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The University of Southern Mississippi

EMOTIONAL ANTECEDENTS OF PREPRIMARY
TEACHER LEARNING

by

Elizabeth Anne Beavers

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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ABSTRACT

EMOTIONAL ANTECEDENTS OF PREPRIMARY TEACHER LEARNING

by Elizabeth Anne Beavers

May 2010

A study of the relationships between emotional understanding, the dispositional attributes to think critically, receptiveness to new learning and willingness to change using structural equation modeling was conducted. Data from 186 preprimary teachers were analyzed to confirm the relationships between the constructs yielding four key findings addressing the individual and collective relationships between the variables expressed. Specifically, the findings and interpretations of this study produced the following conclusions: 1) one's willingness to change may stem directly from the individual's emotional understandings; 2) there is a strong relationship between emotional understanding and critical thinking dispositions; 3) receptiveness to new learning precedes one's willingness to change; and 4) there is a statistically significant relationship between the interactions of emotional understanding, critical thinking dispositions, receptiveness to new learning and willingness to change. Overall, a strong relationship was revealed between the constructs explored. The recommendations drawn from the findings serve to foster consideration of the variables that are important when addressing preprimary teacher learning and willingness to change. The recommendations further suggest that if the aim is to meaningfully impact quality early childhood preschool experiences and provide germane training for teachers, a deeper analysis is needed of the attributes and quality of preprimary teachers as well as the means by which we teach teachers.

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DEDICATION

This dissertation is dedicated to my children:
Lennon, Marah, and Ramey.
It is with deep gratitude that I wish to recognize their contributions
of love, support, patience, humor and faith.
My wish is that this document and our experiences,
in the process of completing it,
will one day remind them that their contributions are what
make all dreams come true.

ACKNOWLEDGEMENTS

This dissertation is ultimately about the heart of teaching and learning, and this endeavor would not have been possible without those nearest and dearest to my heart. I first wish to recognize my husband, Ricky. At the onset of my doctoral program, I stated that I would pursue this dream with support of my family, but not at the sacrifice of my family. Though much has been sacrificed accomplishing this dream, it would not have been possible without him. My emotional foundation, sanity, drive, and dreams are all intertwined and rooted in the life we have built together. As such, the support my children provided was and always will be invaluable. The notes of encouragement, play breaks, assistance sorting, hugs, pleasantly distracting smiles, words of love, patience, and time that were so selflessly offered by Ricky and our precious children saw this project completed and this dream accomplished.

George Santayana once stated, “The family is one of nature’s masterpieces.” I wish to acknowledge the support of all of my family, immediate and extended, as they each contribute uniquely and continually to the masterpiece of my life. The love of family is the greatest blessing God has bestowed upon me. Specifically, I wish to acknowledge my grandfather, the late Warren Seal, for his constant reinforcement of the importance of a quality education. It is from this, that I believe, my desire for learning was fueled. Very related, I would like to recognize my mother. As a child, I vividly recall the sacrifices she made to pursue advancement of her own education and the value she placed in being true to yourself and others. For my dad: sometimes there are not enough words to express true gratitude. So thank you...for everything, but most

especially for believing in me. I wish to recognize my sister and friend, Aimee, as she is a remarkable person with a wonderful heart.

It is said that friends have all things in common (Plato). From onset to completion, my friends, old and new, have been my inspiration. This whole journey began some years ago with the strong encouragement of my best friend, Kelley Martin Bird. Her belief in me and my potential, and her unconditional support is the greatest thing a friend could give. For her, I am eternally grateful. Alicia Westbrook has been my true partner. Over these years, we have studied together, written together, cried together, laughed and danced together, and dreamed together. Dr. Bridgette Davis, Dr. Kevin Walker, Shannon Haley-Mize, and other members of my cohort and coworkers at The University of Southern Mississippi will forever hold a place in my heart. This has been a long journey, and I am honored to have traveled it with such dear friends.

As mentioned, this dissertation was about teaching and learning. Dr. Hollie Filce quite ably and remarkably guided me on this journey. The dedication of her time, knowledge, and encouragement facilitated the success of this endeavor. Dr. Richard Mohn continued to teach me as I strived to make meaning and pursue answering the questions I sought to understand. These two individuals, along with the other members of my committee, reinforced through their actions my belief that teaching and learning are personal, emotional experiences.

Walt Disney stated, “Our greatest natural resources, are in the minds of our children.” In concluding, I would like to acknowledge the teachers who participated in this research and those who everyday, guided by their heartfelt beliefs, seek to nurture the minds of our children.

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CHAPTER I

INTRODUCTION

Research in the field of early childhood education clearly provides evidence that the quality of early childhood teachers directly impacts the quality of early learning experiences (Hamre & Pianta, 2001; Hargreaves, 1998). The components of high quality early childhood programs are consistently reported in the literature and are synthesized in the recommendations by organizations such as the National Association for the Education of Young Children (NAEYC). Much of the literature in the last ten years has begun to focus on enhancing the early childhood experiences of children. Therefore, the quality of early childhood education is no longer viewed as a childcare issue but rather an educational issue (Kagan, Kauerz, & Tarrant, 2008).

Across the United States and world, there are growing political and social demands to increase the quality of preschool experiences for children to ensure school success (Kagan, Kauerz, & Tarrent, 2008; Early & Winton, 2001). Much of the existing literature and theoretical basis of early childhood education is focused on models of training teachers. However, limited research is focused on the underlying dynamics of teaching a diversely qualified population of preprimary teachers how to teach at the level of accountability that is presently required. (Tout, Zaslow, & Berry, 2006). It has been suggested that the quality of early childhood education will not meaningfully improve until the research closely examines the quality and attributes of teachers themselves (Hargreaves, 2001; Zembylas, 2007). It is believed that positive changes in teacher learning and instructional practices will be enhanced when better insights into preprimary teacher perceptions of their emotional ecology, including teacher receptiveness to new

learning and willingness to change, are explored (Kelchtermans, 2005; McCombs & Marzano, 1990; Van Eekelen, Vermunt, & Boshuizen, 2006; Zembylas, 2007). Through further analysis, the interwoven patterns of each teacher's experiences and beliefs that impact the intrapersonal nature of teachers along a developmental continuum can be identified (Sansone & Thoman, 2005; Illeris, 2003). Lorenz (1981) contends that to create an imprint on new learning, learning experiences are beneficial only at a receptive level during one's own critical periods of growth. For educators, those experiences are interpreted and integrated by the teacher within the context of their own personal stage of emotional development (Hargreaves, 2001; Mezirow, 1991; Vygotsky, 1967/2004; Dewey, 1910). Because of this, it is thought that the early childhood environment can be physically changed and teachers can receive research-based content training, but the teachers themselves cannot and do not easily sustain change (Fullan, 2001). Change that can be sustained comes from within (Fullan, 1993; Mezirow, 1991); otherwise, it is only superficial and does not impact the positive outcomes desired for young children over time (Hargreaves & Fullan, 2009).

The importance of quality teaching has been documented in the professional literature including research on the relationships between teacher training, teaching practices and student achievement (Darling-Hammond & Bransford, 2005). The Teaching Commission (2004) published a report, *Teaching at Risk*, that indicated teaching quality is a critical factor in improving educational reform and is the bedrock of making meaningful differences in outcomes for children. Empirical research synthesized by the National Research Council (2000) on how teachers learn and apply knowledge to inform their practices provided a foundational knowledge and theoretical framework.

Additionally, there is evidence of a developmental trajectory for teachers' learning as described by Shulman and Shulman (2004). The theories associated with the developmental trajectories of teacher learning and practices link broad principles of learning to concrete applications of teacher practices. Perry (1970, 1981) suggested that learners journey from perceiving their experiences in absolute terms to integrating knowledge and experiences. Biggs (1999) described the growth of teachers in three stages ultimately leading to one's ability to engage in meaningful reflection and analysis. These theories of developmental trajectories are also reflected in the work of Darling-Hammond and Bransford (2005) who discussed not merely what teachers actually learn but how teachers use what they have learned and to what outcome.

Theories and models of learning, representing diverse paradigms such as behaviorism, cognitivism, and constructivism, all acknowledge that learning is change (Ilersis, 2003; Cranton, 1994; Mezirow, 1991; Hargreaves & Fullan, 2009). However, current research on transformative learning theory (Mezirow, 1991) has brought light to the integration of historically different perspectives of adult learning and their applications. In the current era of educational reform, Fullan (1993) has been instrumental in bringing focus to the concept of teacher change. Multidisciplinary theories related to change provide a more concrete understanding of how the principles of change are realized. Research in the area of transformative learning and change is rooted in the premise that the moral purpose and emotional dimensions of individual teachers is the foundation for change within individual and cultural contexts (Hargreaves & Fullan, 2009; Zembylas, 2005; Cranton, 1994; Mezirow, 1991).

Additionally, there are growing bodies of literature addressing the emotional dimensions of teaching and learning (Dirkx, 2001; Garner & Waajid, 2008; Hargreaves, 1998; McCombs & Marzano, 1990; Van Veen & Lasky, 2005; Zembylas, 2004, 2005), the role of critical thinking in facilitating learning, and the indicators of critical thinking dispositions in teachers (Glaser, 1941; Siegal, 1988; McPeck, 1984; Brookfield, 1995; Facione, 1990, Facione & Facione, 2007). Qualitative and quantitative evidence strongly suggested that emotion is interlinked to thinking (Zembylas, 2007; Illeris, 2003; Cranton, 1994). Before research advances in the areas of professional development, instructional ecology, pedagogy, and interactions pertaining to early childhood education, it is necessary to examine the interactions between the intrapersonal attributes of teachers that provide insight into the relationships between emotions, critical thinking dispositions, receptiveness and willingness to change.

Theoretical Framework

According to Smith (1999), a lack of thought pertaining to the collective processes of learning inevitably creates an insolvency of education. Therefore, attention must focus on the theoretical basis of emotion, learning, teaching and change. A socio-constructivist framework of philosophical, sociological, psychological and educational theory provides the basis for the model presented and analyzed in the proposed study. Research substantiates that emotion is linked to feelings, thoughts and behavior (Frijda, 1986) and that learning is complex (Illeris, 2003). A synthesis of numerous theories support that learning is an integrated process (Darling-Hammond & Bransford, 2005; Illeris, 2003; Mezirow, 1991) which is strongly rooted in one's emotions (Dirkx, 2001; Nias, 1996; Schutz & Pekrun, 2007; Zembylas, 2004). The fields of education and

psychology are rich with theories that have attempted to describe how people learn and why. This review of selected theory describes philosophical guidance, Ecological Theory and Transformative Learning Theory; each necessary to provide a foundation for exploring the interplay among emotional understandings, critical thinking dispositions, receptiveness to new learning and willingness to change.

Philosophical Basis

John Dewey (1938) stated that any theory and related practices are problematic if not founded in critical analysis of essential principles. It is through examination of underlying ideology that problems and questions may be identified allowing for discovery of connections that exists within phenomena and between theory and reality. From this philosophical perspective, Dewey provided a well-thought perception of the factors that function in the formation of individual experiences and their manifested outcomes.

John Dewey (1938) addressed a broad range of thoughts. Yet the seminal interrelatedness of his philosophy, theories, and principles were ever present in his conceptual views of the relation between theory and practice (Archambault, 1964). Though it is believed by many that the substantive nature of Dewey's educational theory and principles must be understood within the framework of his comprehensive philosophy, this synthesis will focus on the general overview of the theory of education and pertinent principles which tie to the topic at hand.

The combination of Dewey's philosophical, psychological, social, political and educational thoughts provided an informed and relatable discussion of teaching and learning. Dewey believed that there was a direct connection between experiences,

collective and individual, and education. Philosophical guidance for the education of individuals was provided in the realm of comparisons of paradigms and practices.

Dewey's theory of education was based in what he referred to as "experimentalism."

Numerous implications for education were derived from this foundation. Specifically, Dewey emphasized the importance of experimentation, experiences, and meaningful learning in intrapersonal and social contexts. Dewey believed purposeful learning is the application of knowledge in real life experiences rooted within each individual. Further, it requires educators to activate intelligent reciprocal learning. It was believed that in order to enhance knowledge, individuals need to foster critical thinking. Dewey deemed that "every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after" (1938, p. 35). In the theory of experience, Dewey emphasized that appropriate education is contingent upon meaningful experiences. Growth is viewed as a combination of physical, intellectual and moral attributes. Thus, the principle of continuity was described as the manner in which the quality of experiences influence the "way in which the principle applies" (1938, p. 37).

Dewey (1938) stated that education and educative experiences are not to be assumed as equal. Dewey, with a confident perspective of education, once stated, "what we want and need is education, pure and simple, and we shall make surer and faster progress when we devote ourselves to finding out what education is and what conditions have to be satisfied in order that education may be a reality and not a name or slogan" (1938, pp. 90-91). This philosophical perspective ultimately serves to guide research as critical analysis of interrelated ideology pertaining to transforming teachers is identified.

Transformation Learning Theory

While Dewey's theories provided a philosophical foundation, psychological and sociological perspectives on adult learning and change provide a theoretical foundation for the present research. Mezirow's Transformation Learning Theory (1991), stemming from constructivism theory, provided a seminal theoretical framework for understanding teacher learning and teacher change. In order to facilitate the transformation of knowledge, one must change. Yet, change is complex (Fullan, 1993). According to Mezirow (1991), "transformative learning is the process of effecting change in a frame of reference" (p. 74). While Mezirow's work initially focused on rational cognitive process, current revisions and related research address the emotional dimensions of learning (Taylor, 2006). Transformative Learning Theory acknowledges that individuals formulate interpretations and subsequent actions based on personal and collective purposes, beliefs and perceptions, while considering the emotions of others (Imel, 1998). This theory attempts to comprehensively explain the complexity of how individuals interpret and create meanings that result in rational and emotional changes (Mezirow, 1991; Imel, 1998; Taylor, 2006).

Transformation Learning Theory addresses two types of learning: instrumental and communicative. Instrumental learning stems from behaviorism approaches and entails the ability to learn through manipulating individuals and one's environment, problem-solving, and examining cause-effect relationships in various contexts (Mezirow, 1991). According to Habermas (1981/1984), instrumental learning is a companion to communicative learning. Communicative learning involves how individuals use

knowledge to construct deeper understanding and thus act in varying contexts essentially reflecting and communicating their needs and feelings (Mezirow, 1991).

Transformative Learning Theory is represented in three phases: critical reflection, reflective discourse, and actual actions. According to Taylor (2006), these phases correspond with three dimensions of transformation: psychological, behavioral, and convictional. The psychological dimension involves one's understanding of self; one's ability to critically reflect. The behavioral dimension refers to changes in one's actions. The convictional dimension is described by Mezirow as reflective discourse and one's modifications to personal belief systems. Taken collectively the central concepts of Transformative Learning Theory are the elements of individual's meaning schemas and perspectives, their meaning structures, and emotions and experiences that reform one's habits of mind. This universal model of adult learning reflects that change is both a personal experience and a learning process that serves to facilitate meaningful growth (Cranton, 1994).

Ecological Framework

An individual's ecological system represents a complex integration of emotional and cognitive processes as explained by theories of learning. Learning, which serves to foster development, is an interplay of processes that are socially interactive (Illeris, 2003). In order to understand fully the variables that influence and define one's instructional ecology, there must first be an understanding of the complementary and perceptive positions of the ecology of human development. Ecology in the social sciences, particularly the professional field of education, is a relatively new area of research. The concepts of instructional ecology and emotional ecology are derived from

the bioecological framework but more directly linked to the ecological theory (Zembylas, 2005, 2007).

According to Crain (2008), human ecology involves the study of an individual's surroundings and the effects they have on others. The concept of an ecosystem is central to the study of ecology and serves in the proposed study as a framework to facilitate an understanding of preprimary teachers and the systems that influence their emotions and knowledge. Urie Bronfenbrenner (1979) believed that a person's behavior is a function of their traits and abilities within the context of their environment. He further contended that it is the interaction of traits with the environment that explain a person's behavior (Crain, 2008). Bronfenbrenner (1979) suggested that an individual's "nested" ecosystem could be analyzed on four levels that serve to identify and explain development and interactions. At the core of the ecosystem, referred to as the ontogenetic system or internal structure, is the individual. The first influencing level, the microsystem, involves direct interactions with dominant individuals in one's life. The second level, the mesosystem, is described by the interactions and interrelations of other microsystems. The exosystem refers to variables that are not directly interacting with an individual but yet have indirect effects on the preceding levels. Last, the macrosystem describes the overall cultural context and overarching variables in which the other systems are encircled (Crain, 2008).

Bronfenbrenner's (1979) theory provides foundational principles that allow for enhancing knowledge of instructional ecology and the variables that influence a teacher's emotional understandings and experiences. Understanding the foundation of Bronfenbrenner's theory provides a structure in which to conceptualize variables and

their respective ecological influence on the interactive process of learning. It is important to note, the influences often furthest from the individual frequently affect levels closest to the learning environment. At the same time, levels closest to the individual's ontogenetic system have the potential to shape outlying levels (Crain, 2008). Some of the variables immediately encompassed in this internal structure include one's personality, emotional attributes, knowledge, skills, motivation, and beliefs (Shapiro, 2004).

Ecological theory is directly referenced in the proposed study in an attempt to derive practical interpretations and guidelines for conceptualizing a model that focuses on understanding the patterns of development and the latent variables closest to one's ontogenetic make up. Bronfenbrenner's Ecological Systems Theory provides a means for examining development while considering the multifaceted relationships that influence the individual.

The three distinct but complementary theoretical perspectives presented provide an overarching premise in which to situate this study. Based on these foundations, this study offers a conceptual model through which to test hypotheses regarding potentially high, positive relationships between emotional understandings and critical thinking dispositions, unique to personal contexts, as prerequisites for receptiveness to new learning and thereby willingness to change. As Wertheimer (1938) once stated as a principle of Gestalt theory, the whole is greater than the sum of its parts. Yet to visualize and meaningfully impact the whole of early childhood education, one must further analyze the foundational parts.

Statement of the Problem

According to Zembylas (2005), research in the influence of emotion, including emotional ecology, has been examined very little in the educational literature. However, an investigation of related literature reveals repeated inferences, both direct and indirect, to the impact of emotions on all aspects of teaching and learning (Darling-Hammond & Bransford, 2005; Dewey, 1938; Fullan, 1993; Hargreaves, 1994, 1999, 2001, 2003, 2005; Illeris, 2003; Nias, 1996; Van Eekelen, Vermunt, & Boshuizen, 2006; Van Veen & Lasky, 2005; Vygotsky, 1967/2004; Yeh, 2002). More specifically, extensive research conducted by Hargreaves (2000) examined the emotional practice of teaching. Results suggested that teachers are “emotional practitioners” (p. 812) and thus influence their own experiences and those of children in positive and negative ways. Zembylas (2007) argued that one’s emotional ecology shapes not just how teachers are and how they learn, but how teachers act.

