooms, and they also pointed out that in their own reaction to students during their student teaching experiences were less than ideal despite their cognitive understanding of dispositions.

Conceptual models. Some researchers have suggested assessing teacher dispositions separately through checklists and scales (Wasicsko, 2007; Wilkerson, 2006), while others have made the case that preservice teachers' dispositions ought to be assessed in the context of teaching practice, such as teacher candidates field experience settings (Diez, 2006). With an aim to assess dispositions and not pedagogy, through searching related literature and a series of interviews, Johnston, Almerico, Henriott, and Shapiro (2011) developed an instrument to measure candidate dispositions and to be used with preservice teachers in their field and internship experiences. They explain that disposition indicators had already been validated by researchers so that raters knew what to rate; however, Johnston et al. have said that there was a need for clearer descriptions of each indicator so that ratings agreements would be enhanced among raters. Therefore, their purpose in the instrument development was to expand previous disposition assessment efforts by operationally defining the validated indicators so that the construct represented by each indicator is better understood by raters and those being rated. They developed an instrument with assessment tools that have been used by higher education institutions, and in which educators have the ability to accept or reject certain descriptors, they said, allowing for the ability to easily tailor the instrument to their particular views of what behaviors are associated with each of the indicators. Further research is needed to determine the factor structure of the 16 indicators is needed.

Wasicsko (2007) developed a series of interview questions and a rating scale, based on his perceptual dispositions model which stemmed from the work of Arthur W. Combs' perceptual psychology (Combs, Richards, & Richards 1976; Combs & Snygg, 1949). Combs' perceptual psychology incorporated parts of phenomenology, Gestalt,

humanistic psychology, and systems theory, and which also reflected the Zeitgeist that produced the work of Maslow, Kelly, and Rogers (Redekop & Wlazelek, 2012).

Wasicsko (2007) explained that based on 40 years of the work of Combs and others (see Combs, 1969) who explored the implications of a perceptual psychology for understanding and improving the education professions, four general areas of perceptions were gleaned that can serve to differentiate effective from ineffective teachers. Based on this work and an intensive review of the literature, Wasicsko adapted the following four areas of dispositions used in his perceptual dispositions model: 1) Dispositions about self (ability to identify with others), 2) Dispositions about others (ability to see students as capable, and in a realistic and positive way), 3) Dispositions about the purpose of teaching (ability to view the larger purpose of education for the benefit of students' lives), and 4) general frame of reference (ability to be people-oriented rather than thing-oriented, to pursue positive relationships and be service oriented). Within the perceptual dispositions model, the terms perceptions and dispositions are used interchangeably.

Wasicsko's model has been used commercially by school districts for what is termed "Dispositional Hiring." Based on the model and the research of Drs. Combs and Wasisko of Northern Kentucky University, educators and administrators involved in the hiring of teachers are trained to spot the following positive dispositions in applicants: 1) Dispositions toward or perception of others- an educator who sees others as being worthy, dependable, and able to find solutions to events in their own lives; 2) Dispositions towards or perception of self – an educator who is upbeat, not self-centered, and able to identify with or be empathic toward all students; 3) Frame of reference- an educator who puts people first, builds long-term relationships; and 4) Dispositions or

perceptions of Purpose - an educator who sees the bigger picture, keeps things in perspective. Wasisko's dispositions measures have also been used as a criterion in the teacher admissions process and in an educational leadership program (Allen, Wasicsko, & Chirichello, 2014; Wasicsko et al., 2009).

Another model used for teacher selection was developed by Martin Haberman, founder of the Haberman Educational Foundation, which helps train school districts, universities, and community colleges to use selection interviews when choosing prospective educators. Haberman (1995) emphasized the importance of "screening teachers for ideology that undergird their behavior" (p. 777). Haberman's model was used to develop the Urban Teacher Selection Interview, and later, the Star Teacher PreScreenener (1993, 1995). According to Baskin et al. (2011), the UTSI was designed to differentiate between students who will become successful teachers and those who will not be successful.

Haberman's original teacher selection instrument, was called the Urban Teacher Selection Interview (UTSI). This instrument was based upon his work of over 32 years, beginning in 1958, which included: 1) being a supervisor of student teachers in a fifth-year masters level program offered by Teachers College, Columbia, in Harlem schools in New York City, 2) reviewing and researching personality tests as predictors of effective teachers, and 3) his literature examinations leading to his belief that written personality inventories are not predictive of who will be an effective teacher and it is not reasonable to expect personality dimensions to remain constant across different school situations. He questioned if it is more reasonable to select and prepare individuals already predisposed to manifest characteristics of good teachers.

Haberman's teacher selection model was also based on the concept of mid-range functions, put forth by Robert K. Merton. Haberman applied Robert K. Merton's sociological analysis of professions (Merton, Fiske, and Kendall, 1956) to the task of predicting teacher success.

Merton's sociological analysis of professions identified two extremes. At one extreme, to the left, were personality traits that individuals could be expected to demonstrate regardless of the situation in which they are placed, and at the other extreme, to the right, were the behaviors that would be effective in a specific situation. Merton argued that both extremes were dysfunctional. Based on personality dimensions it is not possible to generalize how individuals will behave across the range of school situations they may encounter. Merton suggested that each profession define these two extremes and develop "mid-range functions" between the two extremes, which are groups of behaviors that particular practitioners must demonstrate in order to be effective. For Haberman's purposes, at one extreme of the model (left) are psychological approaches which purport to identify personality traits that individuals can be expected to demonstrate regardless of the situation in which they encounter. At the other extreme (right) are the situational demands of teaching as it is practiced in a specific school or institution. And in the center, Mid-Range functions can be thought of as the dispositions or attitudes the teacher respondents.

According to Baskin, Ross, and Smith (1996), originally, Haberman identified eight mid-range functions for teachers, and over the years these mid-range functions were refined into the seven that appear on the UTSI. The mid-range functions reflect Haberman's research on the qualities of teachers who were identified by their

administrators and peers to be excellent and those who were considered failures. For example, according to Haberman (1991), the first midrange function, Persistence, is identified in the UTSI interviews by two questions that seek to find teachers with tenacity, commitment, and a perception of the teacher's daily job. The second midrange is response to authority, which seeks to determine the teacher's willingness to support student learning. The third function, application of generalizations determines the degree to which the respondent is able to deal with universal statements about human behavior. The fourth approach to at-risk students seeks to discover if the candidate understands that it is her or his professional responsibility as a teacher to constantly find effective curricula and methods of instruction regardless of the problems faced by at-risk children. The fifth function, personal vs. professional orientation to teaching, is designed to give the interviewer insight into the candidate's expectations of pupils and their need for support from students. The sixth, burnout is the term used by Haberman to represent the enormous physical and emotional drain that teachers encounter. The last function, fallibility, looks for the candidate's ability to accept him or herself, and to accept others. Each of these seven mid-range functions has been divided into two questions--an initial interview question and a follow-up question.

Baskin et al. (2011) conducted a study utilizing multiple regression analyses to assess the predictive validity of the UTSI for three different groups of teacher candidates (traditional, alternative licensure, and PDS placement). The analysis involved the rated performances of 68 teacher candidates in six teaching domains which were regressed on UTSI items and demographic variables. Baskin et al. reported that the results identified only a limited number of significant predictors (e.g., total UTSI score and the

communication domain) and showed weak correlations. Baskin et al. discussed that higher predictability outcomes might emerge in different contexts. They state in their conclusion that their results suggest possible limitations in using the UTSI as a sole basis for prediction and therefore caution in over-emphasizing interview results in teacher selection. Currently, the Haberman Educational Foundation provides access to their other teacher selection instrument, The Star Teacher PreScreener, which evolved from the UTSI.

Methods to assess dispositions. Within the field of education the assessment of dispositions has been utilized in an effort to impart progress in the selection, training and evaluation of students from various academic interests including teacher education and education leadership (Allen, Wasicsko, & Chirichello, 2014; Stoddard, Braun, Dukes, Koorland, 2007) and counselor education (Combs & Soper, 1963; Redekop & Wlazelek, 2012). In addition to utilizing preconceived models to assess teacher dispositions, preservice teacher dispositions can be reflected in their coursework and field experiences.

Journaling to assess dispositions. To study teacher candidate dispositions that relate to the dispositional domains of intellectual, cultural, and moral, Schussler, Stooksberry, and Bercaw (2010) used the constant comparative method to analyze 35 teacher candidate journals from two teacher education programs in the United States. The candidate's journals focused on applying theory, practice, and reflection to field work experiences. They found that few teacher candidates possessed the self-knowledge to identify their assumptions and evaluate how these assumptions influenced their teaching decisions. Based on the data, Schussler et al. determined the candidates with the greatest capacity to unpack their assumptions and who therefore possessed the greatest awareness

of their dispositions demonstrated the following three characteristics: 1) a propensity for questioning the how and why of their thinking and actions, 2) a balance between focusing on students and the self, and 3) an adoption of multiple perspectives. The work of Schussler et al. (2010, 2013) suggests benefits of helping preservice teachers to develop self-awareness of their dispositions.

Case studies to assess dispositions. This is a study related to diversity that appears to make a case against the link between dispositions and pedagogy, or their assessment of dispositions was invalid/unreliable. Marshall, DeCuir-Gunby, and McCulloch (2013) discussed a case study which questions the link between dispositions and culturally relevant pedagogy. This case study was conducted over a multi-year period on one kindergarten teacher with positive dispositions toward cultural relevance who participated in the authors' professional development research project which aimed to explore how K-2 teachers understand, make sense of, and ultimately enact culturally relevant mathematics pedagogy. Marshall, DeCuir-Gunby, and McCulloch (2013) reported that their study appears to contradict what they say is the assumption that teachers with positive disposition towards cultural diversity also have a professional orientation toward culturally relevant pedagogy.