Research in the area of critical thinking and education, generally focuses on children (Paul & Elder, 2002). Yet, it is established that in order for teachers to teach critical thinking skills, they must first exhibit the ability to think critically themselves (Dewey, 1910; Marzano, 2007; Glasser 1941). As a result of considerable attention on the role and identity of teachers in general, much progress has been made in identifying dispositional attributes associated with effective teaching and critical thinking (Darling-Hammond & Bransford, 2005; Glaser, 1941; Facione & Facione, 2007) that recognize the importance of both cognitive and emotional dimensions of professional knowledge (Zembylas, 2007).

Despite this progress, there remains growing discrepancies in numerous aspects of the literature focused on the interrelationships of affective, cognitive and behavioral processes involved with teaching and learning (Zembylas, 2005). In educating children, the foundation and beginning premise is that each child is unique and constructs meaning accordingly. Yet, according to a synthesis of empirical research reported by Darling-Hammond and Bransford (2005), teacher educators and trainers do not typically practice what it is consistently recommended in the literature pertaining to adult learning. Sufficient empirical research and consensus in the research related to emotional antecedents of teachers dissipates when the topic shifts to how to properly impact the professional growth of teachers so they may sustain quality teaching practices (Hargreaves, 2000). According to the report by the National Academy of Sciences (National Research Council, 2000), “Much of what constitutes the typical approaches to formal teacher professional development are antithetical to what research findings indicates as promoting effective learning” (p. 204). The authors of this report also state that many learning experiences for teachers are inappropriate from the perspective of the learner.

Limitations in the application of theory and contributions, in the context of the current reality of issues pertaining to sustainable change in preprimary teacher quality and training, stem not from a lack of theoretical substance but rather from a lack of underlying understanding, generalization and application (Tout, Zaslow, & Berry, 2006). According to the report by the National Academy of Sciences (National Research Council, 2000), individuals’ ability to transfer what has been learned is dependent upon several factors. These factors include acknowledging teachers’ beliefs about their roles,

acquiring a foundation of initial learning that can support the transfer of knowledge, focusing attention on how teachers use their time practicing new concepts learned related to teaching, exposing teachers to learning experiences which emphasize enhancing understanding, presenting the basis for gaining knowledge in a variety of contexts while respecting prior experiences, offering multiple opportunities for teachers to construct solutions for real world classroom problems, and facilitating the transfer of understandings and practices recognizing that learning is an active process (Mezirow, 1991; Nias, 1996; Illeris, 2003; National Research Council, 2000). The main factors not addressed involve recognizing the emotional dimensions of learning and the willingness and ability of individuals to think critically (McCombs & Marzano, 1990; Zembylas, 2007).

Zembylas (2004), through qualitative analysis, discussed the “heightened emotionality” (p. 186) of teachers that contributes to facilitating the emotional dynamics associated with teaching and learning. According to Hargreaves (2000), emotions are consistently indicated as the foundation of teacher’s practices and professional learning.

By exploring the depth of understanding of the underlying variables such as the embedded patterns of emotions and paths by which preprimary teachers construct meaning in facilitating emotional and cognitive growth, research may be enhanced. Though the demographic descriptions of preprimary teachers are widely indicated (Kagan, Kauerz, & Tarrant, 2008), what is only vaguely discussed in the professional literature are the relationships between cognitive knowledge and emotional dimensions (Zembylas, 2007). This issue suggests a need for further empirical research. A foundation for future research is rooted in the previously discussed theories derived from

sociological, psychological and educational foundations, in the context of applicable philosophical recommendations.

Though the model presented in this study is not conceptually unique, an extensive review of the literature revealed limited evidence that explores the interrelated paths between intrapsychological regulation, thinking inclinations and willingness to change. Empirical evidence establishing the interrelationships between emotional constructs and teacher change is lacking from the literature especially in the field of early childhood education (Zembylas, 2007). This insight could serve to inform the means by which we teach preprimary teachers respecting the role of emotional ecology and emphasizing emotional pedagogy.

Purpose of the Study

The primary purpose of this study was to propose an integrated model that addresses the relationships between emotional understanding, critical thinking dispositions, receptiveness to new learning and willingness of teachers to change. This study attempted to confirm relationships among the variables as associated with preprimary teacher learning and practices. It was not the purpose of the study to analyze the outcomes of preprimary teachers' actions or to predict those actions. Rather, the purpose was to analyze the intrapsychological and interpersonal variables that may explain one's willingness to modify their thinking and practices in order to facilitate meaningful interactions and experiences with children. Specifically and based on ecological and transformative theory, this research suggests that emotional understandings are the foundation of one's ability to think critically: that one's

dispositional attributes toward critical thinking are directly associated with individual's receptiveness to new learning and ultimately, their willingness to change.

Research Question

The study explored the following research question:

Is there a relationship between preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning, and willingness to change?

Hypotheses

In order to explore this research question, the following research hypotheses were proposed:

H₁: Emotional understanding has a positive direct effect on willingness to change.

H₂: Emotional understanding has a positive indirect effect on willingness to change through critical thinking dispositions.

H₃: Personal attributes, defined as years of teaching experience, education level and annual hours of professional development, have a positive direct effect on critical thinking dispositions.

H₄: Critical thinking dispositions have a positive direct effect on willingness to change.

H₅: Critical thinking dispositions have a positive indirect effect on willingness to change through receptiveness to new learning.

H₆: Receptiveness to new learning has a positive direct effect on willingness to change.

Limitations

The limitations in this study are associated with a realm of variables, some of which could have been avoided, some of which were completely unforeseen, and some that merely deserve acknowledgment. As such, there are eight identified limitations of

this study: potential response distortions, reluctance of participants, the element of time, lack of items scores for one instrument, problems with the latent variable of personal attributes, a lack of incorporation of social and cultural considerations, the scope of the population, and the number of participants. The following discussion addresses the conditions for each limitation.

The first recognized limitation pertains to response distortions often associated with self-report instruments. As indicated by Bedwell (2003), these distortions can either be intentional or unintentional and are contingent upon whether one's perception is an accurate representation of their actual beliefs and actions. While beliefs can be identified as antecedents to emotions (Frijda, Manstead, & Bem, 2000), there exists the uncertainty as to whether participants in this study (as in any such study) answered truthfully or whether they responded as they thought they should. Instructions provided to participants encouraged honest inclinations to the prompts provided. However, there remains the possibility that some responses may have been distorted. One attempt to address this by the researcher was to include the emotional understanding impression management index, obtained from the Emotional Judgment Inventory, which represented a measure of one's socially desirable responses within an expected range based on actual item responses.

Given that reflection is an essential component associated with one's responses to the instruments utilized in this study, many participants opted not to participate once involvement requirements were presented. While the study was not directly limited by some of the participant's option, conclusions may have been. It is plausible that those not willing to engage in reflective activity, an essential element associated with the variables,

their input may have altered to some degree the findings. As such, inquiry into the participant's reluctance to participate may have served to inform a qualitative component not addressed in this study. A more simplistic limitation associated with participant reluctance was the element of time. Some participants chose not to participate because involvement in this study required forty-five minutes to an hour of personal time. Even though participants in this study received a certificate of one contact hour of professional development due to the reflective nature involved in data collection, some still chose not to participate. Therefore, the length of time it took to administer the instruments may have limited the study.

Another limitation associated with this research is that actual item scores were not available for the California Critical Thinking Disposition Inventory. The use of scaled scores could have contributed to the misfit of some of the data in the measurement model. Had the research obtained item scores, the researcher could have used a different parceling strategy (how items are put together) or could have better identified items that were problematic through exploratory factor analysis.

This study was delimited by the fact that it did not examine the cultural contexts of preprimary teachers' emotional understandings but rather only included situational work and experience attributes. As it will be discussed in the findings, the construct of personal attributes proved to provide no significance to the study. There is actually the possibility that the findings were limited as evidence that the TFI and CLI model fit statistics were low. As a result of the non-significant relationship between personal attributes and critical thinking dispositions, this latent variable was removed from the structural model during subsequent analysis.

A delimitation that manifested as a plausible limitation was that some of the variables that were not controlled for in this research involving the existing independent variables include the culture of participants, range of teaching experience, motivation, previous personal educational experiences, and actual classroom teaching quality. It is unknown how these factors may have influenced the research findings.

Finally, the scope of this research was directly limited to examination of the variables with preprimary teachers. Though this was the intended population, research findings must be generalized with caution. Related, model comparisons among populations of preprimary teachers could not be conducted due to the limited number of participants. However, the overarching premises of what the results yielded does provide a foundation for generalizations of the implications.

Delimitations

This study is delimited in the following ways:

1. The study did not evaluate the actual classroom or interactional practices of teachers.
2. The study did not evaluate the developmental and learning outcomes of children.
3. The study was limited to a sample of preprimary teachers in one state.
4. The study did not attempt to predict which emotional and critical thinking dispositional attributes correlate with the interactional or learning outcomes of preschool aged children.
5. The study was limited to self-reported responses of the instruments and questionnaire.

6. The study does not examine the cultural contexts of preprimary teachers emotional understandings only the situational work and experience contexts are considered.
7. The variables that confound and are not controlled for in this research involve the existing independent variables of culture of participants, range of teaching experience, motivation, previous personal educational experiences, and actual classroom teaching quality.

Assumptions

There are several assumptions underlying this study. These assumptions are grounded in the professional literature which will be fully explored in Chapter Two. The assumptions are as follows:

1. The need for qualified preprimary teachers exists.
2. Quality staff development is necessary to facilitate meaningful learning for teachers.
3. Despite a typically lower educational level than of teachers of older students, preprimary teachers are capable of providing meaningful learning experiences.
4. The established validity of the instruments used in this research allows for appropriate analysis of the proposed model.

Definitions of Key Terms

Critical Thinking - as defined by Glaser (1941), involves the ability to demonstrate persistent effort to examine knowledge and beliefs and encompasses logical skills and a dispositional attitude to approach problems recognizing often unrevealed assumptions that are grounded in one's intrinsic experiences.

Dispositional attributes toward critical thinking - refer to one's willingness, inclinations and perceived ability to think critically (Facione & Facione, 2007).

Emotional Understanding - according to Denzin (1984), "is an intersubjective process requiring that one person enter into the field of experience of another and experience for herself the same or similar experiences experienced by another. The subjective interpretation of another's emotional experience from one's own standpoint is central to emotional understanding. Shared and shareable emotionality lie at the core of what it means to understand" (p. 137)

Preprimary teacher - refers to the population of teachers that currently teach three to five year old children. These teachers presently are not required to hold state educator licenses in the state of Mississippi. While some have acquired Associate Degrees in Child Development or a CDA certificate, the majority of preprimary teachers possess only a high school diploma.

Preschool children - refers to those children between the ages of three and five that are enrolled in childcare settings, Head Start or private educational settings. According to current statistics provided by Mississippi Department of Human Services, Office for Children and Youth and the Mississippi Department of Education, 80% of four-year-old children in the state of Mississippi are enrolled in one of the three defined programs and are under the care and education of a preprimary teacher.

Receptiveness to new learning - considers one's eagerness and openness to seek and receive new ideas and information (Van Eekelen, Vermunt, & Boshuizen, 2006). In this study, one's receptiveness to new learning is frequently used synonymously with openness.

Willingness to change- a broad inference to one's psychological state and ability to consider various perspectives and indicate a commitment to change for their own personal growth and for the benefit of others (Van Eekelen, Vermunt, & Boshuizen, 2006; Mezirow, 1991).

Summary

The majority of research in the area of early childhood education focuses on child development, environmental considerations, educational materials, pedagogy, interactions, methods of professional development, and topical areas of training for preprimary teachers (Kagan, Kauerz, & Tarrant, 2008). Limited research has focused directly on the interrelationships between emotions, critical thinking attributes of teachers, receptiveness to new learning, and willingness to change, both their thinking and practices when necessary (Zembylas, 2007; Nias, 1996). If the aim is to meaningfully impact quality early childhood preschool experiences and provide germane training, a deeper analysis of the attributes and quality of preprimary teachers must be conducted (Tout, Zaslow, & Berry, 2006). Further, a focused examination of the interplay of emotions involved with teaching and learning and the embedded patterns of meaning making that exist is needed (Sansone & Thoman, 2005). This study sought to explore and confirm relationships among willingness to change, receptiveness to new learning, critical thinking dispositions, and emotional understandings that may be generalized and contribute to an understanding of the ontogenetic development of preprimary teachers.

This chapter presented a brief synopsis of factors associated with those that were examined in the study. Philosophical, psychological, sociological and educational

theoretical foundations were presented that, when merged, provide the premise for the conceptual model presented. The research reported by Zembylas (2005, 2007) suggests that studies should focus on exploring the relationships that exist between emotion, thinking, receptiveness to new learning and willingness to change. Chapter II of this study presents an exhaustive literature synthesis of the variables associated with this research. In Chapter III, the research design and methodology are thoroughly addressed. A complete presentation of the statistical analysis is provided in Chapter IV, and Chapter V discusses the findings and implications of the research conducted.

CHAPTER II

REVIEW OF THE LITERATURE

Ecological systems represent an integration of cognitive and emotional processes and are helpful to consider when thinking about how individuals learn and change. Transformation Learning Theory (Mezirow, 1991) provides a foundational understanding of adult learning, a goal for meaningful and sustainable change, and a backdrop for examining, with greater depth, commonalities between the dominant forces that influence learning and change. To further explore the relationships presented and analyzed in this study, a review of literature is presented to describe the importance of quality early childhood teaching. Next, perspectives and statistics pertaining to the diverse population of preprimary teachers will be described in the realm of current research in early childhood education. Directly associated with preprimary teachers, considerations of teacher identity are discussed as well as research pertaining to professional development. Within the context of understanding how teachers learn, theories of adult learning and developmental trajectories of teacher growth are presented. Research pertaining to willingness to change and receptiveness to learning will be offered in the context of the complexities of change. Next, this review of selected literature will chronologically report seminal research related to critical thinking with a discussion of dispositional attributes of critical thinking. A chronological synthesis of seminal research in the area of emotion is offered as a foundation for narrowing the topic from emotional intelligence, to the role of emotions in teaching, to discussion of what constitutes emotional understanding. After the interplay of emotional and critical thinking facets are presented, the research presented in this review connects the path of variables back to the desired

outcomes of transformative learning and teacher professional growth associated with effectively impacting change in preprimary teachers.

Teacher Quality Matters

Teaching is a complex, unpredictable, and integrated endeavor (Kennedy, 2006; Darling-Hammond, 2006; Fullan, 1993; Nias, 1996; Cranton, 1994). Therefore, it is important to think not just about teaching quality and what defines it but rather to think about teacher quality and its impact. The initial purpose of this review of selected literature is to discuss the global characteristics which may describe why some teachers are more effective and to reaffirm that quality early childhood education teaching matters; for this is an essential component in the equation of creating meaningful learning experiences for teachers and ultimately impacting positive outcomes for preprimary children. The following empirical studies provide scaffolding evidence to support the significant need for quality preprimary teachers.

Quality teaching has been studied and discussed in the professional literature for quite some time (Darling-Hammond, 2006). Many studies have examined the relationships between teacher training, teaching practices, and student achievement and have further attempted to quantify the general characteristics of quality teachers (National Association for the Education of Young Children, 2009; Darling-Hammond & Bransford, 2005; Marzano, 2007; Hargreaves, 1998; Hamre & Pianta, 2001). Research indicates that quality teaching is evident when there is a balance of pedagogical knowledge, content knowledge and certain personal attributes of individual teachers (Darling-Hammond & Bransford, 2005; Marzano, 2007; Zembylas, 2007). In 2007, Tomlinson and Germundson stated that great teaching blends educational techniques, cultural styles and

theoretical applications. While many theories have shifted focus from the traditional role of teachers to children as learners, the results of a study by Weimer (2002) confirms that the quality of teachers' attributes and how they teach is still important; that those characteristics and actions impact children in terms of interactions and learning.

Though great debate exists over the notion of whether good teaching can truly be defined (Darling-Hammond & Bransford, 2005), much research has established the effects of quality teaching on learning outcomes for children (Marzano, 2007). Nye, Konstantopoulos, and Hedges (2004) conducted a study involving 42 Tennessee school districts and 79 elementary schools. In this study, students were randomly assigned to classes in lower elementary grade. The researchers controlled for the factors of teacher-student ratio; class size; the students' ethnicity, gender, socioeconomic status; and previous achievement. Teachers were then rated based on effectiveness. According to the researchers, teacher effectiveness included teacher education level and years of experience. Differences in students' previous and present achievement were also considered in determining teacher effectiveness. The researchers categorized teachers as follows: a 25th percentile teacher was indicated as not very effective (minimal experience, education, and low gains in student achievement); a 50th percentile teacher was considered average; 75th percentile teachers were indicated as effective; and 90th percentile teachers were categorized as very effective based on the variables that defined effectiveness in the study.

The prominent findings of the study conducted by Nye, Konstantopoulos, and Hedges (2004) revealed that student achievement gains were directly related to the effectiveness of the teacher. Specifically, students who had a teacher who was rated in the

75th percentile in terms of effectiveness scored one-third of a standard deviation higher in reading and half a standard deviation higher in math than students who had an ineffective teacher (defined as one rated in the 25th percentile). Comparisons between students who had a very effective teacher (90th percentile) and those with an average teacher (50th percentile) showed that students of the very effective teachers averaged approximately one-third of a standard deviation higher than peers on the assessments used.

Related to this study, Early, Maxwell, Burchinal, Bender, Ebanks, Henry, Iriondo-Perez, et al. (2007) examined high quality preschool education across the United States. The researchers compared data from seven related but independent studies supported by the Institute of Education Sciences, U.S. Department of Education, the National Institute of Child Health and Human Development, and the National Center for Early Development and Learning, the researchers analyzed the relationships between teacher's education, classroom quality, and child outcomes in terms of academic skills. The complex study yielded mixed results. Specifically, linear associations between higher teacher education levels were found with higher quality classrooms. However, there was limited evidence supporting the relationship between teacher education level and four year old children's academic skills when controlling for previous child skills and teacher demographic information. In conclusion, this meta-analysis did not yield consistent evidence across studies that supported the direct association between teachers' education, classroom quality and child outcomes. The inconsistencies in this research were attributed by the authors to three primary factors: the possibility that preparation programs failed to adequately educate teachers, an inability to control the variance in teacher preparation and professional development programs, and the studies

underemphasized and had a lack of consideration for the importance of teacher-child relationships. Early and colleagues suggested guidance for future research and offered evidence that when consistent qualities of effectiveness aligned, high quality teachers substantially influenced the academic progress of children.

Research specifically in the area of preprimary early childhood education further supports this finding with substantial studies emerging in the literature that provide evidence of the impact of quality teaching and seek to identify characteristics that ultimately impact the outcomes for young children. Gerber, Whitebrook and Weinstein (2007) analyzed 41 Head Start teachers in a study examining the ecology of teacher characteristics and sensitivity as predictors for quality early childhood experiences. Specifically, combinations of contextual influences that facilitate or hinder teachers were explored including both programmatic factors (accreditation status and program quality) and teacher attributes (training, depressive symptoms, economic status, and social supports). The results of this study revealed that teacher and setting characteristics were dominate predictors of teacher interactions. Further a multiple regression analysis indicated that teacher attributes such as training and perceptions were significantly linked to sensitivity. The quality of work settings also served as a significant moderator on the effects of relationships with children. In summary, Gerber and colleagues provided evidence that teacher characteristics must be considered within the emotional and environmental ecologies that influence the early childhood education setting.

Hsueh and Barton (2005), through qualitative analysis, examined 248 early childhood educators including preservice teachers, childcare providers, and Head Start teachers. The purpose of their study was to explore the assumption that though this

population of educators shared professional dimensions such as knowledge and professional experiences, the educators' cultural perspectives of the role of early childhood teachers differed. Participants in the study were shown a video as part of a professional development activity and then were asked to respond to three belief questions: Why should society have preschools?; What are the most important things for children to learn?; and What are the most important characteristics of a good preschool teacher? One hundred and three respondents of the third question indicated that teachers must be understanding and enjoy children. Analysis of the results showed no significant difference between the classification of teachers and their beliefs pertaining to what constitutes a good teacher. Though the majority indications of understanding and enjoyment found in working with children were predominant, Hsueh and Barton noted that from a cultural perspective, key qualities and dispositions are universal to good teaching that positively impacts children. The study also suggested that teachers' own beliefs are indispensable as a foundation in broadening and promoting professional behaviors.

Pianta (1999) and Pianta et al. (2005, 2008) have studied extensively the relationships between teacher- child interactions and child outcomes. More specifically, a study conducted by Pianta, Howes, Burchinal, Brant, Clifford, Early, and Barbarin (2005) revealed that quality is largely associated with observable teacher characteristics involving a blend of social, emotional, physical, and instructional elements directed towards interactions with young children. As Tomlinson and Germundson (2007) have stated, "Real teaching is the servant of real learning" (p. 28) and real learning must be

facilitated by highly qualified individuals capable of positively impacting young children (Gerber, Whitebrook, & Weinstein, 2007).

The research conducted by Nye, Konstantopoulos, and Hedges (2004), Early and colleagues (2007), Gerber, Whitebrook and Weinstein (2007), Hsueh and Barton (2005), and Pianta, Howes, Burchinal, Brant, Clifford, Early, and Barbarin (2005) provides evidence and affirms that quality teaching matters and it is important to think about the impact that preprimary teachers have on young children. In 2007, Haskins and Loeb published *Future of Children Policy Brief* synthesizing empirical studies on effective teaching and connections between teacher quality and student achievement. This comprehensive brief concluded that research on teacher quality is consistent in providing compelling evidence that the quality of the teacher is the greatest predictor of teacher effectiveness as measured by student academic growth (Sanders, 2000). Further, the research collectively supports the assertion that teacher quality is directly linked to individual teacher attributes (Hargreaves, 2000, 2003; Pianta et al., 2005).

Perspectives and Statistics Pertaining to Preprimary Teachers in the Context of Early Childhood Education Research

A large body of professional literature and scientific research has called attention to the field of early childhood education (Early & Winton, 2001). This focus has fueled efforts to inform and improve both the quality of early learning experiences and the quality of the early childhood workforce. Kagan, Kauerz, and Tarrent (2008) stated that professional recognition is necessary of the dynamic diversity of preprimary teachers and have synthesized a multitude of demographic information and research that provided an in depth account of who this population represents. The Bureau of Labor Statistics (2009)

reported that in 2004 approximately 94.5% of the 1.3 million childcare workers were women. While a high number of these workers leave the profession every year, the Bureau of Labor Statistics predicts an 18% increase in this workforce between 2006-2016; a rate faster than other occupations. According to the National Association of Child Care Resource and Referral Agencies (2009), only 55% of preprimary teachers have some college education. Specifically, 44% have the equivalent of a high school diploma or less, 38% have some college education, and only 17% percent are college graduates. It is also reported that 36 states have no requirements for childcare providers to complete specialized training prior to working with young children. Demographically, 18% of the childcare workforce is African American or Black and 16.5% are of Hispanic origin. As of May 2006 the median National salary was \$17,630 (Bureau of Labor Statistics, 2009). The Children's Defense Fund (2009) reported that 4.3 million children attend preschool in the United States and Head Start serves over 1 million of these children.

In Mississippi, 85% of four-year old children are currently enrolled in some form of preschool or childcare and there are presently 1,692 licensed childcare centers with preschool programs. The average wage for a childcare preschool teacher in Mississippi is seven dollars an hour (National Associations of Child Care Resource and Referral Agencies, 2009).

Recognizing the diversity of variables (education level, socioeconomic status, wages, and years of teaching experience) impacting quality early childhood teachers, Kagan, Kauerz, and Tarrant (2008) synthesized research pertaining to several state and private initiatives aimed at enhancing the early childhood care and education workforce.

For example, it was revealed that more than 22 states have adopted North Carolina's Teachers of Excellence for All Children (T.E.A.C.H.) early childhood model that focuses on workforce enhancement and retention by offering scholarships and increases in compensation for early childhood educators. Additionally, many states are implementing more stringent preprimary employment requirements (Kagan, Kauerz, & Tarrant, 2008). According to the Frank Porter Graham Child Development Institute (2009), professional development efforts are abundantly indicated in the literature and emphasize models that address content, child development, and pedagogy. Numerous state and federal grants provide significant allowances for enhancing child environments and access to developmentally appropriate learning materials as a way of fostering quality teaching. Initiatives and research, such as those briefly synthesized, speak to agreement about the need for enhancing the contextual quality of preprimary teachers' work environments, compensation, and professional development. While a large amount of research focused on quality early childhood education is contextualized in how to promote and retain quality teachers and how to facilitate teacher professional development related to child development and instructional practices that yield desirable child outcomes, there is scant evidence that addresses the underlying dynamics of teaching a diversely qualified population of preprimary teachers how to teach at the level of accountability that is presently required. (Tout, Zaslow, & Berry, 2006).

Hargreaves (2001), Pianta et al. (2005) and Zembylas (2007) suggested that the quality of early childhood education will not meaningfully improve until the research closely examines the quality and attributes of teachers themselves. According to the professional literature, there is a belief that positive changes in teacher learning and

instructional practices will be enhanced when better insights into preprimary teacher perceptions of self are further explored (Kelchtermans, 2005; McCombs & Marzano, 1990; Van Eekelen, Vermunt, & Boshuizen, 2006; Zembylas, 2007).

While not extensive, the reports, research and recommendations described are important when considering needed research efforts focusing on explaining and enhancing the professional legitimacy and quality of preprimary teachers. Historically, this population of childcare providers and educators have possessed very minimal formal training (National Associations of Child Care Resource and Referral Agencies, 2009). Given the realm of diverse qualifications revealed by statistics describing this population of teachers, one is able to appreciate research recommendations that focus on understanding and enhancing the quality of preprimary teachers. Never before has the field of early childhood education received such political and societal support (Early & Winton, 2001). However, an empirically based examination of characteristics that may describe personal attributes and qualities which directly constitute effective teaching in early childhood education remains missing from the professional literature (Darling-Hammond & Bradsford, 2005). As the focus on better preparing young children for formal education has rippled down, an unprecedented level of accountability is now demanded of this quite diversely qualified population of educators (Wood & Bennett, 2000). To support the need for more qualified early childhood educators and providers, emphasis in the current literature is focused on the quality of professional development as it relates to better understanding the identity of educators (Pianta, 1999).

Teacher Professional Identity

Understanding teacher identity, including preprimary teacher identity, is important in further exploring ways to impact changes in actual classroom practices (Hargreaves, 2003; Fullan, 1993). In order to enhance this understanding and to accurately guide research and early childhood initiatives, what is known about preprimary teachers must be examined beyond descriptive statistics (Early & Winton, 2001). An extensive review of the literature revealed scant empirical insight into self-perceptions of preprimary teachers' professional identities. Yet, within the early childhood literature, there is an abundance of research associated with the relationship between developmentally appropriate practice, self reported beliefs and demographic information (Bandura, Barbaraneli, Caprara, & Pastorelli, 1996; Cassidy, Buell, Pugh-Hoese, & Russell, 1995; Charlesworth, Hart, & Burts, 1991; Goodman, 1988). For example, McMullen and Alat (2002) explored the relationship between preprimary teachers' educational background and their expressed philosophical orientations. The study involved 151 participants who worked in a variety of early childhood settings. The teachers' years of experience ranged from one to forty. Participants were classified by educational background. Twenty-nine percent held an associate's degree, a child development credential (CDA), passed a general education development (GED) test, or had a high school diploma. Bachelor's degrees were held by 31.8% of the participants, though 20% of those did not have degrees in a field related to early childhood education. Thirty-nine percent of the participants had graduate degrees. Participants completed *The Teacher Belief Scale* to assess philosophical orientations associated with developmentally appropriate practices. Correlational analysis revealed relationships between the level of

individual's philosophical orientation to the practice of educating young children and education level. Analysis also revealed that preprimary educators with the lowest education levels had significantly lower belief scores pertaining to developmentally appropriate practices.

While McMullen and Alat (2002) explored teachers' philosophical orientations and educational backgrounds providing evidence of the relationship between preprimary teacher beliefs and practices, Cranton (1994) more directly explored understanding teachers' self-perceptions of their professional identities and roles. According to Cranton, the roles that teachers adopted were more directly linked to their perspectives on learning, personal experiences, philosophy of education and perceived dispositions than any other variables. Cranton identified three primary roles that educators most generally associated themselves with: an expert, a facilitator, or a provocateur. Cranton described one's self-perception of power as a critical ingredient that influenced one's identity and perception of the teaching role. Perceptions of power related to one's view of responsibilities and demands within their ecological system. Accordingly, teachers who perceived their job as shaping children's attitudes and behaviors associated much power with their roles. Cranton described two types of power: position and personal. Position power is associated with one's perception of formal authority. In contrast, personal power is associated with respected rather than imposed expertise, affection for others, and personal charisma. Cranton referenced Max Weber (1947) in describing that charisma involves a form of influence based on enthusiasm and deep personal convictions.

Each of the three roles identified were associated with individuals understanding of power (Cranton, 1994). For example, an individual who perceived him or herself as a

subject-orientated expert had an indicated tendency to be authoritarian and use power to control the ecological learning environment. A consumer-oriented facilitator was indicated as one who balances power between oneself and students. Teachers that aligned with this identity or role were said to have a reasonable sense of personal power and see the importance in being authentic and credible. Cranton indicated that expertise may be in one's perceived repertoire of skills. However, the roles of mentor and advocate are often more important to such individuals. Last, an individual who identified with being a reformist or provocateur was one who appreciated their role as a learner and utilized a balance personal power over those that imposed position power. This type of individual saw him or herself as an instrument of change on behalf of children. Further, teachers who self-identified with this role consider the importance of critical thinking, relationships, personal beliefs, learner and personal empowerment as central to their identity. Cranton's research speaks to what is known about teachers in general. Research conducted by Hargreaves (1994), Hargreaves and Fullan (2009), Zembylas (2003), Dirks (2001), Biggs (1999), Yukl (1989), and Mezirow (1991) supported the above descriptions of traits associated with personal and professional identities and allow for a foundation of generalizing what is known about preprimary teachers.

Zembylas (2003), using a post structuralist perspective, discussed the role of emotions in teachers' construction of personal and professional identities. Zembylas argued that teacher identity is contextualized in power relations, cultural experiences, and one's personal ideology. Further, it is stated that identity and emotion are interrelated. Zembylas stated that one cannot address the construction of teacher's identity outside of individual's personal experiences and emotions. According to Nias (1996) most teachers

are highly self invested in their work and are intrinsically motivated and rewarded with feelings of fulfillment. These personal feelings are the source of one's satisfaction with self and can be the source of one's desire to redefine or enhance their actions. In conclusion, Zembylas (2003) believed that the basis of teacher emotions are either the source of resistance associated with one's ontogenetic self, which is the foundation for self-transformation.

Professional development that fosters professional growth is an emerging focus in the empirical literature (Hargreaves, 1999). In a two-year quasi-experimental study involving 750 Head Start teachers, Landry and colleagues (2006) found that positive changes in teacher behavior and effectiveness directly correlated with positive changes in child outcomes. The purpose of their study was to validate a model of teacher interventions and training that addressed social contexts for teacher learning, early literacy content (including teacher content knowledge), pedagogical implementations, and teacher learning styles as they enhanced or inhibited preprimary teachers own learning and the associated outcomes for children. In summary, this study revealed 60 percent of teachers demonstrated growth as a result of personal and professional interventions and training. This corresponded with positive statistical effects on two primary aspects of child outcomes: phonological skills and alphabet knowledge. As compared to the control group, sixty-nine percent of children demonstrated greater gains in the understanding and use of language as facilitated by the target teachers who demonstrated personal growth themselves.

The literature also suggests that the variables of reflection, emotional attributes, personal beliefs, knowledge and pedagogy positively impact the effectiveness and quality

of teachers, including preprimary teachers (Hargreaves, 1998; Darling-Hammond & Bransford, 2005; Early et al., 2007). Though current research in early childhood education recognizes the vital interrelationships of the dynamics affecting the early childhood professionals and outcomes for children, there is a gap in the empirical research addressing the depth of interpersonal attributes of individual teachers that contribute to the success of such endeavors as professional development, learning communities, enhancing teacher qualifications, and ultimately, child outcomes (Hargreaves, 2003).

Research pertaining to teachers' professional identities, as described by Cranton (1994), Hargreaves (1999, 2003) and Zembylas (2003), provides evidence that the foundation for quality teacher practices and teachers' learning is related to teachers' perceptions of self, perceived power, and purpose. What is revealed through these studies about teachers in general provides a basis of understanding preprimary teachers in particular. Landry and colleagues (2006) provided evidence of the significant relationship between preprimary teachers' personal growth and the enhanced experiences they provided for children. According to Kagan, Kauerz, and Tarrant (2008), more research is required that specifically examines the underlying dynamics and facets associated with teacher performance and learning.

Teacher Learning

“The willingness and capacity for lifelong learning, which we expect from our children, should also be reflected in our teachers” (Kwo, 2004, p. 281). Since the late 1990's there has been a revitalization of interest in learning theory and application. This has been most prominently indicated in the literature pertaining to adult learning (Taylor,

2006; Tout, Zaslou, & Berry, 2006; Shulman, 1988; Marzano, 2007; Kwo, 2004; Mezirow, 1991). Most current concepts and theories related to learning no longer merely focus on pure knowledge and skills, but now seek to explore relationships between the emotional, social, and cognitive dimensions of learning. While constructivism remains the most commonly referenced foundation, broader theories of learning seek to address the complexities of learning in today's global world (Illeris, 2003).

Illeris (2003) has presented an emerging comprehensive theory of learning. His extensive research in Denmark has been a response to seeking to answer essential questions applicable to all realms of child, adult, and professional learning and why it is that people do not learn when they feasibly can. Illeris proposed that learning entails two wholly different processes. The first process involves external influences that consider social, cultural and material influences. The other process involves interpsychological dimensions within individuals. Illeris believed that active engagement of both processes within one's ecological system is necessary for learning to occur. The heart of this theory described the interrelationships and interdependence of three dimensions of learning: social, cognitive and emotional which emerge in four levels. The interplay of these dimensions is expressed as a synthesized blend of existing theories and concepts.

Figure 1 provides a visual representation of Illeris' 2003 conceptualization of the dimensions and processes learning and their relationships.

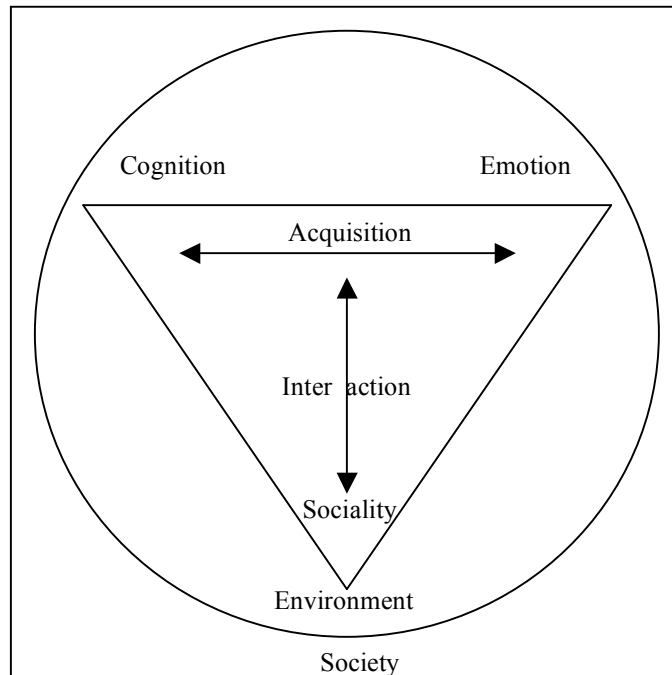


Figure 1. Illeris' Processes and Dimensions of Learning

As presented in Illeris, K. (2003). Towards a contemporary and comprehensive theory of learning. International Journal of Lifelong Education, 22(4), p.400.

Illeris (2003) stated that only when a foundational understanding of their own learning advances can individuals then begin to grasp how learning transforms themselves and others. Illeris saw Mezirow's Transformation Learning Theory as a reflection of the outcome processes of deep learning: learning that impacts the very identity and projected abilities of individuals. Transformative learning thus mirrors changes in the actions and identity of individuals. Essentially, adults transform both their perceptions and practices (Cranton, 1994). According to Mezirow (1991), such transformation is needed to adapt to changes that require true growth.

Using pre and post semi-structured interviews examining exposure to learning experiences, Brownlee, Purdie, and Boulton-Lewis (2003), investigated 29 student

teachers perceptions about their own learning. The research was conducted based on the assumption that individual's conceptions of learning influence how one approaches new learning. Citing the works of Saijo (1979) and Biggs (1999), Brownlee, Purdie, & Boulton-Lewis (2003) identified five hierarchical conceptions of learning: (1) learning is merely to increase knowledge; (2) learning is memorizing; (3) the acquisition of knowledge serves to enhance skills; (4) knowledge builds understandings; and (5) learning is an interpretive process that serves to enhance understanding and is subjective to each personal meaning. Student teachers who conceived learning at a surface level for the primary purposes of context specific acquisition and reproduction of knowledge were associated with the first three levels. Student teachers who conceived learning as personal, reflective and active were qualitatively described as transformative: thereby conceiving the complex interactions of developing meaningful understandings.

Brownlee, Purdie, and Boulton-Lewis (2003) indicated that a majority of the student teachers did not experience changes in their actual knowledge about learning between the pre and post interviews and attributed it to a ceiling effect. A majority of the student teachers recognized the significance of and reported engaging in transformative learning. Consistent with the initial assumption of the study, an underlying condition for student teachers' conscious approach to learning was directly associated with their perceived purpose for learning. When the student teachers conceived the function of learning as reproductive or the content personally un-engaging, they approached learning at a superficial level. However, when they recognized complex connections in learning contexts, indicated a variety of interactive learning strategies, and were personally engaged in making meaning of content, student teachers' transformative knowledge

about learning influenced their approaches. The results are consistent with the associations that Cranton (1994) discussed in relating self-identified roles of teachers and their personal experiences and perceptions of learning.