Expecting to find a link between culturally relevant dispositions and the use of culturally relevant pedagogy, Marshall, DeCuir-Gunby, and McCulloch (2013) purposefully selected their participant, pseudo-named "Aisha," (from their larger multi-school quasi experimental designed study) based on their perception that she exhibited unmatched dispositions toward cultural relevance and more knowledge of culturally relevant pedagogy than most of the other teacher participants from the larger study. Yet

what they discovered after their analysis of her was “...striking contradictions” (p.14) between Aisha’s reflections on her teaching, and the multiple evidences of dispositions in support of culturally relevant pedagogy that they saw in her. The evidence they provided to support their perception that she exhibited such prominent culturally relevant dispositions included her statements made during project retreat activities relative to the importance of teachers attending to cultural diversity in their teaching behaviors, experiences she reported having as a student and teacher, and her having no signs of “cultural aversion” in relation to controversial topics such as stereotypes and aversive racism.

In discussing their findings, Marshall, DeCuir-Gunby, and McCulloch (2013) cited three sources (Brown, 2004; Hodge & Cobb, 2010; Sleeter, 2008) when they pointed out that for many pre and in-service teachers, translating knowledge about cultural diversity into transformative classroom practice presents particular challenges. Even with this expectation that there would be some disconnection between the clear understandings of cultural diversity articulated by Aisha during the project retreats and her teaching behaviors which actually occurred at her school, these authors reported that they did not, however, expect the *extent* of the disconnection that they actually found upon analyzing her post-teaching reflections and interviews. They found evidence of Aisha’s interpretations of culturally relevant pedagogy to be out of alignment with understandings she expressed during retreats. Additionally, upon analysis of all of her videotaped lessons, the authors report that Aisha had incorporated “none” of the rubric categories associated directly with culturally relevant pedagogy which they had expected to see in her teaching behaviors. The authors stated that Aisha’s reasoning for teaching

particular lessons “contrasted sharply with the dispositional image we had come to associate with Aisha” (p. 12).

Marshall, DeCuir-Gunby, and McCulloch (2013) discussed that relative to promoting culturally relevant pedagogy in early mathematics instruction, their case-study of Aisha prompted them to question the usefulness of highlighting teacher dispositions towards culturally relevant pedagogy as an indicator of a likely pedagogical integration. They reported that they made the assumption that Aisha would use critical pedagogy in her own teaching context based on her being an African American teacher who they viewed as appearing to have the “ability to unpack the workings of racism and inequality in schools” (p.17). However, they stated that Aisha’s dispositions were more so a reflection of “her readiness to critique the larger context in which schools operate rather than her specific actions as a teacher therein” (p.17). In conclusion of their study, Marshall, DeCuir-Gunby, and McCulloch (2013) stated, “The lesson we take is that a teacher’s awareness of structural inequities and sociopolitical issues in the larger society may not position her to enact pedagogy with substantive potential to counteract the manifestations of these factors in the classroom” (p. 18).

Facebook postings to assess dispositions. Olson, Clough, and Penning (2009) examined the Facebook postings of preservice elementary teachers to determine the extent to which the postings were congruent with expected dispositions. They studied the publically accessible profiles of over 400 preservice teachers by coding data as inappropriate, marginal, or appropriate. The authors report that “The findings of this study are sobering and an affront to the noble title *teacher*” (p. 462). Seventy-eight percent of the profiles they studied expressed content that was contradictory or

potentially contradictory to the dispositions required of teachers by the institution in which the study was conducted. Of the 400 profiles studied, only 33, that is twenty-two percent of the profiles, were considered to be appropriate, or devoid of inappropriate content. Within the article, something is discussed that potentially uncovers other problematic dispositions of the preservice teachers. After viewing inappropriate Facebook profiles of some of her students', the first author raised her concerns to the students in a class. The students became angry that a professor had been viewing their profiles, and met at a café' after class to complain about the professor. The authors discussed that this implies that these prospective teachers "clearly did not consider that their conduct outside of their school-based experiences had anything to do with their role as a teacher" (p. 466).

Coutts, Boyer, Dawson, and Ferdig (2007) also studied the Facebook pages of preservice elementary teachers and concluded that there is a need for teacher educators to address their students that information posted online is or can become public. The Facebook profiles of the preservice teachers in this study not only contained topics such as religious views, political affiliations, and sexual orientation, but also half of them contained their full residential addresses. The next section discusses quantitative self-report measures found within the literature to assess teacher dispositions.

Quantitative self-report measures to assess dispositions. Schulte, Edick, Edwards, and Mackiel (2004) reported that they developed and validated a quantitative teacher dispositions instrument, the Teacher Dispositions Index (TDI), to align with the dispositions of effective teachers as specified via the InTASC (1991) Model Standards for Beginning Teacher Licensing and Development. These standards include 10

principles with corresponding dispositions. As mentioned earlier in this literature review, this instrument was developed to fill the need to identify students' lacking appropriate teaching dispositions early in their teacher preparation program (Edwards & Edick, 2004).

Haberman's Star Teacher Pre Screener, which was utilized to gather the dispositions scores used in this study, is a commercial, teacher selection instrument currently accessible online. Upon examination of the literature, only two studies which discuss using this instrument statistically were located (Hartlep & McCubbins, 2013; Rockoff, Jacob, Kane, Staiger, & Douglas 2008, 2011). Rockoff, Jacob, Kane, Staiger, and Douglas, (2011) reported that Haberman (1993, 1995) has published some reports of his research, but little or no empirical data are available for independent analysis. According to Rockoff, Jacob, Kane, Staiger, and Douglas (2008), the Star Teacher Pre Screener was developed by first interviewing teachers thought to be highly effective and designing questions to capture their attitudes and beliefs. Rockoff, Jacob, Kane, and Staiger, (2011) examined teacher characteristics associated with high scores on the Star Teacher Pre Screener and then tested whether performance on that instrument predicted a variety of teacher and student outcomes. They administered an in-depth survey to new math teachers in New York City and collected information on a number of nontraditional predictors of effectiveness, including teaching-specific content knowledge, cognitive ability, personality traits, feelings of self-efficacy, and scores on Haberman's Star Teacher Pre Screener. They tested whether high scores on the Star Teacher Pre Screener is predictive of positive outcomes. In this study, twenty-one percent of survey respondents completing the Star Teacher Pre Screener fell into the top group, according to the

Haberman Foundation scoring system, while 60 percent fell into the bottom group. They reported finding statistically significant but modest relationships between student achievement and several non-traditional predictors of teacher effectiveness, including performance on Haberman's Pre Screener.

Hartlep and McCubbins (2013) examined potential relationships between the 10 indicators or dimensions on the Star Teacher Pre Screener and the background characteristics of elementary teachers in the state of Illinois. They reported three descriptive findings related to the persistence dimension of the instrument. First, the teachers who had more years of teaching experience scored higher on the persistence dimension. Second, the teachers who held or were in the process of obtaining their National Board Certification scored higher on the persistence dimension. And third, the teachers in the study who completed education past the baccalaureate level were not at a relative advantage for scoring higher on that dimension compared to their colleagues with only a bachelor's degree.

According to Hartlep and McCubbins (2013), teacher effectiveness as described within the literature often requires experience. Further, they discuss that within the literature experience from on-the-job training is a factor that has been regularly correlated with teacher effectiveness: however, that correlation is weak over time, and studies have suggested that the value of job experience actually decays and becomes negative after five to ten years of teaching. Despite concerns, the literature does indicate a correlative relationship between teacher effectiveness and age/experience suggesting that older/more experienced educators would be more effective teachers as opposed to younger and inexperienced educators. Hartlep and MCCubbins (2013) report that this correlative

relationship might be explained by or related to the development of self-efficacy over time. According to Hartlep and McCubbins, teachers' personal teaching efficacy increases over time, which allows them to become more effective due to being less concerned about the demands of teaching tasks, and more likely to adopt practices that support diverse learning needs. They explain that because this efficacy is related to years of teaching experience, it impacts teacher effectiveness.

As previously mentioned, according to Schussler (2006), dispositions can be described as a teacher's filter or internal structures of knowledge and affective, cultural, and moral aspects of one's perceptual framework. In line with Schussler's idea, teaching is seen as a constant act of perceiving, and the individual teacher is said to be the instrument through which perception occurs. Also within this description, dispositions are a guiding source for a teacher's ability to process knowledge and act in particular ways.

Relationship Between Disposition and Teaching Performance

Interestingly, every person's cognitions, beliefs, and values have developed individually through their own unique past life experiences; therefore, not all preservice teachers introduced to the same knowledge base and common educational experiences will think about and act upon that knowledge, or even interpret information in the same way. Again, this is because knowledge and experiences are being uniquely filtered. The following describes the theoretical basis through which this dissertation is based: Using Bandura's Model of Reciprocal Determinism, teacher performance and competencies, as measured by the Big Six TAP Indicators rubric, are assessed as observed behaviors that can be categorized within the model under behaviors. Preservice teacher dispositions are

assessed as cognitions and are categorized under personal factors. The focus of the study will be on the interplay between the personal and behavioral factors in Bandura's model.

Even though there is a lack of evidence reported by Haberman to empirically support his Star Teacher PreScreer (Rockoff et al., 2011), the researcher for this study hypothesizes that the analysis will suggest a relationship between preservice teacher dispositions and their teaching performance. The reason for this hypothesis is because the teacher education literature supports the idea that dispositions influence behavior. Further, according to SCT cognition influences behavior, and using this theory, a case can be made that a teacher's dispositions regarding diverse students influence their teaching behaviors and practice.

CHAPTER III

METHODS

The content and pedagogical knowledge and skills and the dispositions a teacher possesses are thought to be related to teacher effectiveness and student outcomes. Few studies have examined the relationship between a teacher's dispositions and their content and pedagogical knowledge and skills. More research is needed to determine if teacher dispositions is a factor related to teacher knowledge and skills. The researcher seeks to determine if knowing a pre-service teacher's disposition will be predictive of their level of teaching competency relative to content knowledge and pedagogical skills. This chapter will describe the methods proposed for this study, and includes the purpose, research questions, research design, research context, data collection, measures, and data analysis procedures.

Purpose of the Study

The purpose of this study is to add to the research base related to teaching dispositions and to examine the relationship between the dispositions and the content and pedagogical knowledge and skills of pre-service teacher candidates in a teacher education program at a Southwestern University. The researcher proposes to test the hypothesis that student teachers' disposition scores to teach lower income students will predict their performance on the Big Six TAP Indicators rubric, which represents a teacher's content and pedagogical knowledge and skills.

Research Questions

This study was designed to answer the following research questions:

1. Do the disposition scores of preservice teachers predict their teaching performance as measured using the Big Six TAP Indicators rubric at performance assessment one?
2. Do disposition scores of preservice teachers predict their teaching performance as measured using the Big Six TAP Indicators rubric at performance assessment two?
3. Do disposition scores of preservice teachers predict a change in their performance assessment scores from the first performance assessment to the second?

For this dissertation, the researcher will utilize correlational design to explore the relationship between preservice teachers' dispositions and their knowledge and skills. Correlational research refers to studies in which the purpose is to discover relationships between variables through the use of correlational statistics (Gall, Gall, & Borg, 2007). Correlational research involves the correlation of data on two or more variables for each individual in a sample and the computation of a correlation coefficient, which provides a numerical expression of the strength of relationship between two variables (Gall, Gall, & Borg, 2007). Two major purposes of correlational research are to explore causal relationships between variables, and to predict scores on one variable from participants' scores on another variable or variables. Advantages of using correlational research designs include that it enables researchers to analyze relationships among a large number of variables within a single study, and it can inform researchers as to the degree of the relationship between the variables under study. Correlational analyses do not prove a

causal relationship; rather, they indicate an association between two or more variables (Creswell, 2008).

Research Context

Setting

The teacher education program on which this study is based is located at a large university in the Southwestern part of the United States. The program is clinically intensive, competency-based and involves candidates in clinical experiences that include extended placements throughout the program and a full year of student teaching. As described by Ismail, Al-Zoubi, Rahman, and Al-Shabatat (2009), according to leading theories, Competency Based Teacher Education (CBTE) refers to teacher training that focuses on a teacher's acquisition of specific competencies. According to Fraser, (2001), Competence-based education (CBE) relies heavily upon the qualification and quantification of performance. Competence Features of CBTE features include knowledge, skills, and the attitudes and values expected of prospective teachers are specified in advance as set of learning objectives (Fraser, 2001).

Other features of the teacher education program on which this study is based include that candidates begin working in K-12 classrooms in their first semester in the program, and they serve a year-long student teaching experience in partner districts alongside an experienced, individually matched mentor teacher. Candidates of the program also use state of the art digital technology to capture, view, and review their own video footage for evaluation and improvement. The program serves students attending the local university, as well as three other satellite locations in North and South Texas.

Participants

Participants for this study include 286 students who were enrolled in the teacher education program described in the above section and conducting their student teaching year. The secondary data obtained for this study did not include information on participants' gender, age, or race/ethnicity.

Data Collection

For this study, the researcher will engage in secondary analysis of existing data. Data originally resulted from assessments conducted during the fall and spring semesters of 2013 and 2014. For this study, the researcher obtained de-identified raw data in the spring semester of 2015 from the director of the teacher education program at a southwestern university. Data collected by the researcher were originally contained in two separate Microsoft Excel documents. One document contained continuous scores from Big Six TAP Indicators rubric performance assessments of student teachers' performance during the year they were student teachers. The other document contained categorical scores resulting from the student teachers' taking the Star Teacher Pre Screener.

Measures

As previously mentioned, the secondary data obtained for this study did not include information on participants' sex, age, or race/ethnicity; however, the following five demographic participant characteristics were included in the data: 1) Major (Biology, Certification Education, Dance, Early Childhood, English, Exercise & Sports Science, Foundational Engineering, History, Math, Multidisciplinary Studies, Museum Science,

Political Science, Sociology, Spanish, Theatre Art, University Studies), 2) Degree (Bachelor of Arts, Bachelor of Science, Master of Arts, Non-Degree Education), 3) Student location (DFW, Hill Country, Lubbock, San Antonio), 4) program level (Elementary, Middle, Secondary, All Level), 5) program specialization (Bilingual, Chemistry, Dance, Early Childhood, ESL, ELAR, ELAR and Social Studies, History, Life Sciences, Math, Math/Science, PE, Science 4-8/Coaching, Social Studies, Special Education, Theatre Arts).

Star teacher pre-screener. The Star Teacher PreScreener (1993, 1995) is the instrument used to gather the disposition scores for this study. The Star Teacher PreScreener (1993, 1995) is a commercial, online survey instrument developed through the work of Martin Haberman for the purpose of predicting teacher success in urban classrooms and with low income students. This instrument was intended to predict teacher success, and has been used to screen job seeking teachers for the likelihood of their teaching effectiveness before hiring them. According to Rockoff, Jacob, Kane, and Staiger, 2011) the instrument has been used by many urban school districts throughout the United States. For this study, the instrument was used to assess the dispositions of preservice teaching candidates at the beginning of their teacher education program.

As described on the Haberman foundation website, (<http://www.habermanfoundation.org/StarTeacherPreScreener.aspx>) the Star Teacher PreScreener consists of 50 multiple choice items, subsumed under 10 different indicators or dimensions, meant to assess an individual's propensity to effectively teach lower income students. According to the website, the instrument has received many years of research and replication contributing to great confidence in its validity and reliability as a

proper indicator of a prospective teacher's longevity and success in the classroom. It is also stated that that research studies suggested the test is 95% accurate in identifying which teachers will persist and which teachers will leave the classroom prematurely; however, the researcher for the current study was unable to locate evidence within the literature to support this. According to Rockoff et. al., (2011), Haberman (1993, 1995) has published some reports of his research, but little or no empirical data are available for independent analysis. The 10 indicators or dimensions of the Star Teacher Pre Screener are described below.

Dimensions. The instrument was designed to assess an individual's propensity for the following ten dimensions:

1. Persistence: This dimension predicts the propensity to work with children who present learning and behavioral problems on a daily basis without giving up on them for the full 180 day work year.
2. Organization and Planning: This dimension refers to how and why star teachers plan as well as their ability to manage complex classroom organizations.
3. Values Student Learning: This dimension predicts the degree to which the responses reflect a willingness to make student learning the teacher's highest priority.
4. Theory to Practice: This dimension predicts the respondent's ability to see the practical implications of generalizations as well as the concepts reflected by specific practices.

5. At-Risk Students: This dimension predicts the likelihood that the respondent will be able to connect with and teach students of all backgrounds and levels.
6. Approach to Students: This dimension predicts the way the respondent will attempt to relate to students and the likelihood this approach will be effective.
7. Survive in Bureaucracy: This dimension predicts the likelihood that the respondent will be able to function as a teacher in a large, depersonalized organization.
8. Explains Teacher Success: This dimension deals with the criteria the respondent uses to determine teaching success and whether these are relevant to teachers in poverty schools.
9. Explains Student Success: This dimension deals with the criteria the respondent uses to determine students' success and whether these are relevant to students in poverty schools.
10. Fallibility: This dimension refers to how the teacher plans to deal with mistakes in the classroom.

Scoring dispositions. The Star Teacher PreScreener online survey instrument is administered and scored online by The Haberman Educational Foundation website. Pre-determined answers to the 50 items on the measure are used to determine a person's score. Each person who takes the Star Teacher PreScreener receives a categorical score of low, average, or high in each of ten attributes, as well as a numerical score for the total

number of questions answered correctly. Scoring ranges determine whether an individual's score falls into one of four quartiles (i.e., Q1, Q2, Q3, and Q4). Q1 is the highest, while Q4 is the lowest of the scoring ranges. Scores from 40 to 50 would fall into Q1, scores from 33 to 30 would fall into Q2, scores from 27 to 32 would fall into Q3, and scores from 0 to 20 would fall into Q4. It is suggested that program leaders look at each of the dimensions assessed. A low score on any item suggests the applicant did not answer the question correctly. According to Rockoff et al., (2011):

Haberman's approach to scoring candidates is somewhat complicated, taking into account not only the total score but also the presence of particularly low scores in any of the ten categories. Most important, any candidate who receives a score of "low" in one or more of the ten categories is automatically placed in the bottom quartile regardless of his or her total score. (Rockoff et al., 2011, p.XX)

According to a study by Rockoff, Jacob, Kane, & Staiger (2011), the Haberman Foundation places teacher candidates into four the following four ranked categories:

- 1) a top group which includes candidates who answered at least 33 questions correctly, and did not receive a "low" score in any of the ten categories;
- 2) a second group which includes candidates who did not receive any "low" scores but answered less than 33 questions correctly;
- 3) a third group which includes candidates who answered at least 33 questions correctly, but had a "low" score in one of the ten categories;
- and 4) a bottom group that consists of teachers who received one low score and answered less than 33 questions correctly or received two or more low scores regardless of the number of questions answered correctly.

Big 6 TAP Indicators rubric. Data used for this study were the result of assessing the student teaching performances of preservice teachers using the Big 6 rubric. This rubric was developed at the university of which this study is based. The Big 6 TAP rubric stems from The System for Teacher and Student Advancement Description (TAP). The TAP system, formerly known as the Teacher Advancement Program, is described by Jerald and Van Hook (2011) as a comprehensive strategy to boost teacher effectiveness through opportunities for career advancement, professional growth, performance evaluation, and competitive compensation. As described by What Works Clearinghouse (2015), TAP is a comprehensive educator effectiveness program that aims to improve student achievement through supports and incentives that attract, retain, develop, and motivate effective teachers. When used as a whole, the TAP system provides teachers with leadership opportunities and associated salary increases; ongoing, school-based professional development; rigorous evaluations; and annual performance bonuses based on a combination of teacher value added to student achievement and observations of their classroom teaching. However, for the purpose of this study, only the TAP Big Six Rubric was utilized.

Scoring pedagogical knowledge and skills. Teaching candidates were assessed using the TAP Big Six rubric to evaluate candidate's student teaching performances. Data were gathered by Site Coordinators via observations of lessons being taught by preservice teachers on four student teaching occasions, over a period of two regular academic semesters (fall and spring). However, due to an excess of missing data for the third and fourth performance assessments, the analyses for this study is based on data from only the first two of the four performance assessments.

The preservice teachers were evaluated using the Big 6 Indicators rubric which measures six areas of competency on a five-point scale. The original Teacher and Student Advancement (TAP) assessment system contains 19 domains, or indicators, that outline and define research-based instructional best practices. The Big Six Rubric utilized to gather data used in this study contains six of those domains. The targeted teaching areas assessed in the Big 6 Indicators rubric used for this study are: 1) instructional plans, 2) standards and objectives, 3) presenting instruction content, 4) activities and materials, 5) academic feedback, and 6) managing student behavior.