Recognizing similarities in empirical contributions and numerous theories, a widely accepted theoretical model of teacher training is rooted in the *How People Learn* framework that is summarized in a report by the National Academy of Sciences (National Research Council, 2000). This report provided recommendations “based on the assumption that what is known about learning applies to teachers as well as their students” (p. 190). Three principles that compliment the *How People Learn* framework as presented by Darling-Hammond and Bransford (2005) are:

1. Prospective teachers come to the classroom with preconceptions about how the world, and teaching, works. These preconceptions, developed their ‘apprenticeship of observation,’ condition what they learn. If their initial understanding is not engaged, they may fail to grasp the new concepts and information.
2. To develop competence in an area of inquiry that allows them to ‘enact’ what they know, teacher must (i) have a deep foundation of factual and theoretical knowledge, (ii) understand facts and ideas in a context of a conceptual framework, and (iii) organize knowledge in ways that facilitate retrieval and action.
3. A ‘metacognitive’ approach to instruction can help teachers learn to take control of their own learning by providing tools for analysis of events and

situations that enable them to understand and handle the complexities of life in classrooms. (p. 366)

The comprehensive research conducted by the National Academy of Sciences (National Research Council, 2000) was based on a blend of theories and empirical evidence that recognized the importance of quality learning opportunities. According to the report, training for teachers should involve “well defined goals for learning, beliefs about how people learn that are grounded in theory, and a rigorous academic curriculum that emphasizes depth of understanding” (p. 204). Additionally, the report emphasized that to significantly affect teachers’ lifelong learning and development as professionals; training should represent a range of coordinated opportunities, should not be sensitive to time, should respect individual’s cultural contexts, and should engage in expanding one’s belief systems.

In suggesting a continuum of quality emergence in teachers, Darling-Hammond and Bransford (2005) discuss “not only what teachers learn but also how they use what they have learned to and what effect” (p. 29). The parallels between the foundations of teacher professional development and learning theory are one of the newest areas of research. According to the report by the National Academy of Sciences (National Research Council, 2000), individuals’ ability to transfer what has been learned is dependent upon several factors. These factors include individuals acquiring a foundation of initial learning that can support the transfer of knowledge, focusing attention on how teachers used their time practicing concepts, exposing teachers to learning experiences which emphasized enhancing understanding, presenting the basis for gaining knowledge in a variety of contexts while respecting prior experiences that individuals possessed,

offering multiple opportunities for teachers to construct solutions for real world classroom problems, and facilitating the transfer of understandings and practiced recognizing that “transfer of learning is an active process” (p. 236). The factors parallel the principles for facilitating growth and change as described previously in Mezirow’s Transformation Learning Theory (1991).

The foundation of research relating to quality teaching, preprimary teacher professional identities, and teacher professional development and learning allows for analysis of variables associated with proposed continuums of teacher growth. This basis will be connected to research and theory associated with critical thinking, dispositional attributes of critical thinking and the emotional dimensions of learning later in this review of selected literature.

Developmental Trajectories of Teacher Growth

Research on how teachers learn and apply knowledge to inform their practices provides a foundational knowledge and theoretical framework. Based on Piaget’s theories, Perry (1981) discussed stages of intellectual and ethical development in general. While Perry’s research focused on college students, subsequent studies have substantiated and applied his scheme to various learners including teachers (Belenky, Clinchy, Goldberger, & Tarule, 1986; Biggs, 1999; Darling-Hammond & Bransford, 2005). According to Perry’s model, students “journey” from perceiving the world around them in absolute terms to integrating knowledge.

Perry (1970, 1981) described nine positions grouped into four main categories of characterizing students in terms of intellectual development. The first two positions involve a dualistic view of knowledge, the initial category. First students perceive

everything as right or wrong which is described as basic duality. When students are characterized in the position of full duality, there is the belief that authorities such as teachers know all the solutions. Students tend to cling literally on the messages of teachers. According to Perry (1981), multiplicity, the second category, involves student's realization that there are problems which solutions are known and those whose solutions must be figured out. During this position or stage, research indicated that students form the perception that individuals have conflicting solutions and that different people have different opinions. Because of the uncertainty in the position of late multiplicity, students either retreat to the security of dualistic concrete thinking, where answers are provided, or persevere to the next category of relativism. In this third stage, reasoning methods develop in individuals as they construct. Students appreciate the importance of making informed choices and recognize that context influences outcomes and decisions. The final category encompassed the remaining three positions. It is at this point where students integrate knowledge reflecting individual commitment, challenges to commitments that require individual responsibility, and last "post commitment." This final position finds students with a realization that commitment to learning is an evolving journey.

It is in the final position of development, as indicated by Perry (1981) that students are reflective independent learners and demonstrate dispositions consistent with critical thinking, reflection and positive emotional judgment (Hargreaves & Fullan, 2009; Paul & Elder, 2002; Mezirow, 1991). Depending on the content and contexts, Perry's (1970, 1981) scheme for intellectual and ethical development emphasized that individuals can be in different positions of development simultaneously.

Similarly, there is evidence in the literature of a developmental trajectory for teachers' learning as discussed by Darling-Hammond and Bransford (2005). Weimer (2002) further addressed this concept by citing the work of Piaget (1932/1965) and Biggs (1999). "Like learners, teachers move through developmental stages that reflect how much they focus on students and learning" (Weimer, 2002, p. 14). Research in this area stems from many theories associated with maturation processes, pedagogy, and self-directed learning (Weimer, 2002). The theory of developmental trajectory links broad principles of learning to the concrete applications of teacher practices. Based in concepts from situational leadership models, Grow (1991) proposed a developmental process that reflects a continuum of stages ranging from dependence to self-direction.

Biggs (1999) identified three stages of teacher growth. In this model, at the first level, teachers focus primarily on what students do and react correspondingly. Teachers reportedly do not accept ownership in the potential inefficiencies of their teaching. At the second level, teachers progress to where the focus is on what they do in order to impact student learning. It is in this level that teachers truly fine-tune the pedagogy and management of teaching. The third level represents the teacher's focus on the types of learning experiences that enable students to develop conceptual changes rather than mere acquisitions of knowledge. The teacher's pure focus is on facilitating student learning. In this level teachers engage in meaningful reflection and analysis. This level can be associated with the characteristics Perry's "post commitment" level that was previously described by substantiating that Dewey believed, the "responsibility for selecting objective conditions carries with it, then, the responsibility for understanding the needs

and capacities of the individuals who are learning” including a necessary reflective nature of self (Dewey, 1938, p. 45).

By identifying the embedded patterns of learning that impact the instinctive nature of teachers along a developmental continuum, researchers have been able to recognize the role of reflection, critical thinking and intrapersonal emotions as they relate to both receptiveness and willingness to change (McComb & Marzano, 1991). As implied by the research, the need for reflective growth in teachers is essential in generating enhanced content and pedagogical knowledge (Wood & Bennett, 2000). The developmental trajectories presented (Weimer, 2002; Biggs, 1999; Perry, 1970, 1981), demonstrate how professional learning may be theorized and provides strong inferences to the relationships between cognitive functions and emotional dimensions of learning (Illeris, 2003). Vygotsky (1967/2004) once stated that development proceeds when inter-psychological regulation is transformed into intra-psychological regulation. To create an imprint, per say, on the new learning of a teacher, it is important to recognize that experiences are only receptively received during a teacher’s own critical periods of emotional development (Biggs, 1991; Hargreaves, 1998, 2001; Lorenz, 1981; Zembylas, 2005). Hence the early childhood environment can be changed and research based content training can be provided relatively easily, but it is much more difficult to change the teacher (Hargreaves & Fullan, 2009; Kagan, Kauerz, & Tarrant, 2008). Change, and the motivation to do so, must come from within the teacher otherwise, it is only superficial and does not impact the positive outcomes desired for young children (Hargreaves, 2003; Zembylas, 2007; Fullan, 1993).

The Complexity of Change

As stated by Fullan (1993), Cranton (1994), and Richardson (1998), the foundation of all educational change lies within each individual teacher. Change is a broad concept with references to many contexts (Hargreaves, 1994). The scope of this section of the literature review focuses merely on change as it directly relates to teacher thinking, learning, and actions as connected to one's will to change and receptiveness to new learning. In discussing the substance of change in this context, Hargreaves (1994) recommended that to understand the individual contexts of change, one must examine the interrelationships between contributing factors. Hargreaves further suggested that beliefs and practices have a tendency to interactively and simultaneously change as noted in the previous studies reported pertaining to teacher developmental trajectories (Weimer, 2002; Biggs, 1999; Perry, 1970, 1981) and correlations in the relationships between beliefs and practices (Gerber, Whitebrook, & Weinstein, 2007; Landry et al., 2006; Brownlee, Purdie, & Boulton-Lewis, 2003; McMullen & Alet, 2002). The willingness of a teacher to change is rooted in exposure to new information and experiences, but is also deeply connected to intrinsic factors and processes (Richardson, 1998; Van Veen & Lasky, 2005).

According to Van Veen and Lasky (2005), research involving educational and personal change has generally focused on the cognitive, rational means by which teachers respond to change. They believe that an understanding of teachers' emotions in the change process provides greater insight into the ways that teachers experience change. For example, Lasky (2005) used a sociocultural mixed method approach to explore how secondary teachers' identity influenced the ways they mediated and experienced school

reforms. Specifically, secondary teachers' sense of professional vulnerability was examined. The results indicated that teacher training and social contexts influenced secondary teacher beliefs and perceptions of vulnerability. It was revealed that teacher's vulnerability was associated with either a willingness component or protective component. Secondary teachers's locus of control for experiencing change was indicated as central to facilitating personal mediation, thus their experience with change.

Van Veen, Slegers, and van de Ven (2005) conducted a case study with one teacher in an attempt to understand how an individual's commitment to change is affected during imposed reforms. The results revealed that stress greatly affected the individual's enthusiasm towards teaching. When the reforms coincided with the participants beliefs, individual commitment persevered. In conclusion, the authors commented that the case study demonstrated that multiple aspects of personal and professional dimensions may be influenced by change whether imposed or desired.

Kelchtermans (2005) investigated teachers' narratives and concluded that perceptions of whether change is necessary is intertwined with individual beliefs about what constitutes good practices and are directly associated with an individual's self-understanding. Kelchtermans specifically stated:

(all) would benefit from acknowledging these fundamental complexities in teaching and being a teacher. It would help them to moderate their ambitions to steer and change education and schooling. Teachers' ongoing emotional struggles with demands for change, as well as their thoughtful professional hesitations about these demands (Resistance) may constitute a more 'effective' warranty for 'good education' than their compliance to the policy agendas and accompanying

professional 'self-understandings' they demand. In the end it is the teachers, the woman and men in the classroom, who determine whether good schooling actually 'happens.' (p. 1005)

Nias' work (1996) supported this finding by suggesting that effective teacher's commitment to both their learning and practices are strongly interpersonal and associated with how the teacher sees him or herself and defines his or her purpose. Hargreaves (2001) stated teacher's motivation is rooted in their moral purpose.

Boody (2008) conducted a qualitative study to analyze teacher reflection, teacher change and connections to one's moral obligations. This three-year longitudinal study utilized interviews and observations for data collection. The researcher distinguished contextual phases associated with receptiveness and the practice of reflection: pre-reflection, reflection, post reflection, and critical reflection. The researcher suggested that variances in motivational power, through self-communicated openness, were the stimulants of deep intrapersonal analysis. Boody (2008) concluded that when the prospect of new knowledge and motive originated from compassion, the redefinition of self and desire for new knowledge is born.

Related to the findings by Boody (2008), Fullan (1993) stated, "Scratch a good teacher and you will find moral purpose" (p. 10). To support this Fullan (2001) suggested moral purpose involves a teacher's social responsibility to make a positive difference in self and others. Fullan (1993) has argued that teachers must be agents of change if they are to influence social and emotional contexts of the ecological systems with which they belong. To be an instrument of personal and thus organizational change,

preprimary educators must possess an ethic of care that facilitates their commitment (Vogt, 2002).

Willingness to Change

Related to the intellectually and emotionally fueled dimensions of change, Fullan (1993) and Cranton (1994) stated that teacher's self-awareness of what they are doing, how they see themselves and what they believe are essential for personal and professional growth. Teacher change has the implicit goal of transformative learning. According to Cranton (1994), effective educators possess the will to be an effective learner. McCombs and Marzano (1990) wrote extensively on teacher change. The results of McCombs and Marzano's synthesis spoke specifically to the will of teachers to learn. Based on this premise, Van Eekelen, Vermunt, and Boshuizen (2006) conducted a study involving 28 participants. The assumption that one's will to learn must intrinsically exist before meaningful engagement in learning occurs served as the foundation for the study. This qualitative study used interviews and observations to explore if the oppositional concept of "not learning" could be explained by contextual and personal variables. The research specifically analyzed different patterns of behaviors in experienced teachers. The researchers found a direct association between one's will to learn and the perceived purpose and function of presented tasks and contexts. The results also yielded specific behaviors associated with one's willingness to learn. The manifested behaviors included alertness and attentiveness in recognizing a need to learn, a curiosity rooted in persistence of how to learn, and an eagerness to learn. The identified attributes are consistent with research conducted by Hargreaves (1999) who stated that a will to learn precedes actual learning.

Based on the research described in this section, the concept of one's "will to learn" came to represent one's deliberate psychological state of desire (Van Eekelen, Vermunt, & Boshuizen, 2006). Van Eekelen and colleagues cautioned that findings relating to one's will to learn not be confused with research pertaining to individual's intentions, abilities or preferences to learn. Will manifests as commitment. Hidi (2000) substantiated that this psychological state requires conscious attention, critical thinking, persistence, and emotional engagement.

A will to learn is thought to be essential for teachers to improve effectiveness, and thus sustain change (McComb & Marzano, 1990). Affirming that change is the function of intrinsic purposes and will, Fullan (1993) argued that individuals must possess internal mechanism such as personal vision, a sense of inquiry, and persistence. Given that change is directly associated with anxiety and ambiguity, Fullan (2001) stated that the most effective teachers are the ones that possess a combination of strong emotional attributes and cognitive strengths. Senge (1990) supported related characteristics by substantiating that learning is a process that requires recognition and confrontation of tensions, challenges and anxieties.

This is consistent with Piaget's Theory of Cognitive Development (Piaget, 1932/1965) that indicated disequilibrium is the impetus of growth. For Piaget, change or learning is evidenced by dissonance in new states of being. For educators, the learning process requires that individuals must possess a will to change; have both skills and dispositions relating to self-regulation, thereby being receptive to new experiences; and engage in abstract thinking (Mezirow, 1991).

Van Eekelen, Vermunt, and Boshuizen (2006) suggested that one's will to learn is bedrock to engagement in actual learning processes as supported by Illeris' (2003) comprehensive theory of learning and as suggested in Perry's (1981) schema of professional and ethical development. Key elements derived from Fullan (1993), Cranton (1994), McComb and Marzano (1990), and Hargreaves (1999) suggested that preceding a will to change is one's self-awareness and self-direction as introduced in addressing preprimary teachers' professional identities. Teachers must value the purpose of their own learning and practices. Therefore, a will to change is an essential determinant in whether preprimary teachers are receptive to professional development efforts (McCombs & Marzano, 1990; Van Eekelen, Vermunt, & Boshuizen, 2006).

Receptiveness to Learning and Change

Preceding a willingness to learn is the internal mechanism of receptiveness (Van Eekelen, Vermunt, and Boshuizen, 2006). To distinguish the close relationship between one's receptiveness to new learning and one's willingness to change, Van Eekelen and colleagues elaborated on their previously presented study pertaining to will. It was indicated that one's expression of eagerness to learn links willingness and receptiveness. Further, the researchers suggested that one's eagerness or openness to learn constitutes a separate but preceding manifestation of one's willingness. Research substantiates that an individual must conceive that they are able based on knowledge of self if they are to thus be willing (Facione & Facione, 2007). Such "able-ness" is rooted in self-efficacy research (McCombs & Marzano, 1990). Based on Bandura's (1977) theory pertaining to self-efficacy, there is general consensus that higher levels of efficacy foster the implementation of improved or effective practices because teachers are motivated to

acquire necessary skills (Sutton & Wheatley, 2003; McMullen, 1997, 1999; Malone, 2008). Self-efficacy encompasses the beliefs, previous experiences, attitudes, and emotions that facilitate growth (van den Berg, 2002).

“Able-ness” is directly associated with one’s perceptions of skills and self-determination involving conscious receptiveness to new learning (McCombs & Marzano, 1990). Schwarzer and Greenglass (1999) stated that the most important element of sustainable change is a functionally positive level of self-efficacy and suggested the importance of critical reflection as a foundation for forming self-beliefs. While the general practice of reflection was believed by Dewey (1933) to be an essential element of learning requiring one to analyze experiences through exploring, reviewing, and questioning, Mezirow (1991) defined critical reflection as one’s “assessment of the validity of presuppositions of one’s meaning perspectives, and examination of their sources and consequences” (p. xvi). The ability to engage in the process of critical reflection directly relates to how individuals make sense of themselves, their experiences, and others’ perceptions and actions. This is grounded in an individual’s perception of him or herself and their will to transform their learning (Mezirow & Associates, 1990).

Empirical support describing attributes directly associated with one’s receptiveness to new learning is scarce. While the educational literature is saturated with research addressing teacher efficacy as explored through various perspectives and in association with a wide array of variables (van den Berg, 2002), inferences to characteristics that provide evidence of receptiveness are only vaguely alluded to in the research pertaining to the initiation of new learning.

Indicators of receptiveness to new learning. Cranton (1994) emphasized learner empowerment as an essential component in receptiveness to new learning and critical reflection. According to Mezirow (1990) before critical reflection can be achieved, one must be engaged in reflective action. It is one's initiation of reflective action versus one's habitual non-reflective actions that is a determinant which may be used to assess oneself and seek to analyze and understand people, experiences, and beliefs through different points of view. Cranton (1994) stated that when a person is open to new experiences and alternate perspectives, questions assumptions, and self examines the validity of one's prior learning, the individual is receptive to new learning. In support of these indicators, Koonce (1996) stated that one's habits of engaging in new learning and experiences are essential in pursuing self-directed growth.

Wood and Bennett (2000) conducted a qualitative study involving nine early childhood teachers for the initial purpose of exploring the relationship between teachers' theories and their practices concerning play contexts. In exploring this relationship, the researchers actively chose to conduct the "research 'with' the teachers rather than 'on' them" (p. 637). In doing so, Wood and Bennett indicated that an unintended outcome of the study was a better understanding of how teachers changed their theories and practices based on a three state conceptual model of change. Generally speaking, stage one entailed reflective interest and consideration. Stage two required teachers to problem solve their practices based on perceptions. Finally, stage three involved implementation of changes and further reflective considerations. It was found that the degree to which the teachers were able to change was contingent upon certain mediating factors. The authors suggested that self-initiated reflection was a foundation for interest in professional

growth and engagement in change. In concluding, Wood and Bennett stated that the effect of changes were dependent upon the degree that teachers were able, enabled and willing to reflect on the relationships between their intentions and their actions.