The rubrics are scored on three levels: exemplary, proficient, and unsatisfactory. Data were collected through video capturing of lessons in the Apply and Evaluate (A&E) Assessment process. Lessons were taped and graded by the site coordinator who conferred with the mentor teacher and entered the results on a data set. A TAP performance assessment is conducted twice a semester on clinical candidates by the site coordinator in conference with the mentor teacher. Mentor teachers complete a weekly survey using a one- to-three scale to assess clinical candidates.

Data Analysis

Preliminary Data Analysis

Data were consolidated into one document and organized such that each individual participant was represented by a de-identified case number on the rows, and each row contained multiple columns representing the various categories of data collected for each individual case. Data were examined in various ways using frequency distributions and descriptive statistics. For example for quantitative values, the range of

values was examined for values outside the range of possible values, and categorical data were visually examined for accuracy as well. Data were also examined for missing values.

Due to the amount of missing data, it was determined that multiple imputation for missing data would not be feasible for this study; therefore, part of the data set could not be utilized for the analysis. Validity and reliability of findings, as well as generalizability of results are affected by large amounts of missing data (McKnight, McKnight, Sidani, and Figueredo, 2007). According to Mertler and Vannatta (2010), when deciding whether or not to use MI for missing data, there are no firm guidelines for determining what quantity of missing data is too much for a given sample size; therefore, these decisions still rest largely on the shoulders of the researchers. However, according to Royston (2004), in general imputation results will be best with less than 10% missing data, and researchers should be cautious about imputing variables with over 50% missing data unless the resulting uncertainty is small. As previously mentioned, the part of the data set that will not be used in this study are the preservice teachers' scores from Big 6 Indicators rubric performance assessments three and four.

Within the initial data set obtained for this study, most of the cases contained scores for the first and second Big 6 rubric performance assessments, which were taken in the preservice teachers' first semester of their student teaching year. However, there existed an abundance of missing scores for preservice teachers' third and fourth Big Six rubric performance assessments, which would have been taken in the second semester of their student teaching year. Therefore, to obtain an adequate sample for this study, the researcher matched and retained cases from the data set that contained disposition scores,

as well as Big 6 TAP Indicators rubric scores for performance assessments one and two. Data were also examined for outliers, and outliers were eliminated from the analysis. The data set utilized for the analyses in this study contained 247 cases.

Data Analysis

Multiple regression analysis was used to answer the research questions for this study. Multiple regression (MR) is a statistical technique that can be used to describe and test the existence of predictable relationships among a set of variables (Mertler and Vannatta, 2010). Using regression analysis, a researcher can develop an equation which can be used to predict values on a dependent variable for all members of a population in a study (Mertler and Vannatta, 2010).

To answer the first and second research questions of this study, which asks if there is a significant relationship between student teachers' disposition and their Big 6 Indicators rubric competency scores, the researcher utilized linear multiple regression. Data are: 1) the dependent variable, which will be the continuous scores from site coordinators' Big 6 Indicators rubric ratings of student teachers' performances on both their first and the second performance assessments, and 2) the independent variable, which will be categorical scores resulting from the student teachers' taking the Star Teacher PreScreener at program entry.

To answer the third research question of this study, which asks if student teachers' dispositions influence Big 6 Indicators rubric competency change between their first and second performance assessments, the researcher utilized linear multiple regression. Gain scores will be calculated by first subtracting Big Six TAP Indicators rubric scores for performance assessment one from those of performance assessment two; then the scores

from the Star Teacher PreScreenener will be used to determine competency change. Data are: 1) the dependent variable, which will be the continuous Big 6 Indicators rubric gain scores as described above, and 2) the independent variable, which will be the categorical scores resulting from the student teachers' taking the Star Teacher PreScreenener.

Assumptions of multiple regression. According to Mertler and Vannatta (2010), there are two sets of assumptions that ought to be met in order to appropriately utilize MR analysis, one set that deals with the raw scale variables, and another set that deals with the residuals. The assumptions concerning the raw scale variables are as follows:

1. The IVs are fixed (i.e., the same values of the IVs would have to be used if the study were to be replicated).
2. The IVs are measured without error.
3. The relationship between the IV and the DV is linear (in other words, the regression of the DV on the combination of IVs is linear).

The following assumptions concern the residuals:

1. The mean of the residuals for each observation on the DV over many replications is zero.
2. Errors associated with any single observation on the DV are independent of (i.e., not correlated with) errors associated with any other observation on the DV.
3. The errors are not correlated with the IVs.
4. The variance of the residuals across all values of the IVs is constant (i.e., homoscedasticity of the variance of the residuals).

5. The errors are normally distributed. (Mertler and Vannatta. 166).

Mertler and Vannatta explained that the focus of assumptions 1, 2, and 4 is mostly on design issues, while assumptions 3, 5, and 6 address linearity issues. And clearly, the issues of homoscedasticity and normality are dealt with in assumptions 7 and 8, respectively.

Chapter Summary

The main purpose of this chapter was to describe the research methodology to be utilized to answer the three research questions with which this study was guided. This chapter provided a description of the statistical procedures proposed to analyze the data. Utilizing a correlational research design, the researcher will examine the relationship between the assessed dispositions and the student teaching performances of preservice teachers. Utilizing multiple regression analysis, the researcher will explore for statistically significant relationships between preservice teachers' dispositions assessed prior to student teaching, and their student teaching performance assessments during student teaching, taken at two subsequent points in time. The results of this study will be explained in chapter four.

CHAPTER IV

RESULTS

Introduction

This chapter will report the results of the analysis of secondary data utilized for this study. The secondary data analyzed in this study originated from a data set which consisted of continuous scores from observations of preservice teachers' student teaching performances, categorical disposition scores resulting from the preservice teachers completing an online survey, as well as demographic information. Based on matching the number of cases containing both the teaching performance scores as well as the disposition scores, a sample of two hundred and forty-seven preservice teachers was formed. This chapter reviews the purpose of the study and the research questions that were addressed. This chapter also contains demographic information on the sample, findings from the data analysis, and a summary of research findings.

Description of Sample

The sample for this study consisted of two hundred and forty-seven upper level undergraduate students, enrolled in a teacher education program at a Southwestern U.S. university. For the purposes of this study, the students in the sample are referred to as preservice teachers because at the time of data collection they were completing their in-classroom student teaching experiences. Demographic information including preservice teachers' age, gender, race and ethnicity were not included in the data set obtained for this study; however, demographics available within the data set included the grade-levels in which the preservice teachers were aspiring to teach (program level), the specialization in which the preservice teachers were aspiring to achieve certification (program

specialization), the geographic location of the preservice teachers (program location), and the academic major of the preservice teachers (major). Preservice teachers in the sample represented a variety of teaching levels, including Elementary, Middle, Secondary, and All Level. Those working towards Elementary certification represented the largest portion of the sample (69.2%); followed by Secondary level (15.8%); All Level (8.9%); and Middle level (6.1%). The sample was made up of preservice teachers from 15 different program specialization areas (program specialization) with Special Education certification (20.6), Early Childhood certification (19), English as a Second Language certification (ESL, 18.6%), and Bilingual certification (9.7%) representing the largest portion of the sample. Preservice teachers within the sample represented four different geographic program locations (cities) within the university system with the majority of the sample representing the main university campus (76.5%). Finally, the sample was representative of 14 different academic majors with Multidisciplinary Studies (59.1%) representing the largest portion of the sample, followed by Early Childhood (19%), History (6.1%), Exercise and Sport Sciences (5.3%), English (3.6%), and Math (3.2%). Tables 1 through 4 list frequencies for program level, program specialization, program location, and academic major of the sample.

Table 1: Frequency of Preservice Teachers by Program Level

| Program Level | Frequency | Percentage |
|---------------|-----------|------------|
| Elementary | 171 | 69.2 |
| Middle | 15 | 6.1 |
| Secondary | 39 | 15.8 |
| All level | 22 | 8.9 |
| Total | 247 | 100 |

Table 2: Frequency of Preservice Teachers by Program Specialization

| Program Specialization | Frequency | Percent |
|------------------------|-----------|---------|
| Bilingual | 24 | 9.7 |
| Chemistry | 1 | 0.4 |
| Dance | 1 | 0.4 |
| Early Childhood | 47 | 19 |
| ESL | 46 | 18.6 |
| ELAR | 11 | 4.5 |
| ELAR+Social Studies | 6 | 2.4 |
| History | 16 | 6.5 |
| Mathematics | 9 | 3.6 |
| Math/Science | 17 | 6.9 |
| PE | 14 | 5.7 |
| Science 4-8 Coaching | 1 | 0.4 |
| Social Studies | 1 | 0.4 |
| Special Ed | 51 | 20.6 |
| Theatre Arts | 2 | 0.8 |
| Total | 247 | 100 |

Table 3: Frequency of Preservice Teachers by Program Location

| Location | Frequency | Percent |
|-------------------|-----------|---------|
| Dallas/Fort Worth | 26 | 10.5 |
| Hill Country | 9 | 3.6 |
| Lubbock | 189 | 76.5 |
| San Antonio | 23 | 9.3 |
| Total | 247 | 100 |

Table 4: Frequency of Preservice Teacher by Major

| Major | Frequency | Percent |
|---------------------------|-----------|---------|
| Certification Education | 1 | 0.4 |
| Dance | 1 | 0.4 |
| Early Childhood | 47 | 19 |
| English | 9 | 3.6 |
| Exercise & Sport Sciences | 13 | 5.3 |
| Foundational Engineering | 1 | 0.4 |
| History | 15 | 6.1 |
| Math | 8 | 3.2 |
| Multidisciplinary Studies | 146 | 59.1 |
| Museum Science | 1 | 0.4 |
| Political Science | 1 | 0.4 |
| Sociology | 1 | 0.4 |
| Theatre Arts | 2 | 0.8 |
| University Studies | 1 | 0.4 |
| Total | 247 | 100 |

Table 5 describes means and standard deviations for the predictor variables and outcome variables.

Table 5: Variables

| Predictor Variable Name | N | Mean | SD |
|--------------------------|-----|-------|------|
| Haberman Total Score | 247 | 33.84 | 4.3 |
| Persistence | 247 | 2.3 | 0.74 |
| Organization & Planning | 247 | 1.1 | 0.43 |
| Values Student Learning | 247 | 2.2 | 0.98 |
| Theory to practice | 247 | 2.27 | 0.69 |
| At Risk Students | 247 | 1.26 | 0.6 |
| Approach to Students | 247 | 2.09 | 0.99 |
| Survive in Bureaucracy | 247 | 1.34 | 0.75 |
| Explains Teacher Success | 247 | 1.38 | 0.62 |
| Explains Student Success | 247 | 2.11 | 0.68 |
| Fallibility | 247 | 1.49 | 0.7 |
| Outcome Variable Name | | | |
| TAP1 | 247 | 14.07 | 2.51 |
| TAP2 | 247 | 16.06 | 2.46 |

Results of the bivariate correlations analyses are presented in Table 6. Three out of the ten Haberman disposition indicators (Fallibility, Explains Teacher Success, Values Student Learning) were significantly correlated with preservice teachers' Big 6 TAP Indicators rubric student-teaching performance scores. The correlation coefficients are small, ranging from .127 to .191. In general these results suggest that the more preservice teachers possess dispositions related to these variables the higher their demonstrated teaching performance, or competency, is. According to Cohen's (1988) guidelines, these correlation coefficients would be considered to be a small effect.

Table 6: Correlation Matrix for Study Variables

| Variable Names | HTS | Persist | O&P | VSL | TTP | ARS | ATS | SIB | ETS | ESS | Fallib | TAP-PA1 | TAP-PA2 | Gain |
|------------------------|--------|---------|--------|---------------|--------------|--------|-------|--------|---------------|--------|---------------|----------|---------|------|
| Persistence | .353** | 1 | | | | | | | | | | | | |
| Org & Plan Values St | .127* | -0.093 | 1 | | | | | | | | | | | |
| Learning | .358** | 0.046 | -0.007 | 1 | | | | | | | | | | |
| Theory to Practice | .325** | 0.093 | 0.020 | 0.05 | 1 | | | | | | | | | |
| At Risk Students | .527** | 0.109 | 0.061 | .127* | 0.09 | 1 | | | | | | | | |
| Approach to Students | .341** | 0.037 | 0.094 | -0.09 | 0.10 | 0.106 | 1 | | | | | | | |
| Survive in Bureaucracy | 0.052 | -0.011 | -0.102 | -0.07 | 0.09 | -.156* | 0.005 | 1 | | | | | | |
| Expl Teacher Success | .510** | 0.081 | 0.103 | .175** | .155* | .238** | 0.124 | 0.015 | 1 | | | | | |
| Expl Student Success | .316** | -0.023 | -0.007 | -0.04 | .129* | .231** | 0.106 | 0.041 | 0.038 | 1 | | | | |
| Fallibility | .400** | .234** | 0.002 | .140* | -0.08 | 0.085 | 0.114 | 0.019 | .178** | 0.086 | 1 | | | |
| TAP-PA1 | .137* | 0.106 | 0.071 | -0.006 | 0.117 | 0.040 | 0.016 | -0.016 | 0.112 | 0.061 | 0.127* | 1 | | |
| TAP-PA2 | .218** | 0.067 | 0.089 | .140* | 0.118 | 0.054 | 0.064 | -0.020 | .191** | -0.028 | 0.102 | 0.538 | 1 | |
| Gain | .064 | -0.050 | 0.009 | 0.143* | -0.012 | 0.009 | 0.045 | -0.002 | 0.065 | -0.094 | -0.039 | -0.565** | 0.393** | 1 |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Inferential Results

In order to answer the research questions for this study, stepwise multiple regression was conducted to determine which of the ten independent variables (Persistence, Organization and Planning, Values Student Learning, Theory to Practice, At Risk Students, Approach to Students, Survival in Bureaucracy, Explains Teacher Success, Explains Student Success, and Fallibility) were predictors of preservice teachers' demonstrated teaching performance/competency. As discussed in the previous chapter, the data set was examined to ensure it met the assumptions of the multiple regression analyses according to Mertler and Vannatta (2010).

Results for Research Question 1

At performance assessment one, do preservice teacher dispositions predict teaching performance as measured by the Big Six indicators rubric? Regression results identified a model with two variables (Fallibility, Theory to Practice) that significantly predicted preservice teachers' demonstrated teaching competency. $R^2 = .033$, $R^2 \text{ adj.} = .025$, $F = (2,246) = 4.121$, $p < .003$. The model accounted for 3% of the variance in demonstrated teaching competency. The standardized coefficients (β) are .138 for Fallibility and .129 for Theory to Practice. This suggests that an increase in preservice teacher's fallibility score of one standard deviation results in an increase of .138 in student-teaching performance. Similarly, an increase of one standard deviation on Theory to Practice would result in an increase of .129 in student-teaching performance. A summary of the regression model is presented in Table 7. In addition, coefficients between each predictor and the dependent variable are presented in Table 8.

Table 7: Model Summary for Regression 1

| Step | <i>R</i> | <i>R</i> ² | <i>R</i> ² _{adj} | <i>F</i> | <i>p</i> | <i>df</i> ₁ | <i>df</i> ₂ |
|--------------------|----------|-----------------------|--------------------------------------|----------|----------|------------------------|------------------------|
| Fallibility | .127 | .016 | .012 | 4.036 | .046 | 1 | 245 |
| Theory to Practice | .181 | .033 | .025 | 4.121 | .017 | 2 | 244 |

Table 8: Coefficients for Final Model for Regression 1

| | <i>B</i> | β | <i>t</i> | <i>p</i> |
|--------------------|----------|---------|----------|----------|
| Fallibility | .487 | .138 | 2.187 | .030 |
| Theory to Practice | .464 | .129 | 2.038 | .043 |

Results for Research Question 2

At performance assessment two, do preservice teacher dispositions predict teaching performance as measured by the Big 6 Indicators rubric? Regression results indicate an overall model of one predictor (Explains Teacher Success) that significantly predicted preservice teachers' demonstrated teaching competency. $R^2 = .036$, R^2 adj. = .032, $F(1,246) = 9.256$, $p < .05$. This model accounted for 3.6% of variance in demonstrated teaching competency. The standardized coefficients (β) of .191 suggests that an increase in preservice teacher's Explains Teacher Success score of 1 standard deviation results in an .191 in student-teaching performance. A summary of the regression model is presented in Table 9. Table 10 summarizes the model coefficients.

Table 9: Model Summary for Regression 2

| Variable | <i>R</i> | <i>R</i> ² | <i>R</i> ² _{adj} | <i>F</i> | <i>p</i> | <i>df</i> ₁ | <i>df</i> ₂ |
|--------------------------|----------|-----------------------|--------------------------------------|----------|----------|------------------------|------------------------|
| Explains Teacher Success | .191 | .036 | .032 | 9.256 | .003 | 1 | 245 |

Table 10: Coefficients for Final Model for Regression 2

| | <i>B</i> | β | <i>t</i> | <i>p</i> |
|---------------------------|----------|---------|----------|----------|
| Explains Teachers Success | .686 | .191 | 3.042 | .003 |

Results for Research Question 3

Do preservice teacher dispositions predict a change in their student-teaching performance as measured by the difference between the Big 6 TAP Indicators rubric from performance assessment one to two? Regression results indicate a model with one predictor (Values Student Learning) that significantly predicted preservice teachers’ demonstrated student-teaching competency. $R^2 = .020$, $R^2_{adj} = .016$, $F(1, 246) = 5.084$, $p < .05$. This model accounted for 2% of variance in demonstrated student-teaching competency. The standardized coefficients (β) of .143 suggests that an increase of one standard deviation in preservice teachers’ Values Student Learning score results in an increase in student-teaching teaching of .143. A summary of the regression model is presented in Table 11. Table 12 summarizes the model coefficients/parameters.

Table 11: Model Summary for Regression 3

| Variable | R | R^2 | R^2_{adj} | F | p | df_1 | df_2 |
|-------------------------|------|-------|-------------|-------|------|--------|--------|
| Values Student Learning | .143 | .020 | .016 | 5.084 | .025 | 1 | 245 |

Table 12: Coefficients for Final Model for Regression 3

| | B | β | t | p |
|-------------------------|------|---------|-------|------|
| Values Student Learning | .330 | .143 | 2.255 | .025 |

Summary of Results for Research Questions

Research Question 1

At performance assessment one, do preservice teacher dispositions predict teaching performance as measured by the Big Six indicators from the Big 6 TAP Indicators rubric?

Findings. To answer research question one, the analysis identified two predictors which have a small but significant influence. Specifically, regression results identified a model with two variables (Fallibility, Theory to Practice) that significantly predicted preservice teachers' demonstrated teaching competency.

Research Question 2

At performance assessment two, do preservice teacher dispositions predict teaching performance as measured by the Big 6 indicators rubric?

Findings. To answer research question two, the analysis identified one predictor which, again, has a small but significant effect on the outcome variable. Specifically,

regression results identified a model with one variable (Explains Teacher Success) that significantly predicted preservice teachers' demonstrated teaching competency.

Research Question 3

Do preservice teacher dispositions predict a change in their student-teaching performance from performance assessment one to performance assessment two as measured using the Big 6 TAP Indicators rubric?

Findings. To answer research question three, the analysis identified one predictor which, again, has a small but significant effect on the outcome. Specifically, regression results identified a model with one variable (Values Student Learning) that significantly predicted a change in preservice teachers' demonstrated teaching competency between the first and second performance assessment ratings.

CHAPTER V DISCUSSION

Introduction

A review of the literature revealed that content knowledge, pedagogical skills, and dispositions are considered to be integral components in measuring the teaching competency of teacher education students (CAEP, 2013; McKenna, 2009).

Unfortunately, the construct of dispositions, as well as how to develop and assess them remains unclear (Damon, 2007; Sing & Stoloff, 2008). The influence of dispositions on teacher performance also remains unclear (Norris, 2008).

The study of teacher dispositions is the subject of a number of interlocking, but not necessarily closely related, or highly conclusive, studies. This dissertation is meant to be part of the process of looking for evidence related to teaching dispositions with the hope of moving towards a clearer picture of teacher dispositions within teacher education. This chapter will provide a discussion of the findings and limitations of the study, as well as implications for future research and practice.