As reported in the literature, indicators of receptiveness to new learning include the frequency of seeking new experiences (Koonce, 1996), questioning assumptions (Cranton, 1994), one's openness to alternative ideas, beliefs, and one's engagement in reflective actions and reflective thinking as a foundation for emergence into critical reflective thought (Wood & Bennett, 2000; Cranton, 1994; Mezirow, 1991; Merizow & Associates, 1990). These indicators speak to a teacher's self-awareness and self-direction. As Hargreaves and Fullan (2009) stated, change is complex and requires as its foundation teacher ownership and value. Ultimately, the willingness of a teacher to change and the teacher's receptiveness is based in exposure to new information and experiences, but is deeply contingent upon intrinsic factors and processes (Richardson, 1998; Van Veen & Lasky, 2005).

Critical Thinking

The roots of philosophical, psychological and educational thought and research pertaining to critical thinking can be found in Dewey's work, *How We Think* (1910), Glaser's research (1942), and Facione's work (1990) also among the seminal works in the area and are presented in Table 1. As previously indicated, dialogue about critical thinking is essential to informing the research about teacher's attitudes and abilities to authentically problem-solve, reflect, and act in a reasoned manner (Paul & Elder, 2002; Marzano, 1988). The following table provides a brief synopsis of seminal works that pertain to critical thinking.

Table 1

A Summary of Seminal Works Pertaining to Critical Thinking

<i>Author</i>	<i>Year</i>	<i>Theory/Research Focus</i>	<i>Informed Conclusions</i>
John Dewey	1910/ 1933	Reflective Thinking	Suggested that reflective thinking should be the aim of all educative experiences.
Edward Glaser	1942	Logical Inquiry	Critical thinking involves an attitude or disposition to thoughtfully consider problems, situations and people thus broadening one's personal experiences.
Robert Ennis	1962	Thinking Before Action	Aside from one's personal knowledge and attitudinal factors, critical thinking involves specific methods and subsequent actions.
Richard Paul	1986/ 2002	Metacognition	Everything individuals do is determined by the quality of one's ability to think about one's thinking.
Peter Facione	1990	Critical Thinking Skills and Dispositions	Synthesis of research that identified the skills and dispositions associated with critical thinking.

Critical Thinking Ability and Teaching

A definition derived from a synthesis of the research reported in the Delphi Report (Facione, 1990) states that critical thinking is:

purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual,

methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. (p. 2)

Critical thinking has further been defined by Paul and Elder (2002) as “the disciplined art of ensuring that you use the best thinking you are capable of in any set of circumstances” (p. 7). Given the widely accepted conditions and definitions, critical thinking has been summarized as one’s attitudes, knowledge and skills (Glasser, 1942). Much research has emerged in recent years to establish the relationship between the role of critical thinking and effective teaching. Marzano (1988, 1993) stated that in order for teachers to teach critical thinking skills, teachers themselves must possess the ability to think critically. The following empirical and qualitative studies reflect scaffolding research that established the characteristics associated with critical thinking, the interplay between critical thinking and teaching, and the role of critical thinking in effective teaching.

In 1990, Facione conducted a qualitative study using the Delphi Method to identify the elements of critical thinking. The study involved forty-six experts from the fields of philosophy, psychology, sociology and education. After a year and a half of conducting six interactive round table discussions, Facione synthesized the results. The study revealed two idiosyncrasies: critical thinking skills and critical thinking dispositions. Specifically, six critical thinking skills and sub-skills were identified as indicated in Table 2.

Table 2

Critical Thinking Cognitive Skills and Sub-Skills

<i>Skill</i>	<i>Sub-Skill</i>
Interpretation	Categorization Decoding Significance Clarifying Meaning
Analysis	Examining Ideas Identifying Arguments Analyzing Arguments
Evaluation	Assessing Claims Assessing Arguments
Inference	Querying Evidence Conjecturing Alternatives Drawing Conclusions
Explanation	Stating Results Justifying Procedures Presenting Arguments
Self-Regulation	Self-Examination Self-Correction

Note. Adapted from Facione (1990)

Interpretation was deemed by the experts included in the study to include one's ability to comprehend meanings by categorizing, detect significance and clarify meaning associated with a wide realm of experiences, judgments, beliefs and procedures. One's ability to analyze was linked to examination of ideas, and detection and analysis of arguments, concepts, beliefs and experiences whether they are evidenced or inferred. A related skill was identified as one's ability to credibly assess or evaluate perceptions, experiences and opinions using logical judgment and thus determine if sufficient evidence supports conclusions and assumptions. These three critical thinking cognitive skills require that individuals utilize cognitive strategies. Yet, as Flavell (1979) stated in extensive research pertaining to metacognition, having such cognitive strategies does not

mean that one utilizes metacognitive strategies for interpreting, analyzing and evaluating experiences. This higher level of thought is required for metacognitive experiences.

According to Flavell, metacognitive experiences involve both affective and cognitive experiences that directly relate to intellectual stimulation. Individuals must self-monitor and regulate their thinking about thinking (Markman, 1977). The skill of inference was indicated to involve the ability to deduct relevant conclusions and consider plausibility and consequences from statements, principles, concepts, questions and beliefs. Paul and Elder (2002) stated that inferences must be distinguished from assumptions.

Assumptions are derived from unconscious tidbits of information; whereas, the root of inferences are grounded in conscious connections of explored information. The skill of explanation, as reported in the Delphi consensus, involves reasoned considerations of one's views and actions. Last, self-regulation was indicated by Facione's (1990) synthesis as the meta-cognitive awareness, reflection and self-correction of one's motivations, attitudes, interpretations, and deficiencies associated with the aforementioned skills. Self-regulation in teachers has been further explored from various perspectives in the literature (Randi, 2004). In a qualitative study involving fifteen experienced teachers, Van Eekelen, Boshuizen and Vermunt (2005) found that teachers are more inclined to self-regulate their teaching practices, thus their actions and reactions, than they are to critically self-regulate and reflect on their own learning and beliefs. In summary, it was emphasized that identified critical thinking cognitive skills are interactively utilized by individuals as part of a process of reasoning and judgment formation (Facione, 1990; Facione & Facione, 2007).

Similarly, Ennis (1985) and Norris (2003) have indicated that while these skills are

commonly associated with critical thinking, the incident of critical thinkers is quite low and attributed to numerous variables. In 1990, King, Wood and Mines conducted a study involving 80 college students. Each student was given the Watson-Glaser Critical Thinking Appraisal. The study yielded significant main effects for the difference between critical thinking and education levels, as measured by ACT scores. The results suggested that individuals must be attuned to thinking at a conscious level about their own thinking. This is consistent with Dewey's (1938) work and constructivism perspectives of developmental growth in the critical thinking literature. Facione (1990) argued that good critical thinkers demonstrate necessary cognitive skills but also possess specific values or dispositions that further support the fruition of critical thinking.

Critical Thinking Dispositions

Though critical thinking has historically been approached as purely cognitive (Paul & Elder, 2002), substantial research now supports the affective dimensions of critical thinking (Damasio, 1994; Paul & Elder, 2002; Zembylas, 2005). To support this notion, after identifying six critical thinking cognitive skills, Facione's *Delphi Report* (1990) also identified seven dispositional attributes of critical thinking. With an 83% consensus, the experts indicated that a good critical thinker could be characterized by one's inquisitiveness, truth seeking desires, maturity, self-confidence, open-mindedness, analytical inclination, and systematic nature.

According to Facione (1990), inquisitiveness was indicated as relating to intellectual curiosity and a desire to be well-informed of a wide variety of issues. Truth seeking was distinguished separate from inquisitiveness as it generally refers to one's attitudinal quest to be honest and objective when seeking information that may or may

not support preconceived beliefs and opinions. A similar, yet distinguished, disposition is open-mindedness. The *Delphi Report* indicated that this is said to involve receptiveness and tolerance of divergent information and views including one's own preconceived stances. This specific disposition was addressed in a previous section of this chapter discussing research focused on one's receptiveness to new learning. As noted in the study by King, Woods, and Mine (1990), maturity includes one's cognitive development as well as one's epistemic means of approaching experiences, problems and decisions (Paul & Elder, 2002). One's self-confidence involves belief and trust in self to make reasoned judgments (Facione, 1990). Significant research related to the relationships between self-confidence and self-efficacy has been reported in the education literature to support this disposition (Bong & Skaalvik, 2003; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Gibson & Dembo, 1984). One's analyticity entails alertness and prudence when facing problems and making or adjusting personal judgments. Last, the disposition referred to as systematicity is reflected in individual's diligence and organization associated with advancing inquiry. It was later emphasized by Facione and Facione (2007) that one's orderly approach is not a matter of linear or non-linear categorization. Rather it is characterized by one's systematic and precise attention to circumstances, criteria and orderliness when facing complexity (Facione, 1990; Facione & Facione, 2007).

These critical thinking dispositions have been associated with research pertaining to habits of mind. According to Costa and Kallick (2000), a habit of mind refers to the disposition of one toward behaving and thinking intelligently when confronted with unknown contextual experiences. Ennis (1985) refers to critical thinking dispositions and

abilities as self-explanatory and desirable traits necessary for practical decisions associated with “what to believe or do” (p. 46) that underlie the complexities faced by teachers daily (Hager & Kaye, 1991).

Critical thinking dispositions, teacher identity, and emotion. The relationship between critical thinking and teaching was explored by Hager and Kaye (1991). The Australian study involved 21 vocational teachers who had been identified as highly effective based on their performance records and reported classroom performance and 120 preservice teachers enrolled in vocational courses. Participants were given the *Cornell Critical Thinking Test* developed by Robert Ennis. Using ANOVA, the scores for each group were compared and surprisingly revealed no statistically significant difference between the two groups.

In discussing the findings, the researchers attributed the results to two considerations. First, it was stated that the basis for identifying “outstanding” teachers was founded on teacher and employer conceptions, and in follow up most were revealed to be “implementers” rather than creative and innovative “initiators.” As a second point, the authors suggested that emphasis on critical thinking, both in the role of teacher attributes and in what the teachers aimed to facilitate in their practices, was not the educational aim or a strongly recognized belief. In concluding, Hager and Kaye (1991) argued that though an individual can become a teacher and perform their role by simply implementing recommended practices, for change and advancement to occur within a system of education, what is needed are teachers who can think critically, problem-solve, and possess enhanced interpersonal communication skills.

Research conducted by Yeh (2002) explored preservice teachers’ dispositions,

thinking styles, and changes in their teaching practices as indicated with the use of computer interactive simulated teaching experiences. The study involved 127 female and 51 male students enrolled in a Taiwan teacher program. Students were given *The Inventory of Thinking Styles* and *The Questionnaire of Critical-thinking Dispositions*. Using repeated measures ANOVA, the results revealed that preservice teachers with a high level of critical thinking dispositions had increased improvement in teaching practices and behaviors. The findings also suggested, based on analysis, that there was a strong relationship between one's judicial (analytic) or legislative (reflective) thinking style and the preservice teachers with a high level of critical thinking dispositions. Therefore, specific thinking styles correlated with desirable dispositional attributes in the population of preservice teachers that were most responsive to behavioral changes in teaching practices.

The studies of Yeh (2002) and Hager and Kaye (1991) suggested a need for teachers to be willing and equipped to address the daily complexities associated with their own learning and the learning of children if they truly are to enhance and sustain improvements in education (Fullan, 2001). The role of dispositional attributes associated with critical thinking and the underlying emotional aspects of teaching have been vastly neglected in the educational literature (Pekrun, Goetz, Titz, & Perry, 2002). It is further thought that there is a significant intersect between cognition and emotion, whereby dispositional constructs allude to intrapsychological characteristic traits (Ennis, 1985). According to Paul and Elder (2002), feelings, thoughts and desires integratively influence each other revealing one's natural tendencies. There is consistent implication in the psychological, sociological, and educational literature that the subjective nature of

emotions may be the foundation for thinking, learning, and actions (Mezirow, 1991; Cranton, 1994; Hargreaves, 1999, 2001, 2003; Frijda, Manstead, & Bem, 2000; Paul & Edler, 2002; Mayer, Salovey, & Caruso, 2000; Rogers, 1980; Dewey, 1910).

Emotional Dimensions of Learning and Teaching

Thus far, this review of literature has referred to emotion, affect, feelings, and personal attributes as a way to describe the dialogue in the professional literature pertaining specifically to emotion. The concept of emotion addresses the complexity of moral, cognitive, sensational, and affective aspects of individuals (Zembylas, 2005). Frijda, Manstead, and Bem (2000) quoting Spinoza (1677/1989) “defined emotions as ‘states that make the mind inclined to think one thing rather than another’” (p. 1). Additionally, Frijda, Manstead, and Bem (2000) stated that emotions influence beliefs and experiences thus stimulating actions and reactions.

Research efforts that have presented a foundation for explaining the complexities of emotion, as it presently pertains to the dimensions of learning and teaching, are chronologically indicated in Table 3. The synthesis of influential works is not intended to be exhaustive, but rather to offer a selective overview of the origins of concepts of emotion that are most relevant to inquiry into the emotional understandings of preprimary teachers.

Table 3

A Brief History of Emotion Research and Theory

<i>Author</i>	<i>Year</i>	<i>Theory/Research Focus</i>	<i>Informed Conclusions and Contributions</i>
William James	1884	Emotions are connected to perceptions	Body Reaction Theory. James was one of the first to study the physiological and psychological relationships of emotions.
Carl Lange	1885	Nature of emotions	Hypotheses similar to William James: When combined, presented what became known as James-Lange Theory.
John Dewey	1895	Theory of Emotions	Argued that “emotion in its entirety is a mode of behavior...has intellectual content...which reflects affects and feelings”(p.14).
Edward Thorndike	1920	Social intelligence	Identified skills involved with one’s understanding and management of other people
David Mackaye	1928	Interrelations between intelligence and emotion	One’s “total organic attitude” involves “mind, emotional conditions, ingrained habits and conditioned behaviors” (p.451).
David Wechsler	1940	Dimensions influencing intelligence	Explored non-intellectual factors that influence intelligent behaviors and actions

Table 3 (continued)

<i>Author</i>	<i>Year</i>	<i>Theory/Research Focus</i>	<i>Informed Conclusions and Contributions</i>
Howard Gardner	1983	Multiple Intelligences	Proposed that intrapersonal and interpersonal intelligence are as important as cognitive dimensions of intelligence
Alan Fogel & Esther Thelen	1988	Social Theory of Emotions	Indicated that emotions are self organizing processes that develop within social contexts.
Stanely Greenspan	1989	Emotional Growth	Advanced understandings associated with Emotional Models of Interactions and Performance.
Peter Salovey & Jack Mayer	1990	Emotional Intelligence	Developed a theoretical model of emotional intelligence based on the premise that EI involved three aspects: emotional perception, emotional regulation and emotional knowledge.

Emotional Intelligence

Before presenting a discussion of the emotional dimensions of learning and teaching, it is important to first give a brief overview of emotional intelligence. The idea of emotional intelligence, as initially conceptualized by Salovey and Mayer (1990), hypothesized that individual's mental abilities to reason using emotions enhanced the thought processes of some individuals more effectively than in others. This was attributed to latent variables that underlie cognitive processes. Specifically, emotional intelligence

was defined as, “the ability to monitor ones own and other’s feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (p. 189). The conceptual model of emotional intelligence emerged into a four-branched continuum of abilities (Mayer, Salovey, & Caruso, 2004). The emotional intelligence four-branched model consists of: (1) the ability of an individual to perceive emotions in one’s self and others accurately based on nonverbal cues, gestures and expressions; (2) abilities associated with one’s use of emotions in facilitating thinking and problem solving; (3) one’s understandings of emotions and the skills associated with reflection and perceiving effects; and (4) one’s ability to manage emotions and respond appropriately in different contexts. Mayer and Salovey (2008) noted that within each branch there is a developmental trajectory for the sets of skills and abilities unique to each dimension of emotional intelligence.

Zembylas (2004), after conducting a qualitative case study involving one teacher over several years, discussed the “hightened emotionality” (p. 186) of teachers that contribute to facilitating the emotional dynamics associated with teaching. Higher levels of emotional intelligence have been attributed to improved personal and professional qualities. Mayer, Salovey and Caruso (2008) specifically indicated that individuals with higher emotional intelligence tend to demonstrate attuned attention pertaining to both mental and physical processes. Citing empirical evidence, the authors stated that individuals with higher emotional intelligence can more readily reason in emotionally complex situations because they are more aware of and sensitive to both their own emotions and those of others.

The Role of Teacher Emotions

The review of literature presented here has revealed numerous studies in which the role of teachers' emotions has been evident as it pertains to teacher development and practices (Darling-Hammond & Bransford, 2005; Dewey, 1938; Fullan, 1993; Hargreaves, 1994, 1999, 2001, 2003, 2005; Illeris, 2003; Nias, 1996; Van Eekelen, Vermunt, & Boshuizen, 2006; Van Veen & Lasky, 2005; Vygotsky, 1967/2004; Yeh, 2002). Consequently, consensus in the literature supports that teaching is an emotional experience (Nias, 1996). In accepting the responsibility of teaching, it is widely acknowledged that one must be a lifelong learner and pursue self-discovery (Cranton, 1994; Hargreaves & Fullan, 2009; Mezirow, 1991; Nias, 1996; Zembylas, 2005). Emotions are consistently indicated as the basis of teacher's practices and professional learning (Hargreaves, 2000).

Day and Leitch (2001) sought to better understand the role that emotions play in teachers' practices and growth. Using qualitative analysis of teacher narratives and autobiographical accounts of experiences, the researchers engaged a sample of teachers from England and Ireland. The themes of commitment, creativity, courage, compromise, and care were revealed as common emotions associated with teaching. Day and Leitch concluded that the study provided greater insight into the ways that teachers perceive self and suggested that the context of situations and people is influenced by personal histories. It was also revealed that one's interpretation of emotions effects emotional attachments and commitments to teaching.

In a related qualitative study, Darby (2008) explored teachers' specific emotions and the reconstruction of self-understanding. It was suggested that teachers must possess

a strong sense of self if they are to understand and positively impact students. The study involved nineteen participants and occurred over a two-year time period. Using symbolic interaction as a theoretical framework, Darby conducted critical incident interviews. A process of transformation was facilitated with the support of faculty and school-based coaches. Fear and intimidation were initial feelings self-identified by the teachers as they began to challenge and restructure their practices and self-understandings. However, teachers indicated excitement and pride when they successfully transformed their thinking and practices. Darby (2008) stated that educational reform and change challenges teachers' self-understandings and can easily manifest in negative emotions that hinder change. Teachers with a strong self-understanding and avenues of support demonstrated enhanced self-esteem, tasks perceptions and motivation.