Overview of the Study

The dispositions of 247 preservice teachers from a Southwestern university were measured utilizing the Star Teacher Pre Screener. Following this, student-teaching performances of each preservice teacher were evaluated utilizing the TAP Big 6 Indicators rubric at two separate times during the first semester of the final year in the teacher education program. Based on the data obtained from the aforementioned measures, the researcher for this study sought to examine if a relationship existed between the preservice teachers' dispositions and their teaching performance.

Stepwise multiple regression was conducted to evaluate whether preservice teacher dispositions would significantly relate to their teaching performance. The overarching finding resulting from this study suggest that there is a relationship between the dispositions of teachers and their teaching performance.

Discussion of Findings and Interpretations

Results from this study indicate that within the sample, there are small but significant relationships among the dispositions of the preservice teachers and their teaching performance. Three out of ten disposition indicators (Fallibility, Explains Teacher Success, Values Student Learning) were significantly correlated with preservice teachers' student-teaching performance scores as measured using the Big 6 TAP Indicators Rubric. Bivariate correlation standardized coefficients range from .127 to .191. In general these results suggest that the more preservice teachers possess dispositions related to these variables the higher is their demonstrated teaching performance, or competency. According to Cohen's (1988) guidelines, these correlation coefficients would be considered to be a small effect. More specifically, in relation to the preservice teachers' first student teaching performance assessment, regression results identified a model with two variables (Fallibility, Theory to Practice) that significantly predicted preservice teachers' student-teaching performance, or demonstrated teaching competency. The model accounted for 3% of the variance in student teachers' demonstrated teaching competency. The standardized coefficients are .138 for Fallibility and .129 for Theory to Practice. This suggests that an increase in preservice teacher's fallibility score of one standard deviation results in an increase of .138 in student-teaching performance. Similarly, an increase of one standard deviation on Theory to

Practice would result in an increase in student-teaching performance of .129. In relation specifically to second student-teaching performance assessment, regression results indicate an overall model of one predictor (Explains Teacher Success) that significantly predicted preservice teachers' demonstrated teaching competency. This model accounted for 3.6% of variance in student-teachers' demonstrated teaching competency. The standardized coefficients of .191 suggests that an increase in preservice teacher's Explains Teacher Success score of 1 standard deviation results in an increase in student-teaching performance of .191.

These findings can be compared to and supported by prior research by Rockoff et al. (2011), which was mentioned previously in Chapter 2. In a summary of this research by Rockoff et al. (2008), the authors have reported that they administered an in-depth online survey to first-year elementary and middle school math teachers in New York during the 2006-2007 school year. Survey information collected was on non-traditional predictors of teacher effectiveness (i.e., cognitive ability; math content knowledge; personality traits, and teacher's general and personal senses of efficacy) and traditional predictors of teacher effectiveness (i.e., whether or not the teacher had a graduate degree, if they passed their certification exam on the first try, whether they were a New York Teaching Fellow or a Teach For America Corps member or traditionally certified, if they majored in math or science or education, SAT math and verbal scores, and the Barron's rank of their undergraduate institution).

Additionally, and most specifically relative to this study, Rockoff et al. (2011) examined which characteristics were associated with scores on Haberman's Star Teacher Pre Screener, and then they investigated whether performance on the instrument predicted

teacher or student outcomes. To accomplish this, they matched survey results with data on students and teachers that was collected by the New York City DOE. As reported by the authors, the indicators measured included certification type, certification exam scores, and selectivity of undergraduate institution. They explain that after collecting data through the survey, scores on the Star Teacher PreScreener, and from the New York DOE, they measured each predictor on the following five, traditional and nontraditional outcomes: 1) student test scores in math; 2) number of teacher absences; 3) subjective evaluations of teachers; 4) and whether or not a teacher returned to New York City DOE after their first year; and 5) whether a teacher stayed at the same school after their first year. Rockoff et al. (2009) report finding no significant results when utilizing Star Teacher PreScreener scores in terms of teachers who scored in the high versus low group. However, when using Star Teacher PreScreener Haberman Total Scores as a predictor of student achievement, subjective evaluations, teacher absences and retention, significant relationships were found. Rockoff et al. (2009) state that: “A one standard deviation increase in the score on the Haberman PreScreener is associated with a 0.023 standard deviation increase in math achievement. Increasing scores are also associated with higher subjective evaluations and a great propensity to return to teaching the following year.” (p.36).

Of particular interest to the findings of this study is that in the Rockoff (2011) study, teachers’ total scores on the Haberman Star Teacher PreScreener (Haberman Total Score) was found to be significantly related to the indicator called subjective evaluations of teachers. This relationship between Haberman Total Score and subjective evaluation of teachers was reported as a Beta coefficient (0.164). In order to make comparisons

between these findings and results of the current study, a conversion of the Beta coefficient to an estimate of r was conducted using the following formula: $r = \text{Beta} = .05 * \lambda$, where $\lambda = 1$, if Beta is positive and 0 if λ is negative (Peterson & Brown, 2005). The Beta Coefficient (0.164) was converted to the correlation estimate of .214. Interestingly, the correlation estimate from the Rockoff et al. (2011) is very similar to the finding in the current study, that the Haberman Total Score of preservice teachers is significantly related to the student-teaching performances of the sample of preservice teachers as measured using the Big 6 TAP Indicators rubric at performance assessment two (.218). Based on this comparison, is the suggestion that the subjective evaluation of the new teachers by their teacher mentors in Rockoff et al. (2011) was almost equal to the preservice teachers' scores in the present study from the second performance using the Big 6 TAP Indicators rubric as measured by the site coordinators who rated them. This lends some support to the finding in the present study that the data suggests a relationship between scores on the Star Teacher PreScreener and teacher performance in the classroom.

The results of the current study can also be compared to another which utilized multiple regression analysis to examine the relationship between preservice dispositions and teaching performance. As previously discussed in Chapter 2, Giovannelli (2003) proposed to determine whether a relationship exists between teacher candidates' reflective disposition toward teaching and the extent to which they exhibited effective teaching behaviors in the classroom. Disposition scores based on six indicators or dimensions made up the predictor variable, which was teacher candidates' reflective disposition toward teaching. Giovannelli (2003) explains that in terms of the variance

explained, the results of her study suggested that a reflective disposition toward teaching made a small but statistically significant contribution to effective teaching. She further explains however, that in terms of the standardized coefficients in her study, all above .25, results suggested that reflective disposition had a fairly strong influence on effective teaching.

Despite there being a lack of literature which provides details pertaining to the empirical study of a statistical relationship between teacher dispositions and their teaching performance in the classroom, after conducting the analyses in this study, the fact that a relationship was suggested did not come as a surprise. This is because, as explained by Rockoff et al. (2011), the questions on Haberman's Star Teacher PreScreenener were designed to pick up on a number of the characteristics that prior research (Jacob, 2001) has put forth as predictors of teacher effectiveness.

As previously discussed in Chapter 2, according to Giovannelli (2003), critics of research on effective teaching have pointed out that statistical correlations between most individual teaching variables and measurements of student achievement are low. In reply to that critique, Giovannelli (2003) discussed that even weak relationships can be important for making a difference in practice because improvements in attitude and behavior are linked to small improvements, which over time can add up to a worthwhile total change.

Another reason why it was not a surprise to find a relationship between preservice teacher dispositions and their student-teaching performance is partly due to the common human view, stemming from early eastern and later western psychological views (Bandura, 1977, 1986, 1997; Epstein, 1995; Wilber, 1996), that our thoughts heavily

influence what we do. Considering the links between cognitions and behavior, which is prolifically discussed within the psychological and developmental literature based on SCT, it makes sense that teachers who share the views associated with the significant variables in this study might also display good teaching performances. A discussion of findings and interpretations concerning each research question are presented in the sub sections that follow.

Research Question 1

The first research question for this study asked if preservice teacher dispositions would predict their first Big 6 student-teaching performance assessment scores. Results of multiple regression analysis indicate that two Haberman dispositional dimensions (Fallibility, Theory to Practice) significantly predicted preservice teachers' student teaching performances. According to Haberman (2005), the Fallibility dimension is concerned with how the teacher plans to deal with mistakes in the classroom, and the candidate's ability to accept him or herself, and to accept others.

The dispositional dimensions of Haberman's instrument were conceptualized by comparing the beliefs of star teachers with what he calls quitters/failures. For example, according to Haberman (2011), within the Fallibility dimension, star teachers are willing to admit mistakes and even make apologies, while quitter/failures regard admitting mistakes to students as a sign of weakness. To support the reasoning behind this dimension, Haberman discusses that one reason students don't learn up to their potential in school is because they are afraid to make mistakes. Further, he adds that star teachers help students to believe that making mistakes is part of the learning process, while quitter/failure may lead them to believe that not trying is better than being incorrect. As a

role model for students, how a teacher handles her own mistakes is important to this dimension. If the teacher models covering up, not admitting, or blaming others for her mistakes the message to the students is that it is not normal to make mistakes. According to Haberman (2005), people who cannot recognize and admit mistakes in themselves are less likely to be tolerant of others' mistakes. Haberman (2005) discusses that fallibility is a combination of stars' ideology and their practice. Because they hold a set of beliefs about the naturalness of fallibility, they are led to behave in human and humane ways when mistakes occur. Additionally, he says stars model the acceptance of mistakes, use them as teachable moments, and they are celebrated as examples of how adults and children all need to do better. Further, Haberman contended that the reluctance to admit to serious errors, especially in the presence of children, is typical of teachers who have a problem owning mistakes. The findings that Haberman's Fallibility dimension was found to be significantly related in this study makes sense, being that the sample of preservice teachers for this study are still students themselves. This is because it is possible that student-teachers are more willing to openly admit to making mistakes because they are novices, still in the process of learning. Additionally, within the classroom as they are performing student-teaching to youth who are also students, they may naturally have the ability to be more tolerant of mistakes and to exhibit more empathy because they can more easily put themselves into the shoes of their students. This may in turn help them to be more in-tune or aware of the instructional needs of students.