Hargreaves (2000) described the emotional geographies of 53 teachers. Through interviews, Hargreaves examined key emotional differences between primary and secondary teachers. Teachers were given prompts associated with emotional episodes of and with students. The results of the interviews were analyzed by teaching level. Hargreaves revealed that secondary teachers indicated the negative emotions of being misunderstood, stereotyped, and not acknowledged by students personally. The secondary teachers in the study also indicated frequent distant emotional connections with their students. The positive emotions that existed with this level of teachers were respect, appreciation and gratitude. Hargreaves stated that overall, it could be inferred that the secondary teachers' classroom ecologies lacked emotional intensity. Whereas, the study revealed the primary classrooms were emotionally intense and the primary teachers indicated emotions associated with affection. The majority of stories and

discussions revealed that the primary teachers focused on their classrooms as a source of positive emotions. These emotions reportedly gave teachers a sense of achievement in their teaching pursuits. Interestingly, Hargreaves (2000) found that while the primary teachers were more “emotionally positive” (p. 818) than the secondary teachers, they were also more negatively emotional. The primary teachers reported a much higher incidence of directing anger towards children for various reasons but most commonly associated with their frustrations in trying to help. In conclusion, it was noted that teachers are “emotional practitioners” (Hargreaves, 2000, p. 812) and thus influence their own experiences and those of children in positive and negative ways.

According to Frijda, Manstead, and Bem (2000) emotions influence beliefs and indirectly influence the affective actions of individuals. The literature and research presented by Day and Leitch (2001), Darby (2008) and Hargreaves (2000) suggested that emotions can positively enhance or negatively alter one’s self-perceptions, perceptions of others, dispositions, and practices. Analysis of the presented literature allows for insight into the role emotions play in motivating preprimary teachers to think, learn, and perform.

The Emotional Dimensions of Learning

The emotional dimensions of learning have been presented throughout this review of the literature in discussions pertaining to theories of learning (Illeris, 2003), transformative learning (Mezirow, 1991; Cranton, 1994), indicators of will (McCombs & Marzano; 1990, Hargreaves, 1999) and receptiveness (Van Eekelen, Vermunt, & Boshuizen, 2006), and critical thinking associated dispositional attributes (Ennis, 1985; Facione, 1990; Facione & Facione, 2007). Sansone and Thoman (2005) discussed the

function of emotions in writing, *Does what we feel effect what we learn?* This critical evaluation of the literature examined themes in existing research and sought to provide an informed answer to the question presented. Instead, the authors emphasized the importance of identifying and explaining the patterns of emotional changes, contextual influences, and the various dimensions of emotional phenomena that must be further examined in order to begin answering pertinent questions surrounding the dynamic function of emotions.

Dirkx (2001) stated that imagination and emotion are essential components in adult learning. It was suggested that the facilitation of meaning-making processes must involve rational and reflective thinking. Dirkx indicated that individuals construct meanings based on internal emotional states of understanding and regulation in conjunction with the social contexts in which one lives, learns, and performs. Dirkx argued that one cannot discuss emotion void of references to self, as emotions are highly subjective and can be reflective of one's soul. Thus, it was suggested that the role of emotions not be limited to isolated factors such as motivation. Dirkx expanded in stating that emotions are the basis by which individuals make sense of their world. Related, Zembylas (2007) indicated that one's emotional ecology shapes not just how teachers are and how they learn, but how teachers act.

How teacher are (their beliefs, interactions, reactions, and behavioral patterns) instinctively speaks to the unique nature of the individual (Frijda, Manstead, & Bem, 2000). As discussed in the literature pertaining to the emotional dimensions of learning (Dirkx, 2001), emotionally-influenced thinking impacts one's perceptions of their experiences and interactions. The functional ability of individuals to enhance their

awareness of self and others serves as the basis of developing one's emotional understanding (Hargreaves, 2000; Zembylas, 2007).

Emotional Understanding

It is important to distinguish terms used in the literature associated with the emotional dimensions of teaching and learning in establishing the meaning of what it is to possess and demonstrate emotional understanding (Zembylas, 2005). As indicated in Salovey and Mayer's (1990) conception of emotional intelligence, the foundations of emotional intelligence are based in individual's emotional understandings. Hargreaves (2000) further distinguished some of the common constructs associated with emotion. For example, emotional labor is referred to as the way individuals present themselves for the purposes of others, organizations, and experiences. Emotional labor speaks to the management of what individuals do. Emotional geographies, according to Hargreaves, are the patterns involved in one's interactions and experiences that aid in creating one's emotions dimensions. Individuals' understandings and even misunderstandings are impacted and are influenced in the context of relationships with others. Finally, Hargreaves described the construct of emotional understanding to be "how people are emotionally" (2000, p. 815). It was suggested that one's emotional understandings represent how individuals develop, or fail to do so, based on the way that they experience and "read" both their own emotions and those of others. Emotional understanding is representative of one's emotional schema as it is rooted within one's social and cultural contexts. According to Denzin (1984), emotional understanding is intrapersonally subjective and influences one's individual experiences and subsequent experiences with others.

Carl Rogers (1980) stated in *A Way of Being* that only when teachers have the ability to understand student reactions and are sensitively aware of others and self, can meaningful learning, experiences and interactions occur. Rogers stated that this empathic and personal perspective involves individuals seeing themselves, opportunities for bettering themselves, and others with broader understandings.

The concept of emotional understandings recognizes that how people are emotionally is responsive to and reflective of their own emotional experiences within their cultural and social contexts (Hargreaves, 2000). One's emotional understanding influences perceptions of other's emotions and emotional responses and serves as a foundational indicator of knowledge of self. The qualitative research conducted by Hargreaves (2000) and Zembylas (2005) indicated that emotional understandings are necessary for effective teaching and must be addressed in teacher learning. To support this, the research suggested that teachers' emotional understandings help or hinder interactions and teacher's own learning (Hargreaves, 2000; Zembylas, 2005).

Intersect of Will, Receptiveness, Critical Thinking Dispositions, and Emotions:

The Professional Growth of Preprimary Teachers

Limitations in the application of theory and research contributions in the context of the current reality of the issue of preprimary teacher research stem not from a lack of theoretical substance but rather from a lack of empirical examination (Tout, Zaslow, & Berry, 2006; Zembylas, 2007). Sufficient empirical research, evidence, and consensus in the literature dissipates when the topic shifts to meaningfully fostering the professional growth of a diversely qualified population of teachers and understanding the dynamic dimensions associated with facilitating their quality teaching practices. According to the

report by the National Academy of Sciences (National Research Council, 2000), “Much of what constitutes the typical approaches to formal teacher professional development are antithetical to what research findings indicates as promoting effective learning” (p. 204). The authors of this report also stated that many learning experiences for teachers are inappropriate from the perspective of the learner. Illeris (2003) proposed that active engagement of cognitive and emotional processes, within one’s ecological system, is necessary for learning to occur.

In review of the literature associated with teacher learning, one’s will to learn is associated with one’s deliberate psychological state and commitment. Preceding willingness is the internal mechanism of receptiveness (Van Eekelen, Vermunt, & Boshuizen, 2006). Learner empowerment and critical thinking were established by Cranton (1994), as essential components of receptiveness. Research pertaining to critical thinking (Paul & Elder, 2002; Ennis, 1985; Facione, 1990) offered correlations to individual’s critical thinking dispositional attributes. Frijda, Manstead, and Bem (2000) suggested that dispositions link emotion with the plausibility of actions. Thereby, one’s emotional understandings serve as basis for further exploring teacher learning and professional growth (Hargreaves, 2000; Zembylas, 2007).

Given the diversity of preprimary teacher experiences and qualifications (Kagan, Kauerz, & Tarrant, 2008), Zembylas (2007) argued that research must focus on the intersect of emotional dimensions and the development of professional knowledge if we are to advance teacher’s personal and professional growth. Zembylas (2007) stated that by enhancing knowledge of teachers’ emotional understanding and cognitive

transformations, the field of education can advance understanding and facilitate quality pre-service and in-service teacher development.

Summary

This guided review of selected theory and literature began with discussing the foundational need for quality preprimary teachers to address the political, social and moral obligations necessary to positively influence the development and education of young children. Current initiatives and research were presented that highlighted efforts to impact the quality learning and practices of the diverse population of preprimary teachers. Through examination of developmental trajectories of teacher practices and learning theories, this synthesis of literature identified common variables that promote transformative learning within preprimary teachers' ecological contexts. The variables highlighted as essential to change were identified as one's willingness to change, receptiveness to learning and professional growth. Dispositional attributes associated with critical thinking were also described. Next, this review addressed the emotional dimensions of teaching and learning by emphasizing the role of teacher's emotional understandings of self and others. In conclusion, this review reconnected the variables as to highlight inferred and explicit relationships revealed in the theoretical and empirical research.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Research substantiates the complexity of learning and that emotion is linked to feelings, thoughts and behavior (Frijda, 1986). The purpose of this study was to analyze relationships between the role of preprimary teachers' emotional understanding, critical thinking dispositions, receptiveness to new learning and willingness to change learning and practices. The model presented in this study is rooted in Dewey's work pertaining to quality teaching and critical thinking and further based on ecological and transformative learning theory. This research offers the proposition that emotion is the foundation of thinking: that one's dispositional attributes toward critical thinking are directly associated with preprimary teachers' receptiveness to new learning and ultimately, their willingness to change. This chapter presents a description of the design, instrumentation and treatment of data involved in the study.

Research Question and Hypotheses

This study sought to confirm the relationships as expressed in the research question: Is there a relationship between preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning, and willingness to change? Directly derived from the research question are the following specific hypotheses which served as the guide for this study:

H₁: Emotional understanding has a positive direct effect on willingness to change.

H₂: Emotional understanding has a positive indirect effect on willingness to change through critical thinking dispositions.

H₃: Personal attributes, defined as years of teaching experience, education level and annual hours of professional development, have a positive direct effect on critical thinking dispositions.

H₄: Critical thinking dispositions have a positive direct effect on willingness to change.

H₅: Critical thinking dispositions have a positive indirect effect on willingness to change through receptiveness to new learning.

H₆: Receptiveness to new learning has a positive direct effect on willingness to change.

Population

Preprimary teachers employed by Head Start and in licensed early childhood settings in Mississippi were solicited as participants in the study. In order to volunteer, participants had to be designated as the primary or lead teacher for their class. The desired minimum number of participants was 200. Such a sample size represented about 5 percent of the approximate 4500 child care providers and preprimary teachers in the state of Mississippi working with preschool aged children (National Association of Child Care Resource and Referral Agencies, 2009; National Head Start Association, 2009). According to Schumacker and Lomax (2004), the sample size utilized is an adequate population for using structural equation modeling. In order to attain the minimum sample size for the study, participants were solicited at a statewide Head Start conference, regional preschool conference, through a childcare listserv and through a solicitation for participation letter mailed to all licensed child care centers in designated regions of Mississippi. Participants in the study were awarded one contact hour of training as approved by the Director of Licensure and Regulation, Mississippi Department of Health which oversees licensing and required training for all childcare providers, including

preschool staff, in the state of Mississippi. Given the reflective nature of the item prompts on all four instruments, the researcher provided evidence to the Director of Licensure and Regulation showing that such reflection as included in the study was worthy of reflective professional engagement and therefore could be considered professional development. A copy of authorization, to provide contact training hours for participation in this study, is provided as Appendix C. The 200 participants were identified only by assigned numbers.

Instrumentation

Five self-report instruments were utilized for data collection and are described below.

Demographic Data Sheet

The demographic data sheet was developed by the researcher, for this study. Data included are education level of teacher, number of years working with preschool-aged children, average annual hours of professional development, age range, race, hourly wage, number of children in their class, average age of children in their class, overall satisfaction with profession, and number of children with identified special needs. A copy of the demographic data sheet is included in this study as Appendix D.

California Critical Thinking Disposition Inventory

The California Critical Thinking Disposition Inventory (CCTDI) (Facione & Facione, 2007) is an instrument designed to assess affective and attitudinal dimensions of critical thinking. The development of this instrument was based on the conceptualization of critical thinking in the seminal *Delphi Report* (Facione, 1990). The instrument initially involved a norm sample of 164 undergraduate students and later was analyzed with 567 college freshmen on various campuses representing males and females. After

factor analysis methods were utilized, internal reliability and cross structures between related constructs were established. Following a review of empirical and conceptual relationships, seven dispositional constructs of critical thinking representing 75 likert style items were determined. Cronbach alpha internal consistency reliability coefficients for the seven subscales indicate ranges between .71 and .80. Item correlations for each scale fell within accepted ranges. Expert reviewers indicate prompts as appropriately representative of critical thinking dispositions.

The CCTDI does not measure actual skills and abilities. Rather, it provides a valid and reliable measure of one's habits of mind, their disposition to think critically. This instrument is intended for use with high school and college level students, as well as professionals. An overall score for one's disposition to think critically and seven subscale scores are yielded for truth seeking, open-mindedness, analyticity, systematicity, critical thinking confidence, inquisitiveness, and cognitive maturity. Results are interpreted based on standardized ranges that provided evidence of one's positive or negative, high or low disposition toward critical thinking.

Emotional Judgment Inventory

The Emotional Judgment Inventory (EJI) (Bedwell, 2003) is an instrument designed to measure emotional intelligence in organizational contexts. Based primarily on the work of Salovey and Mayer (1990), the EJI represents a model with seven interrelated constructs that address the emotional dimensions of emotional intelligence. The norm sample for the EJI consisted of 1736 individuals representing an almost equal amount of males and females, race proportions similar to census demographics, and the largest median ages between 18 and 44 years. Effect sizes of mean differences between

sex, race and age using Cohen's *d* statistic were determined to be within appropriate ranges. Scale reliability estimates revealed stability across samples. Reliability ranged from .73 to .88 in the validation sample and from .75 to .90 in the norm sample. Confirmatory and exploratory factor analyses were conducted in addressing the validity of the EJI and provided evidence that factor model accurately represents the data structure of the items assessed in the model.

The EJI provides empirical evidence of one's awareness of emotions, ability to identify own emotions, other's emotions, ability to manage own emotions, manage other's emotions, ability to use emotions in problem solving and ability to express emotions adaptively. Given the relationships between the seven areas assessed, a total score is not calculated and only the scaled scores are used. Scaled scores are comparable utilizing a standard deviation and provide insight into common definable emotional characteristics based on high and low scores. The instrument is designed on a ninth grade readability level. It is an eighty-item self-report instrument that is useful in predicting job performance and in capturing elements of emotional dimensions isolated from cognitive and personality measures. Though the instrument is not timed, the author (Bedwell, 2003) indicates that administration can be conducted individually or in groups and takes approximately fifteen minutes to complete.

For the purpose of assessing the latent variable of emotional understanding and to be consistent with Salovey and Mayer's model of emotional intelligence (1990), only subscales of understanding one's own emotions, managing one's emotions, understanding other's emotions, and using emotions to problem solve were used. Use of these four constructs supports Hargreaves (2000) description that one's emotional

understandings represent how individuals develop, or fail to do so, based on the way that they experience and “read” both their own emotions and those of others.

Receptiveness and Change Questionnaires

The researcher developed two instruments for the purpose of measuring the latent variables of receptiveness to new learning and willingness to change. Approval was granted from The University of Southern Mississippi Institutional Review Board on May 5, 2009. The pilot, “Receptiveness and Change” questionnaire, was developed for use in this study and provided the analysis needed to design two separate sets of items for measuring receptiveness and willingness.

Pilot of receptiveness and change. Prior to the study, the researcher conducted a pilot of the devised instruments to establish reliability and validity. The instruments were developed based on a synthesis of research provided by the National Board of Professional Teaching, the National Association for the Education of Young Children, and transformative learning theory (Mezirow, 1990; Mezirow & Associates, 1990). It was analyzed by an expert panel of five individuals in the field of early childhood education. Based on expert recommendations and review to establish content validity, the items were revised as deemed appropriate and narrowed to no more than ten items for the questionnaire piloted. It was anticipated, based on the research by Fowler (2009), that common revisions needed would address ambiguous terms, changing irrelevant statements, format of items presented, and clarification in minimizing a potential sense of judgment.

It was the aim that twenty preprimary teachers’ would be used to determine reliability. The pilot population of preprimary teachers was identified through their

involvement with The University of Southern Mississippi Department of Curriculum, Instruction and Special Education and employment in one of three Hattiesburg, Mississippi area childcare centers. These centers were pre-selected due to involvement with the Hattiesburg Childcare Directors Association. A letter was hand delivered by the researcher to each preprimary teacher stating the purpose of the questionnaire and related benefits and risks, along with a copy of the questionnaire. Questionnaires were collected at the time of completion. See Appendix E for a copy of the introductory letter.

Additionally, a designated time and location were indicated for voluntary participants to complete the self-administered questionnaire. An email was sent to students affiliated with The University of Southern Mississippi who are currently employed in childcare settings. A copy of the email correspondence is provided also in Appendix E.

Respondents were requested to provide general demographic information such as education level, years of teaching experience, annual professional development hours, and teaching setting. This information was intended to be utilized in providing descriptive statistics pertaining to the pilot population.

It was estimated that the “Receptiveness and Change” instrument would take approximately 30 minutes for experts to review for content validity and pilot participants approximately 10 minutes to complete. The data gathered from the self-administered questionnaires was statistically analyzed for the purpose of establishing validity and reliability of the instrument. According to Fowler (2009), many decisions can be made from every survey that have the potential of enhancing data collected that informs and optimizes knowledge. The development of these self-administered questionnaires was to survey teachers perceptions related to their receptiveness to new learning and willingness

to change. Through development of the questionnaires aimed at gathering data associated with these two factors, the researcher was able to advance insight into the relationships between the indicators and the constructs. Additionally, the development of these questionnaires was necessary for extended and analyzing the relationships with other variables such as emotional understandings and critical thinking in informing and supporting research in the area of early childhood education. A complete discussion of the pilot administration and findings are presented in Chapter IV.

Data Collection

Participants in the primary study were solicited at a statewide Head Start conference, through collaboration with early childhood training agencies, at a regional preschool conference, through a childcare listserv and through a solicitation for participation letter to be mailed to all licensed child care centers in designated regions of Mississippi. A copy of correspondence encouraging participation is included in this study as Appendix F. Once interest in participation was validated by registration, data collection was conducted on multiple dates over a three month time period.

Participants were notified in advance of the general nature of this study, the requirements of their participation, benefits and risks, confirmation that participation was voluntary, and that from involvement in the study they would receive one contact training hour certificate, as approved by the Mississippi Department of Health, Office of Licensure and Regulation. A copy of the letter provided to participants is included as Appendix G.

The instruments were administered to some participants in written form and other participants through online administration. It was requested that participants sign in at

data collection sessions, using their name. This action was to limit participation to one time per individual and to provide evidence of participation in awarding the certificates for contact professional development. Each participant was identified on all instruments and data results by a designated number. No identifying information is available that connects the participants to their questionnaire responses. Participation took approximately forty-five minutes and time limits were not imposed, as advised by the authors of the published instruments. Participants were notified verbally and in correspondence that at any time the participant wished he or she could withdraw from involvement with the study.