In line with this idea of Haberman's Fallibility dimension, within Social Cognitive Theory, Bandura (1997) discusses differences between coping models and mastery models, specifically that coping models begin by performing like a novice and

then work to overcome obstacles using means of copings; whereas, mastery models perform flawlessly from the beginning to the end of a modeled task. Observation of models, such as teachers, who demonstrate the application of skills has been shown to increase students' self-efficacy for learning and achievement (Schunk & Hanson, 1985; Schunk, Hanson, & Cox, 1987). After observing models who make mistakes, and who have demonstrated that they are capable of learning, students are likely to believe that they too can be successful. As discussed earlier in this paper, being similar to the model can be critical for observational learning to take place; and according to Pajares and Shunk (2001), this may be especially critical for learners who doubt their capabilities. This appears to be because coping models appear to be more similar in competence and therefore have an effect on observers' self-efficacy (Shunk, 1995). In order to help teacher education students who wish to cultivate within themselves Haberman's fallibility disposition, teacher educators can be mindful to make future teachers aware that when children and youth see their models as fallible and human, it can positively affect their learning and achievement. Teacher educators can also teach coping modeling strategies to be used when modeling academic tasks.

Also concerning the findings of research question one, the dispositional dimension of Theory to Practice was also found to be significantly related to preservice teachers' initial performance assessments. Haberman's Theory to Practice dimension predicts the teacher's ability to grasp the practical implications of generalizations, as well as the conceptual and/or theoretical underpinnings reflected by specific practices. In discussing the Theory to Practice dimension, Haberman (2005) stated that individuals who do not believe that it is possible to make generalizations about teaching and learning

have difficulty processing ideas. Further, he discusses that teachers need to have the skills to be able to continue to grow throughout their careers; therefore, teachers need to be able to translate theories and research findings from in-service courses, and principles learned in workshops into practice. Haberman believes that teachers who score high on the Theory to Practice dimension have the ability to move from ideas to action and action back to idea, which he sees as the basis for continued growth throughout a teachers' career.

The Theory to Practice dimension can be discussed in relation to the SCT theoretical foundations of this study. As mentioned at the end of chapter two, because knowledge and experiences are uniquely filtered by individuals, every person's cognitions, beliefs, and values has developed individually through their own unique past life experiences. Therefore, it makes sense that not all people introduced to the same knowledge base and common educational experiences will think about and act upon that knowledge, or even interpret information in the same way. Related to this and also discussed earlier, is the idea behind Bandura's Model of Reciprocal Determinism, that there is an interplay between personal, cognitive, and environmental factors that help to explain human functioning and behavior. In relation to Haberman's dimension of Theory to Practice, this theoretical model provides a research based means to understanding the differences in the ability of individual teachers and preservice teachers to generalize and expand the knowledge they are exposed to in coursework and trainings to actual classroom practice.

Research Question 2

The second research question for this study asked if preservice teacher dispositions would predict their second TAP Big Six performance assessment scores. Regression

results identified a model with one variable (Explains Teacher Success) that significantly predicted preservice teachers' demonstrated teaching competency. In other words, there was only one Haberman dispositional dimension (Explains Teacher Success) that significantly predicted preservice teachers' demonstrated teaching competency, or TAP Big Six scores at performance assessment two.

As mentioned in previous chapters in this dissertation, Haberman's Star Teacher PreScreener was developed for the purpose of predicting teacher success in urban classrooms and with low income students. Haberman's Explains Teacher Success dimension deals with the criteria a teacher uses to determine teaching success and whether these are relevant to teachers in poverty schools. A plausible reason to explain why this disposition indicator was found to be significant may be because within the teacher education program at which this study took place, there is a particular focus on collaborating with low income schools within the community. The importance of collaborating with diverse communities and diverse students may have been discussed with the preservice teachers in the sample, or perhaps through coursework or student teaching in the community, this value has been heightened.

According to Haberman, rather than attributing inadequate student learning to the students themselves, stars look towards the curriculum, teacher methods, and teachers themselves to explain inadequate student learning. Haberman discusses that statements made by teachers that blame the students and the students' background may be reflective of this dispositional dimension. For example, when teachers state that they face "challenges" in teaching children and youth in poverty, or from minority backgrounds, they are possessing the attitude of blaming the student for inadequate learning rather than

reflecting on their own teaching inadequacies. This idea was found in the literature and touched upon earlier in Chapter 2.

As mentioned in chapter two of this dissertation, developing culturally responsive dispositions is especially crucial when teachers and children do not share similar cultural, linguistic, and socio-economic backgrounds (Kidd, Sanchez, & Thorp, 2008). Also as mentioned earlier, Haberman (1996) discussed the meaning of “normal” and “typical” in relation to factors such as “urban,” “poverty,” and “cultural diversity” that are seen through the eyes of Euro-American teachers as causing individual children to develop “special needs.” Haberman (1996) cited Garbarino, Dudrow, Kostelny, and Pardo (1992) when he discussed the notion that children growing up in urban poverty and violence have been viewed to suffer the same range of ailments and emotional impediments to normal development as children who grow up in a war zone. Haberman viewed this conceptual stance as erroneous because it “relegates all the distinctions made about children’s cultural backgrounds and societal influences as simply other forms of exceptionality, conceptually akin to any other handicapping condition” (p. 750).” According to Haberman, quitters/failures take the credit when a student is doing well, and when a student is doing poorly, they blame the student.

To aid in the development of the Explains Teacher Success dispositional dimension in teacher education students, teacher educators can teach self-questioning techniques and ask themselves questions suggested by Haberman such as How can I be more effective?, and What better strategies can I employ to get better results? Haberman’s suggestion to use self-questioning strategies fits well with the theoretical underpinnings of this study

because as SCT emphasizes, self-assessment and self-regulation play a key role in practicing constructive self-analysis and growth.

Research Question 3

The third research question for this study asked if the disposition scores of preservice teachers' would predict a change between their first and their second TAP Big Six performance assessment scores. Regression results identified a model with one variable (Values Student Learning) that significantly predicted a change in preservice teachers' demonstrated teaching competency between the first and second TAP Big Six assessments. In other words, the difference between preservice teachers' first and second performance assessments was explained by one Haberman dispositional dimension, Values Student Learning.

The Values Student Learning dispositional dimension deals with a teachers' willingness to make student learning the teacher's highest priority. According to Haberman (2005), star teachers believe that the ultimate value to be preserved is learning, while quitters/failures are known to value order over learning. In discussing the Values Student Learning dimension, Haberman explains that stars in this area practice a commitment to student learning via behaviors which include seeking out current events, questions, discrepant events, even crises, and they bring these into the classroom as a way of engaging their students and going beyond the traditional text-based curricula. Whereas quitter/failures are limited to closely following the text book and cannot bring the subject matter to life. Also relevant to the dimension of Values Student Learning is the idea discussed that age and development play a key role in quality teaching.

Haberman (1995) has used the term youngsters to refer to the typical traditional teacher education students in U.S. In his article, entitled The Myth of the “Fully Qualified” Bright Young Teacher, Haberman (2012) laments that the developmental level and age of teachers in training and beginning teachers has often not been given adequate attention within traditional programs of teacher education. Haberman (2012) discusses long held societal and other problems related to the idea that the “fully qualified beginning teacher” is typically perceived to be female and under the age of 25, and that in reality a majority of teachers are trained and begin teaching while they are in the developmental stage of late adolescence and young adulthood. One of the problems, as Haberman discusses, which I see as relevant to the dimension of Values Student learning is that many college graduates between the age of 20 and 25, who become teachers are in the same time of human development as the late adolescents they instruct and socialize. These new young teachers, according to Haberman, see the world in the same way, share similar taste in music and dress, share the same heroes, and want the same things as the students they teach. He discusses that the period of development between age 15 and 25, as described by Bellah, Madsen, Sullivan, Swidler, and Tipton (1985), has been viewed as one of “Self-absorption and yearning for independence”, and he sees it as the most self-centered and antiestablishment period of life. However, on a more positive and hopeful note, research indicates that this period in human development is associated with increases in brain and cognitive development. For example, with regards to brain development, emerging adults (approximately between the ages of 17 and 25) have demonstrated advanced frontal lobe functions compared to children and adolescents (Hudspeth & Pribram, 1992). In relation to cognitive development, the problem solving

abilities of emerging adults has been described as moving away from thinking in terms of things being either true or false (dualistic thinking) to the realization that there may be many correct answers or solutions to a problem, and that solutions to problems can be relative and therefore, may be dependent on certain things (Kitchener, Lynch, Fischer, & Wood, 1993; Perry, 1999).

Along the same lines, according to Blume and Zombar (2007), emerging adulthood is a time in life when advanced reasoning abilities are enhanced by post-secondary education, workplace training, and other life experiences that often occur during this time. Within the field of human development, and in keeping in line with the theoretical underpinnings of this paper, this relates to Bandura's (1986, 2008, 2009) huge emphases on the role that cognitive processes play in human development and growth. What this increase in brain and cognitive development means in relation to this study is that emerging adults who are learning to become teachers are prime for having the ability to develop within themselves cognitive abilities, such as becoming skillful at recognizing how their individual dispositions will affect their students learning and development when they begin teaching.

Researchers have discussed that educators often struggle with recognizing their own personal biases, and they rarely critically examine the biases inherent in educational institutions and programs (Sharma, 2015). Teachers in training, at any age, are in the process of developing their own teaching knowledge, skills, and competencies. I believe that having the knowledge that dispositions exist and can affect the practice of teaching, and possessing the skill to recognize personal dispositions within oneself, is a competency. It is a competency that matters in the development of future teachers. To

help develop this competency, during the process of teacher education, teachers in training should be explicitly and purposefully made aware that they possess thoughts, beliefs, and views about many things, many of which may be erroneous, that can affect the teaching dispositions they possess. It is believed that generation after generation before us, and stemming from irrational fears and beliefs that have divided people based on differing characteristics and traditions, our societal institutions have played a role in instilling within our culture fear based anxiety and competition, leading individuals to develop mechanisms of separation. However, it cannot be ignored that those mechanisms of separation within individuals and institutions of power lead to marginalization of the individuals under their power. With regard to using dispositions to block some individuals from entering teacher education programs as discussed in chapter 2, I suggest caution should be used because to claim that students attempting to gain acceptance into a teacher education program are at fault for the dispositions they possess, is to claim that individuals within any society did not grow up and grow and develop within this same society, and as a result, acquire some unfounded biases themselves. However, by the time teachers are certified and applying for teaching jobs, I believe they should be scrutinized based on any dispositions they possess which could lead to marginalization of students.