Participants' completion of all instruments utilized in the data collection necessary for this study constituted their informed consent. It is recognized that participants who take part in surveys may experience fear of judgment associated with risks of confidentiality, stress from time constraints, and internal awareness of their lack of knowledge (Fowler, 2009). Further, Bedwell (2003) cautions that response distortions may occur on self-report measures. These distortions can either be intentional or unintentional, and are contingent upon whether the respondent is responding with his or her self-image and whether that perception is an accurate representation of their actual beliefs and actions. As a result, respondents were ensured that honest and accurate responses were essential and informative to the field of early childhood education, and that there was no underlying risk of confidentiality, as the only identifying information for each participant was a provided ID number. No identifying information was requested other than generalized demographic information. Demographic information served only to support the overall representation of participants as they relate to

perceived preprimary teachers in the profession. The quality of participants' participation and assessment results are confidential.

Participants engaging in the written format attended pre-determined sessions at the state Head Start conference, collaborative training sessions, and specifically designated dates for this study's data collection. Upon signing in, the researcher placed an ID number on each of the participant's instruments. Verbal confirmation of the letter contents were restated, instructions provided, and participants were then requested to complete the instruments. Online administration was available to participants who opted to participate at specifically designated data collection sessions. Through pre-established collaboration and communication with Insight Assessment and the Institute for Personality and Ability Testing, administration occurred on secured and monitored computers. Each participant was given a corresponding and unique ID number and access codes to the respective instrument links. The three other instruments, demographic information, Receptiveness to New Learning, and the Willingness to Change questionnaires were accessible in written format only utilizing the same ID number.

As previously stated, all instruments were coded to ensure any identifying information was kept confidential. All information was secured by the principal researcher. The raw data gathered was available only to Elizabeth Beavers, Richard Mohn, Hollie Filce, the Institute for Personality and Ability Testing, Inc. (IPAT), and Insight Assessment. IPAT and Insight Assessment provided, in Excel and report formats for each ID number, the scores for each participant. The data gathered from the self-administered questionnaires were statistically analyzed for the purpose of confirming

relationships between and among the variables. Once relationships were statistically established, paper documentation was destroyed as well as any identifying information.

Data Analysis

A combination of AMOS and SPSS statistical software was used for all analysis of data. Structural equation modeling (SEM) was utilized to test the relationships presented in the study based on the data collected representing the latent variables of emotional understanding, critical thinking, personal attributes, receptiveness to new learning and willingness to change. According to Lei and Wu (2007) SEM is applicable in analyzing non-experimental data in that this method allows for “multivariate analysis of structural theory, one that stipulates causal relationships among multiple variables” (p. 34). SEM was deemed an appropriate statistical model for the study given that the purpose was to determine whether the proposed model and relationships among constructs were consistent with data collected. SEM involves analysis at two levels. First, confirmatory factor analysis is conducted to evaluate items associated with the latent variables to ensure the data fits the model. Second, critical values are determined to analyze statistical significance of the individual parameters in the hypothesized directions. Through SEM analysis, directional relationships can be confirmed or rejected and model modifications may be considered (Schumacker & Lomax, 2004; Lei & Wu, 2007). Figure 2 provides a visual representation of the conceptual model presented in this study.

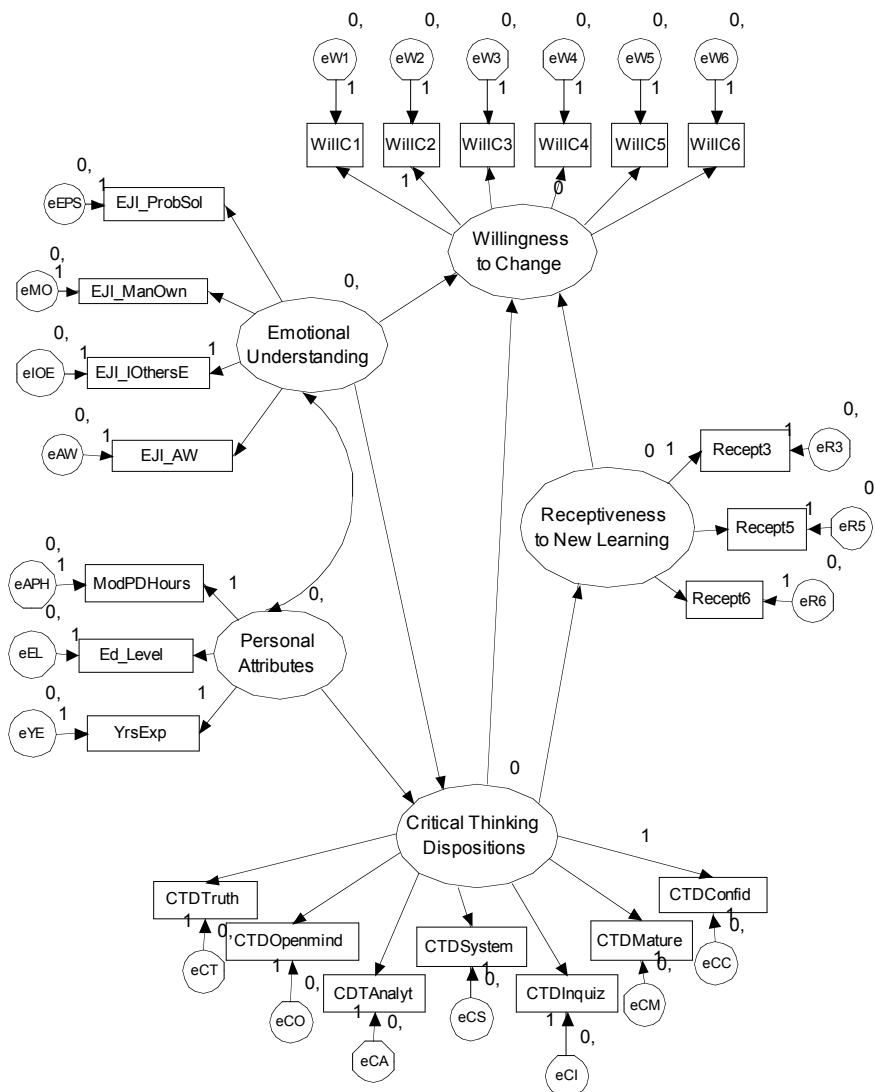


Figure 2. Proposed Conceptual Model

The above diagram represents the conceptual model presented and analyzed in the study. Represented are five latent variables: Emotional Understanding, Critical Thinking Dispositions, Personal Attributes, Receptiveness to New Learning, and Willingness to Change.

Summary

This chapter outlined the methods for completion of this research. Each aspect such as the participants, instrumentation, and data treatment were described in detail. The procedures required to obtain and analyze data from the designated instruments were provided, as were the forms of statistical treatment used in this study. The following chapters provide a description of the results and a discussion of the findings.

CHAPTER IV

RESULTS

This study proposed an integrated model that addressed the relationships between the constructs of emotional understanding, critical thinking dispositions, receptiveness to new learning, and willingness of teachers to change based on ecological and transformative theory. This research additionally intended to explore the specific directional relationships between the identified constructs as to better support the model presented. This chapter describes the organization of the analysis that was explained in the previous three chapters, and the results of the statistical research findings.

Development of Instruments

Prior to the onset of this research, approval was granted by The University of Southern Mississippi's Institutional Research Review Board. This study involved the use of four instruments: the Emotional Judgment Inventory, the California Critical Thinking Disposition Inventory, and two questionnaires designed specifically for this study. The two instruments addressing emotional understanding (Emotional Judgment Inventory) and critical thinking dispositions (California Critical Thinking Disposition Inventory) were published measures with established validity and reliability, as previously described in Chapter III. However, a pilot study was conducted to establish the validity and reliability of two questionnaires designed to measure the latent variables of receptiveness to new learning and willingness to change. Based largely on research conducted by Cranton (1994), Facione and Facione (2007), Fullan (1993), Hargreaves (1999), McCombs and Marzano (1990), Mezirow (1991), van den Berg (2002), and Van Eekelen, Vermunt, and Boshuizen (2006), sixteen statements were devised that addressed both

constructs. A panel of five experts in the subject matter were provided randomly organized statements and asked to classify each as accurately measuring either receptiveness, willingness to change, or neither, based on the essential elements associated with each construct. The expert raters also provided insight into variables (metacognitive thought processes) that needed to be considered in selecting a response, the structure of question/statement prompts, and word choice. Input from the expert raters was synthesized and analyzed in order to establish content validity. According to Creswell (2005), content validity ensures that statements on a questionnaire are representative of the specific variables associated with a construct. Consistent with the recommendations of Lawshe (1975), only items that received complete agreement as to the essential nature of alignment with measuring each construct were noted. Two statements yielded less than 80% agreement (one associated with receptiveness and one associated with willingness). These statements were later deleted following reliability analysis. Some modifications were made to the statements involving word choice as to ensure appropriate interpretation of elicited responses.

To test for reliability, a convenience sample of 25 preprimary teachers was solicited to participate in a pilot study of the questionnaires. Twenty-one participants voluntarily rated the Likert-scale presented statements and provided general demographic information. Of the 21 subjects participating in the pilot study, 29% indicated that they held a high school diploma, 24% held a child development associate credential (CDA), 14% held associate degrees, and 20% held a bachelor or graduate degree. Regarding ethnicity, 62% of the participants classified themselves as Caucasian, 33% were African American/Black and 5% were of Hispanic origin. The preprimary teachers taught

children between the ages of two and five (average age was 3.5) and represented three primary sectors of early childhood education and care: 52% worked in private centers; 24% were associated with faith-based programs; and, 10% were employed by public programs. The average age of the participants was 28, and the mean years of professional experience working with young children was 8 years. The participants reported involvement in an average of 25 professional development hours annually.

The internal consistency of variables was derived for the two sets of eight Likert-designed statements (1=disagree; 5=strongly agree). Reliability indices were established using Cronbach alpha coefficients of .70 or higher (Nunnally, 1978). Initial analysis of the eight statements associated with willingness to change yielded a Cronbach alpha of .84. By deleting two statements to increase alpha and reduce the number of items, the accepted reliability coefficient was .86. The analysis of receptiveness to new learning preliminarily revealed a Cronbach alpha of .79. Based on statistical analysis and in order to reduce the number of items while enhancing the internal consistency, two dispensable statements associated with receptiveness to new learning were deleted providing a final Cronbach alpha of .80 for six statements. Copies of the receptiveness and willingness questionnaires are provided as Appendix H and I respectively.

Analysis in the pilot study established the validity and reliability of statements corresponding separately with receptiveness to new learning ($\alpha = .80$) and willingness to change ($\alpha = .86$). Consistent with the literature and the proposed model, it was determined that separate measures of the two latent variables would be utilized. Development of the receptiveness and willingness questionnaires provided the foundation for further exploring, with greater depth, the relationships analyzed in this research.

Fidelity of Implementation

Each aspect of implementation such as acquiring participants, instrumentation, data collection, and data treatment was properly executed, as initially described in accordance with the procedural expectations indicated in Chapter III of this dissertation. Additionally, compliance with The University of Southern Mississippi's Human Subjects Protection Review Committee was strictly enforced, thus ensuring that there were no risks to subjects, selection of subjects was equitable, informed consent was properly obtained and documented, confidentiality was maintained, and instruments were utilized in a manner consistent with publisher recommendations and developed purposes.

Participant Demographics

Two hundred twenty eight participants were initially identified for participation in the study. However, due to subjects withdrawing, incomplete questionnaires and/or questionnaires not returned, analysis of the data was conducted from a total of 186 participants. Schumacker and Lomax (2004) recommend a large sample size to achieve adequate power needed for structural equation modeling. Given the number of participants, this sample size was deemed sufficient for analysis using structural equation modeling.

Of the 186 preprimary teachers that served as participants in this study, 48.4% were Head Start teachers and 51.6% represented a combination of private (n=50), public (n=5), family (n=1), and faith-based centers (n=40), all located in one southern state. Participants were almost exclusively female, with only three men. Data pertaining to ethnicity revealed 60.8% self-identified as African American, 36.6% as Caucasian, and 2.7% specified American Indian or "other." The mean age for preprimary teachers was

39 years, and teaching experience ranged from less than a year to 41 years (mean years of experience was 10.72 years). Participants reported an average hourly wage of \$10.78. Thirty-four percent indicated passing the General Educational Development (GED) test or had obtained a high school diploma as their highest education level. Twenty-nine percent indicated acquisition of a CDA or two year associate's degree. Thirty-seven percent hold a bachelor's degree or higher. The participants reported an average of 26 hours annually for professional development. The following table provides a summary of participant descriptive statistics that includes means, percentages and standard deviations, where appropriate.

Table 4

Participant Characteristics

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	%
Age	181	39.01	12.84	
Years of Experience	184	10.72	9.18	
Hourly Wage	171	10.78	3.46	
Annual PD	186	26.16	46.74	
Education Level	185			
GED				7.0
HS Diploma				26.9
CDA				8.1
Associate Degree				21.0
Bachelor Degree				28.5
Graduate Degree				8.6

Note: The variations in sample sizes are attributed to missing values reported with demographic data. Percentages are reported for education level only.

In summary, the demographic data provide a descriptive summary of the preprimary teachers participating in this research. Further, the variables of years of experience, education level, and annual professional development constituted measures

of the exogenous latent variable, “personal attributes,” in the conceptual model thereby representing the social and personal experiences closest to influencing one’s ontogenetic makeup.

Data Analysis Summary

All of the data in this study were analyzed using SPSS 16 and AMOS. Structural equation modeling (SEM) was conducted to test the relationships between the latent variables of emotional understanding, critical thinking dispositions, personal attributes, receptiveness to new learning and willingness to change. According to Lei and Wu (2007), SEM is applicable in analyzing non-experimental data, in that this method allows for “multivariate analysis of structural theory, one that stipulates causal relationships among multiple variables” (p. 34). SEM was utilized to determine whether the proposed model was consistent with data that was collected and whether individual relationships among the construct exist. The SEM procedure used involved analysis of the model at two levels, measurement model analysis and structural model analysis (Lei & Wu, 2007; Schumacker & Lomax, 2004).

Acknowledging the sensitivity of SEM to missing data, descriptive analysis sought to ensure that no data was unnecessarily omitted before a confirmatory factor analysis was conducted. As previously indicated, a mean of 26.94 hours of professional development a year was reported by participants which is significantly higher than the 15 hours per year required by the state in which they work. Two preprimary teachers indicated that they participated in 500 and 350 hours of professional development annually. By analyzing *z* scores for professional development, these two indications significantly skewed the results related to professional development. *Z* scores of 10.14

and 7.14 were revealed. Given that the three variables of years of experience, education level and annual professional development frame measures of “personal attributes” in the conceptual model, a new modified variable was created for professional development. According to Field (2009), a strategy of the highest value plus one can be utilized to bring outliers within a reasonable range. The highest frequency of annual professional development hours was 100. Therefore, 101 and 102 hours replaced 350 and 500 respectively.

Descriptive statistics for each variable were analyzed to identify any other outliers or missing data. This analysis yielded three missing values. According to Schumacker and Lomax (2004), mean substitution is an acceptable practice and can be used for missing variable values only when a limited number of values are missing. Of 186 participants that individually provided data for the 23 variables utilized in this research, two did not indicate years of experience and one did not indicated education level. Therefore, the mean of 10.72 (rounded to 11) was utilized for two values associated with years of experience, and a mean of 4 was inserted for one missing value associated with education level (which represented an associate’s degree level of education).

Analysis of Assumptions

The researcher tested the statistical assumptions associated of structural equation modeling to support the measurement model before the model and structural analyses were conducted. To analyze if the assumption of univariate normality was met, scores for each item were calculated for skewness and kurtosis. Based on an acceptable range of values falling within +/- 3, the skewness values were deemed excessive for willingness to change (ranging from -6.38 to -12.03) and receptiveness to new learning (-3.86, -6.49 and

-7.74), as they were outside the normal distribution. Consequently, the assumption of univariate normality was violated for these two variables. It should be noted that the possible range of scores were 1 to 5. It was anticipated by the researcher that most scores would fall between neutral (3) and strongly agree (5). Therefore, a degree of negative skewness was expected. The means for the individual items associated with receptiveness to new learning ranged from 3.65 to 4.60. The means for the individuals items associated with willingness to change ranged from 4.43 to 4.70. The measures for emotional understanding and critical thinking dispositions complied with the assumption of normality. Arbuckle (2005) indicated that it is sufficient to proceed when some measures are “non normally distributed” as long as other variables are normally distributed because in AMOS meeting the assumption of normality “leads only to asymptotic conclusions” (p. 42). The z scores used to evaluate the skewness and kurtosis are sensitive to larger sample sizes. According to Field (2009), when samples exceed 100, the values should be interpreted with caution. Inspection of the distributional properties of the variables indicated that the ranges, frequencies, and standard deviations were acceptable. The following table reveals a summary of means, standard deviations, skewness, and kurtosis.

Table 5

Descriptive Statistics for Indicator Variables

Variable	<i>M</i>	<i>(SD)</i>	<i>Range (Actual)</i>	<i>Skew</i>	<i>Kurtosis</i>
Personal Attributes					
Education Level	3.61	(1.53)	5 (1-6)	- .88	- 3.61
Years of Experience	10.73	(9.13)	41 (0-41)	6.85	3.23
Prof. Dev.	22.62	(20.42)	102 (0-102)	16.92	24.39
Emotional Understanding					
AW	52.31	(7.38)	40 (30-70)	- 2.03	.48
Id. Others	42.62	(6.40)	38 (25-63)	2.73	2.01
Man.Own	43.61	(8.86)	45 (24-69)	.98	.02
Prob. Solve	52.38	(8.21)	43 (33-76)	.98	- .11
Critical Thinking Dispositions					
Truth	36.86	(6.97)	35 (18-53)	1.74	- .88
OpenMind	38.28	(5.91)	35 (19-53)	-1.43	2.28
Analyticity	42.33	(6.36)	43 (16-59)	-3.16	4.41
Systematicity	42.09	(6.52)	34 (23-57)	.47	- .38
Confidence	42.83	(7.78)	37 (23-60)	1.00	- .91
Inquisitiveness	45.79	(7.76)	51 (9-60)	-3.83	4.72
Maturity	42.84	(8.75)	40 (20-60)	-1.26	- .93
Receptiveness to New Learning					
R3	4.60	(.58)	2 (3-5)	-6.49	.99
R5	4.15	(1.02)	4 (1-5)	-7.74	4.28
R6	3.65	(1.30)	4 (1-5)	-3.86	-1.60
Willingness to Change					
W1	4.43	(.70)	4 (1-5)	-8.37	9.98
W2	4.69	(.54)	3 (2-5)	-9.74	9.28
W3	4.50	(.63)	3 (2-5)	-6.38	4.18
W4	4.53	(.69)	4 (1-4)	-10.31	13.48
W5	4.58	(.61)	3 (2-5)	-7.24	3.64
W6	4.70	(.56)	3 (2-5)	-12.03	15.11

Note: Prof. Dev. represents the variable for average annual professional development. AW is used on the table to represent being aware of emotions. Id. Others represents identifying others emotions. Man.Own represents managing one's own emotions. Prob.Solve are measures of using emotions in problem solving. Under critical thinking dispositions, Truth represents truth-seeking. OpenMind is abbreviated for the scale open-mindedness. R3, 5, and 6 and W 1-6 represent individual item questions that can be viewed on the questionnaires in Appendices H and I. The range indicated refers to the range statistic and the actual range of scores obtained.