I think if one wishes to play a part toward ending, rather than perpetuating marginalization, the responsibility lies within each individual within a society to become self-aware of biases effecting their own functioning and behavior; however, institutions and programs of education can also play a valuable role in this as it pertains to training future teachers to be more effective with all students. As discussed earlier, teachers possess the power to affect the lives of their students in many life areas including

education, social emotional development, and future socio-economic status. Because of this, if a person chooses to become a professional teacher, it is the teacher or preservice teacher's responsibility to investigate how their dispositions affect their teaching and interactions with students, and then to adjust them according to the ethical standards that they hold for themselves. In relation to this I will circle back to Sharma's (2015) acknowledgement that educators often struggle with recognizing their own personal biases, and critically examining the biases inherent in educational institutions and programs. In the bigger picture, I see a link between the skill to recognize how of one's own dispositions affect their teaching practices and relations, and the skill to recognize the effects of institutional bias on student outcomes. I think by developing the competency to recognize dispositions and how they affect teaching practices and related relations, teachers also mature in their ability to recognize and critically examine biases in the educational institutions and programs of which they are or will become a part of.

Research has suggested that a preservice teachers' dispositions continually evolve and can also change during the progression through a teacher preparation program (Almerico et al. 2011); therefore, it could be of value to the profession of teaching, for teachers in training to be encouraged to become aware of the dispositions they personally hold, and explore them throughout the duration of their teaching profession. Again, this idea has to do with a proposed process towards the development of a teaching competency aimed at a teacher's ability to recognize personal dispositions and how they affect his or her teaching.

One strategy of increasing interest within higher education, which could be further explored as a means to help teachers and future teachers with the ability to

develop the skill to recognize and become aware of the dispositions they hold, is mindful meditation. In their review of research on the utility of mediation within higher education, Shapiro, Brown, and Astin (2011) report that evidence suggests that meditative training may offer a means to develop qualities valued by educators and others within interests in human development. Shapiro, Brown, and Astin (2011) state that meditation involves the intentional training of attention and awareness, such that consciousness becomes more finely attuned to events and experiences in the present. Further, meditation involves purposefully noticing thoughts, events and experiences as they arise on a moment-to moment basis. Within the review, Shapiro, et al (2011) discuss that the utilization of meditation is a method which can be used to address goals of higher education, including goals surrounding the development of skills that are not typically focused on such as students' interpersonal skills, emotional balance, and less traditional forms of intelligence. In other words, Shapiro and colleagues cite Leif (2007) who noted that "balanced education cultivates abilities beyond the verbal and conceptual to include matters of heart character, creativity, self-knowledge, concentration, openness and mental flexibility" (p. 496). There are various meditative practices (for a review please see Ospina, Bond, Karkhaneh, Tjosvold, Vandermeer, Liang, ... and Klassen, 2007); however, mindfulness meditation in particular has been suggested to offers benefits towards cognitive performance, which could be of benefit to teacher education.

According to their review of the neuroscience of mindfulness meditation, Tang, Holzel, and Posner (2015) state that research over two decades broadly supports the claim that mindfulness meditation exerts beneficial effects on physical and mental health and cognitive performance. However, the underlying neural mechanisms remain unclear and

more methodologically rigorous studies are required in order to gain a better understanding of the neuronal and molecular bases of changes in the brain that accompany mindfulness meditation. Mindfulness meditation can be described as non-judgmental attention to present-moment experiences (Tang, Holzel, & Posner, 2015). With regard to this study, mindfulness meditation may be of benefit to teachers and future teachers in the area of self-awareness (Tang et al, 2015). The next section includes suggested implications for practice gleaned from the current study.

Implications for Practice

One value of studying dispositions and targeting them within teacher education relies on their predictive relationship to the actual practice of teaching. Based on this suggested relationship, this study could be of interest to teacher educators whose job it is to prepare teachers for the 21st century classroom. Teacher educators can utilize candidate's dispositions scores to individualize both classroom instruction and student teaching experiences in order to ultimately provide targeted instruction aimed at producing highly effective teachers. Teacher education practices which target preservice teacher dispositions found to be significantly related to teaching performance may be a way to increase the teaching competency of future teachers. Results of this study suggest that disposition indicators that make up the disposition to teach lower income students are related to teaching performance and competency. One way teacher educators may be able to increase preservice teacher competency is by focusing educational efforts toward including instructional attention on the disposition indicators of teacher education students found to be significant within this study which are Fallibility, theory to practice, explains teacher success, and values student learning (Haberman 1993, 1995). Another

way teacher educators may be able to improve upon the teaching competency of future teachers is discussed in the remaining paragraphs of this section and focuses on the need to equip teacher education students with strategies to help develop within themselves the ability to become aware of the teaching-related dispositions they hold.

Teachers in training need to be explicitly provided the opportunity to learn about teacher dispositions. Because literature and research on teacher effectiveness report that teacher dispositions and core beliefs are linked to student and teacher success, it is a responsibility of teacher educators to make teacher education students aware of what this means, and then to teach teacher education students ways of becoming familiar with their own dispositions, as well as how their dispositions can affect their students and their teaching practices.

This becomes a three-part responsibility on the part of teacher educators. These responsibilities include: 1) educating teacher education students about the nature of teacher dispositions and how they relate to teachers' classroom performances and practices, and in turn to student outcomes, 2) equipping teacher education students with strategies to help develop within themselves the ability to become aware of the teaching-related dispositions they hold, and this can be seen as striving towards a teaching skill or competency, and 3) providing the experiential formats such that teacher education students can now test how their individual dispositions affect their own teaching practice in real life within student teaching experiences. This third responsibility is the point where student teachers can begin to learn to develop the skill of becoming critically selective about which strategies and practices are not only in line with their personal dispositions, but also those that effectively support certain lessons and certain students or

groups of students. This includes the skill to be selective with regards to their student-teacher interactions.

In line with SCT, providing preservice teachers with the chance to practice student teaching in this way might increase their chances of accomplishing mastery teaching experiences. According to Bandura (1997) mastery experiences are the most influential source of efficacy information because of the authentic evidence they provide towards the development of strong self-efficacy. Considering the many strategies teacher education students learn about through coursework requirements, it makes sense that after several years of coursework they end up overwhelmed by so many possible strategies to choose from, making it difficult to narrow down and match them effectively to particular students and/or particular lessons when the time comes for them to practice independently.

This 3-part approach not only addresses teaching competencies and skills that can be practiced within the classroom, it also addresses developmental needs of the many young teachers in training by providing them with the means towards becoming a more mature teacher in that it can support the development of teacher related self-awareness skills in a manner that is connected to the needs of students.

Strengths, Limitations and Future Research

The strengths of this study include that the findings suggest the existence of a statistical relationship between teacher dispositions and teaching performance and this study adds this type of research to the literature on teacher dispositions, which is currently limited. This study might increase educators' and researchers' understanding of the construct of teacher dispositions within teacher education.

This study is not without limitations. In regard to the observations of preservice teachers' student teaching performances, limitations include possible reliability issues related to the use of secondary data and having no access to data collection processes or procedures. For example, there was no evidence available within the data as to whether or not the university site coordinators who rated particular students at the first performance assessment was the same assessor who rated those same students at the second performance assessment. In regard to the use of the Star Teacher PreScreener survey to measure preservice teacher dispositions in this study, there were likely limitations relative to the inherent nature of online survey research (Wright, 2005), as well as limitations specifically related to there being very little detailed information and research literature about the instrument.

Limitations also include that even though the results suggest the existence of a relationship between preservice teachers' dispositions and teaching performance, a causal relationship could not be determined. Further, among the correlational findings, there were only 3 of the 10 dimensions found to significant, leaving room for other plausible explanations or hypothesis. It is plausible that teachers are easy targets and are currently been used as scapegoats for the fundamental inequalities that pervade American society. It makes sense that societal inequalities, such as unequal access to education, to jobs, and other opportunities, hold much of the blame for the educational problems faced by many young people. Finally, other limitations include that within the data set utilized for this study, there were a lack of demographic information on the preservice teachers; and as a result, this limited to the scope of research questions that could be asked, and hence, the scope of statistical analyses the researcher could utilize in this study was also narrowed.

In light of these limitations, future research which examines relationships between teacher dispositions and teaching practice with different samples of teachers and preservice teachers from different geographic locations is suggested in order to determine the generalizability of the findings. Similar future research should also include a more fruitful array of demographic information about participants such as grade point average, gender, age, race/ethnicity, socio-economic status, and political affiliation. For example in the present study, the fact that a relationship was not found between preservice teachers teaching performance and the dispositional dimension called At-Risk Students, which predicts the likelihood that the respondent will be able to connect with and teach students of all backgrounds and levels, was an outcome of the present study that could be of interest in future study, particularly should there be more demographic information available about participants, such as age, race/ethnicity, and socio-economic status. This is because according to the Haberman foundation website, Haberman's Star Teacher PreScreenener is an instrument meant to evaluate an individual's skills relative to teaching lower income students. Additionally, because as discussed in the introduction chapter, teaching effectiveness is not only dependent on a teacher's success, but also on that of his or her students', future research should examine the relationship between teacher dispositions and students' academic and social-emotional outcomes in the classroom. As a way to improve upon the assessment of teacher dispositions, it would be beneficial to have future research which focuses on the assessment of teacher dispositions via the perspective of the students he or she teaches. The development of both qualitative and quantitative measures would be beneficial to researchers who wish to study the ways in which teacher dispositions affect student' academic and social emotional outcomes. And

finally, the study of teacher dispositions could be enhanced with the addition of studies which examine how mindfulness meditation might affect preservice teachers' ability to become aware of the teaching dispositions they hold. For example, in some universities, meditation has been incorporated into the curriculum as a way to enhance students' cognitive skills. The University of Michigan School of Music has a Bachelor program which emphasizes meditation called "Jazz and Contemplative Studies,;" a religious studies course at Brown University includes meditation "labs" as part of the curriculum (Gravois, 2005); and a counseling psychology graduate program at Santa Clara University integrates meditation into the curriculum, as a way to enhance the development of essential therapy skills such as empathy and presence (Shapiro & Izett, 2008).

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