A Cronbach's alpha reliability coefficient of $>.70$ served to verify the internal reliability of variables and make certain that parameter estimates were not non-positive. Review of the computed Cronbach's alpha reliability coefficients for each latent variable revealed that the alpha for the construct of emotional understanding ($\alpha = .52$) was less

than the desired .70. Analysis revealed the need to add the emotional understanding impression management index which represented a measure of one's socially desirable responses within an expected range based on actual item responses. Doing so increased the Cronbach's alpha coefficient for emotional understanding to .61. While this is still below acceptability, the researcher kept the additional impression management measure in the construct for emotional understanding. However, critical thinking dispositions ($\alpha = .77$), receptiveness to new learning ($\alpha = .69$), and willingness to change ($\alpha = .84$) were each acceptable. The initial analysis of receptiveness to new learning yielded an internal reliability coefficient of .56. Analysis indicated the need to delete three items, thus resulting in the coefficient of $\alpha = .69$. Three remaining items were retained for analyses associated with the measurement and structural models involving the construct of receptiveness to new learning. A Cronbach's alpha was not calculated for personal attributes because the measures were obtained from different scales. In conclusion, Table 6 summarizes the means, standard deviations, and Cronbach's alpha data for the measures associated with each latent variable analyzed in this research.

An exploratory factor analysis was conducted to test the constructs of receptiveness to new learning and willingness to change using principal axis factoring with oblique rotation. Two factors were extracted with the appropriate items loading on only one construct. This analysis provided evidence that items were measuring two distinct constructs. Table 7 presents the factor loadings. Loadings above .70 are considered strong.

Table 6

Variable Descriptive Statistics

Constructs	<i>M</i>	<i>Variance</i>	<i>α</i>
Emotional Understanding	47.95	21.64	.61
Critical Thinking Disposition	41.58	9.14	.77
Receptiveness to New Learning	4.13	.277	.69
Willingness to Change	4.57	.012	.84

Note: The indicated mean scores reported are the item means that represent the combined measures for each latent variable. Emotional understanding scores averaged across five items. The scores for critical thinking dispositions were averaged across seven items and receptiveness to new learning across three. Willingness to change scores were averaged across six items.

Table 7

Factor Loadings for Receptiveness to New Learning and Willingness to Change

	<u>Factor</u>	
	1	2
Willingness to Change		
Items		
1	.58	
2	.77	
3	.67	
4	.71	
5	.72	
6	.71	
Receptiveness to New Learning		
Items		
3		.49
5		.76
6		.71

Note: Loadings below .40 were suppressed. Principal Axis Factoring was utilized as the extraction method. Oblimin with Kaiser Normalization was the rotation method.

Once issues of missing data and outliers were addressed, and the assumptions were tested, a confirmatory factor analysis was conducted to evaluate items associated with the latent variables and to ultimately ensure the data fit the model. Following model analysis, a critical value of $p < .05$ was utilized to analyze the statistical significance of the individual parameters associated with the hypothesized path relationships. Through SEM analysis, model modifications were analyzed and directional relationships were confirmed or rejected, as described in the subsequent sections.

Model Analysis

This study sought to determine how well the proposed theoretical model was supported by the data collected. The model consisted of five latent variables: personal attributes (consisting of three indicators), emotional understanding (consisting of five indicators), critical thinking disposition (consisting of six indicators), receptiveness to new learning (consisting of three indicators), and willingness to change (consisting of six indicators). Again, there were a total of 186 preprimary teacher respondents ($N=186$). Specifically, the research question addressed: Is there a relationship between preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning, and willingness to change? In order to analyze the measurement model presented, a Confirmatory Factor Analysis (CFA) was conducted. The researcher constrained latent variable variances to one (1) for the purpose of conducting the confirmatory analysis.

The initial model analysis revealed a chi-square of 587.80, with 242 degrees of freedom (df). The model fit indices yielded a poor fit based on the Comparative Fit Index (CFI = .75), the Tucker Lewis Index (TLI = .71), and the Root Mean Square Error

Approximation (RMSEA = .09). According to Shumaker and Lomax (2004), the following are considered acceptable standards for model fit interpretations. A Comparative Fit Index (CFI) $>.95$ is considered a good fit, and $>.90$ is considered an adequate fit. The Tucker Lewis Index provides an embedded adjustment for parsimony, given that the aim of SEM is to achieve a parsimonious model. The acceptable range for the TLI ranges from 0 to 1, values $>.95$ reflect a good fit and $>.90$ is considered an adequate fit. A value of $<.08$ is considered an adequate fit for the Root Mean Square Error Approximation (RMSEA) criterion, and $<.05$ is considered a good fit. Based on the fit statistics, the initial model required modifications. Examination of the modification indices indicated an issue with error terms associated with critical thinking dispositions. Schumacker and Lomax (2004) indicated that standardized residual covariances act as z scores thus large numbers indicate possible misfits. Modification indices indicated a relationship (-4.1) between the sixth question associated with receptiveness to learning and awareness of emotions on the Emotional Judgment Inventory. However, there was no theoretical support for this relationship so the values were not correlated. Indices also suggested a relationship between the error terms for truth and maturity as indicated by a value of 6.1. These error terms were correlated and another analysis conducted.

The second analysis of the measurement model revealed a chi-square of 519.2 with 241 *df*. Chi-square uses difference to assess if the model fit improves significantly or if another test is needed. The aim of the chi-square test of model fit is to obtain a non-significant value (Field, 2009). In the analysis, based on $p > .05$, the model fit significantly improved.

Specific critical values associated with the chi-square distribution revealed improved levels in the second analysis as well (CFI = .80, TLI = .77, and RMSEA = .08). The RMSEA is above what is considered an adequate fit. However, the CFI and TLI did not support an adequate fit. Given that the RMSEA is within the reasonable range and recognizing that there were issues with multivariate normality, a decision was made to proceed with the analysis. Analysis of the standardized residual covariance matrix revealed values ranging from -4.02 (receptiveness and emotional awareness variables) to 3.61 (managing own emotions and critical thinking truth). The majority of values fell within the 90% confidence interval (between - 1.65 and + 1.65). Analysis of the standardized factor loadings revealed the statistical significance of measures based on an indication of .40 or higher are considered meaningful. Standardized regression weights varied from .25 (Critical Thinking Disposition of Truth for Critical Thinking Disposition) to .80 (Willingness to Change: Question 2 for Willingness to Change). The only insignificant values below .40 aside from the lowest mentioned were Emotional Judgment Inventory: Problem Solving for Emotional Understanding at .39, and Education Level for Personal Attributes at .30. Tables 8 provides a summary of the measurement model fit statistics, and Table 9 provides a summary of the standardized estimates for the model.

Table 8

Measurement Model Goodness-of-fit Indices

x^2	519.20
df	241
p value	<.001
<i>CFI</i>	.80
<i>TLI</i>	.77
<i>RMSEA</i>	.08

Table 9

Standardized Estimates of Factor Loadings

Construct	Estimate
Emotional Understanding	
Identifying Others' Emotions	.49***
Managing Own Emotions	.43***
Using Emotions in Problem Solving	.39***
Being Aware of Emotions	.61***
Impression Management Index	.54***
Personal Attributes	
Years of Teaching Experience	.47***
Educational Level	.30 *
Professional Development Hours	.56***
Willingness to Change	
Personal Experiences with Change	.59***
Motivation	.80***
Effort	.74***
Beliefs Pertaining to Change	.61***
Reflection and Impact on Actions	.72***
Generalizing	.72***
Receptiveness to New Learning	
Seeks to Strengthen Practices	.71***
Uses Personal Time to Advance Learning	.72***
Choice to Engage in Learning	.63***
Critical Thinking Dispositions	
Confidence	.68***
Maturity	.41***
Inquisitiveness	.65***
Systematicity	.66***
Analyticity	.76***
Open-mindedness	.50***
Truth-seeking	.25 *

*Note: Factor loadings were significant at: * $p < .05$, ** $p < .01$ and *** $p < .001$*

The variance covariance matrix is provided in Appendix J. In summary, it was identified that the theoretical model presented was deemed a reasonable fit based on the data obtained and was retained for analysis in this study.

Path Analysis

In order to analyze the structural model consisting of the directionality of fit statistics of the hypothesized relationships, specific path analyses were conducted. Analysis of the structural model served to specifically address the six hypotheses presented in the research. It was hypothesized that 1) emotional understanding has a positive direct effect on willingness to change, 2) emotional understanding has a positive indirect effect on willingness to change through critical thinking dispositions, 3) personal attributes, defined as years of teaching experience, education level and annual hours of professional development, have a positive direct effect on critical thinking dispositions, 4) critical thinking dispositions have a positive direct effect on willingness to change, 5) critical thinking dispositions have a positive indirect effect on willingness to change through receptiveness to new learning, and 6) receptiveness to new learning has a positive direct effect on willingness to change.

The structural model yielded $\chi^2 = 525.09$, 244 *df*. The model fit indices were TLI = .77, CFI = .80, and RMSEA = .08. For purposes of path analysis, coefficients $p < .05$ are considered significant (Schumacker & Lomax, 2004). The initial model indicated that most coefficients were significant except the relationships between willingness to change directly from critical thinking dispositions ($\beta = -.37$, $p = .60$) and personal attributes to critical thinking dispositions ($\beta = .03$, $p = .79$). The path analysis between personal attributes and critical thinking dispositions revealed a highly non-significant path and an ill fit for the model. Therefore, in order to reduce the complexity

of the model and adhere to the law of parsimony, the researcher decided to remove the latent variable of personal attributes thereby revising the structural model.

Considering this and the initial issue with multivariate normality associated with personal attributes which could have effected the CFI & TLI statistics, it was further determined that the bootstrapping estimation technique would be used. Bootstrapping is a re-sampling with replacement technique that provides more stable estimates when you have non-normal data (Byrne, 2010). The bootstrap technique was performed with 1,000 re-samples and another analysis was conducted. The following table indicates the model indices for the structural analysis.

Table 10

Structural Fit Indices for Bootstrap Model

χ^2	411.09
<i>df</i>	183
<i>p value</i>	<.001
<i>CFI</i>	.83
<i>TLI</i>	.80
<i>RMSEA</i>	.08

The structural analysis was used to determine if the hypotheses presented in the research were further supported. All factor loadings and supporting values associated with the hypotheses were statistically significant as indicated in the following table except willingness to change from critical thinking dispositions.

Table 11

Standardized Structural Paths between Latent Variables

	Estimates
Critical Thinking Dispositions from Emotional Understanding	.78***
Receptiveness to New Learning from Critical Thinking Dispositions	.40***
Willingness to Change from Emotional Understanding	.59**
Willingness to Change from Critical Thinking Dispositions	-.37
Willingness to Change from Receptiveness to New Learning	.54***

*Note: The significance of factor loadings are indicated by the following: * $p < .05$, ** $p < .01$, and *** $p < .001$.*

It was first hypothesized that emotional understanding has a positive direct effect on willingness to change. Analysis of standardized coefficient revealed $\beta = .59, p = .01$ thereby supporting the first hypothesis. The second hypothesis offered that emotional understanding has a positive indirect effect on willingness to change through critical thinking dispositions. The standardized coefficient was $\beta = .78, p < .001$. As a result, the second hypothesis was accepted. The effect size for the relationship between emotional understanding and critical thinking dispositions was .78 which is considered a very strong effect. The third hypothesis indicated that personal attributes have a positive direct effect on critical thinking dispositions. As a review, this hypothesis was not significant and was not included in the bootstrap estimation technique. The fourth hypothesis stated that critical thinking dispositions have a positive direct effect on willingness to change. Statistical analysis revealed $\beta = -.37, p = .07$. This hypothesis was rejected as a direct effect. However, it was hypothesized that critical thinking dispositions have a positive

indirect effect on willingness to change through receptiveness to new learning. Analysis supported this hypothesis in that $\beta = .40$, $p < .001$. Last, it was hypothesized that receptiveness to new learning has a positive direct effect on willingness to change. Analysis of the standardized coefficient revealed $\beta = .54$, $p < .001$ thereby supporting the hypothesis.

In concluding, the following is the path diagram with the standardized coefficients for the directional paths analyzed in this research.

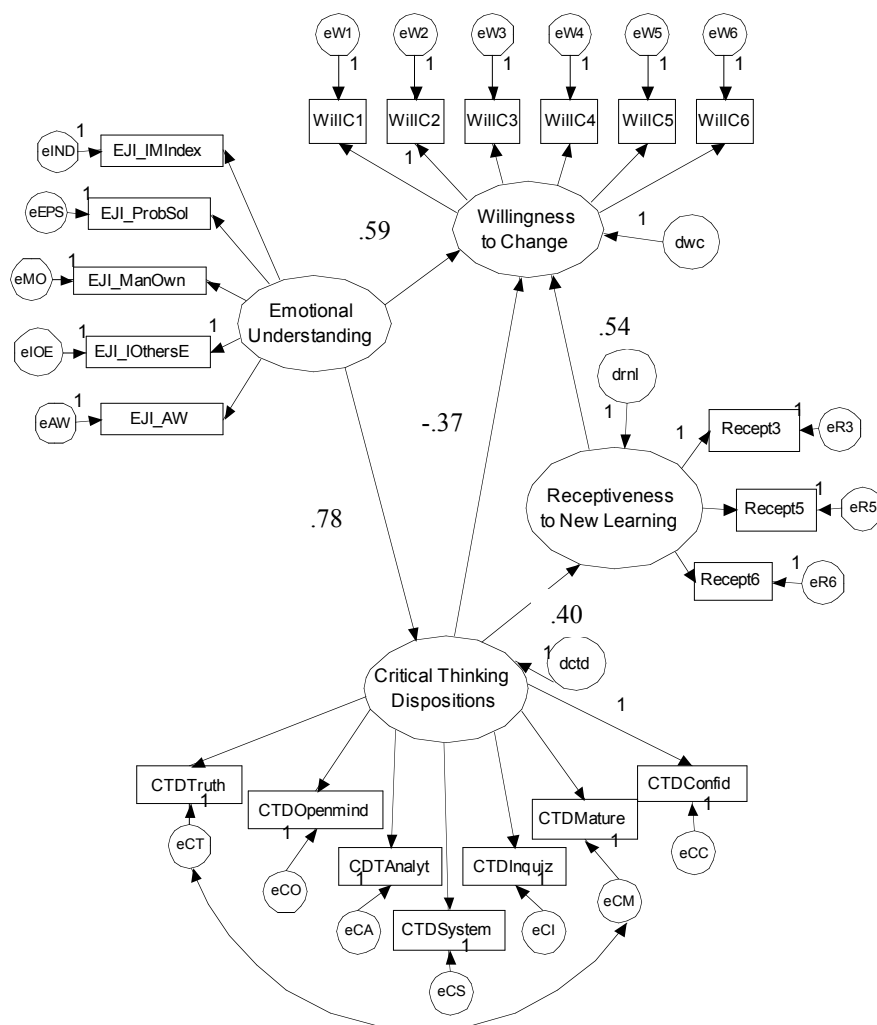


Figure 3. Path Diagram of Structural Model

Summary

This chapter began with a review synopsis of the model presented in this research and related hypotheses. Results of the pilot study were provided which provided the foundation for fulfilling the research conducted. Fidelity of implementation of all procedural and ethical aspects of research involving human subjects was confirmed. Descriptive statistics were provided for participant characteristics and variables. Lastly, a thorough description of both the measurement and structural models was provided in order to fully address the research question and each hypothesis. A discussion of the potential implications of these findings is presented in the following chapter.

CHAPTER V

DISCUSSION

The overarching purpose of this study was to confirm an integrated model addressing the relationships between the latent variables of emotional understanding, critical thinking dispositions, receptiveness to new learning, and willingness of teachers to change. The purpose of the research was not to analyze the outcomes of preprimary teachers' actions or to predict those actions. Rather the purpose was to analyze the intrapsychological and interpersonal variables that may explain an individual's willingness to modify their thinking and practices. When reviewing ecological and transformative theory, the existing literature suggests that emotional understandings are the foundation of one's ability to think critically; that one's dispositional attributes toward critical thinking are directly associated with individual's receptiveness to new learning and their willingness to change.

Empirical evidence establishing relationships between emotional constructs and teacher change has been lacking in the literature, especially in the field of early childhood education. As a result, this research was conducted based on the researcher's desire to confirm that the construct of emotional understanding does provide the foundation to further exploring preprimary teachers' professional learning and the variables that influence change. Recognizing that change comes from within (Fullan, 1993; Cranton, 1994), Hargreaves (1994) recommended that to understand the individual contexts of change, one must examine the interrelationships between contributing factors. As such, this study sought to provide quantitative evidence that enhances and supports our understandings of the relationships examined. This chapter provides an in depth

discussion of the model and structural findings, interpretations that can be drawn from the evidence, limitations that may have influenced or restricted the study, and specific recommendations that may be applied to both current practices and future research.

Findings and Interpretations

A guiding principle of Gestalt theory is that understanding the whole of something is greater than the sum of its parts (Wertheimer, 1924). Therefore, analyses at two distinct levels were conducted. The results of this research primarily provided a conceptual model for visualizing and analyzing the overarching interrelatedness of variables that are associated with one's will to change rooted emotional understandings. In this case however, to understand the whole of preprimary teachers' personal and professional growth, a second level of analysis was also conducted to confirm the underlying relationships between the foundational parts, the specific directional paths of variable interactions.

The Conceptual Model

Consistent with inferences, direct and indirect, in the literature, this study supports that there is a meaningful relationship between preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning, and willingness to change. Though the model introduced in this research is not conceptually unique when broken down into the elements, an extensive review of the literature revealed limited empirical evidence that explored the interrelated paths between intrapsychological regulation, thinking inclinations and willingness to change in preprimary teachers. Structural equation modeling allowed the researcher to quantitatively explore the relationships between variables that typically have been

examined through qualitative means. Thus, confirmatory factor analysis was conducted to examine the five variables (emotional understanding, personal attributes, critical thinking dispositions, receptiveness to new learning, and willingness to change) utilizing five different instruments. Data was obtained from 186 preprimary teachers establishing a sufficient population size. Through analyzing the significance of model fit indices, the confirmatory factor analysis provided the desired statistical evidence that the data obtained supported the model and that there is a viable relationship between the variables.

Some necessary revisions to the conceptual model were revealed in the analysis and considered. For example, analysis indicated a strong correlation within the construct of critical thinking dispositions between truth and maturity. Therefore, the error terms for these items were correlated during statistical examination. It was also indicated that there was a correlation between one item associated with receptiveness to new learning and the measure of awareness of emotions on the Emotional Judgment Inventory. Yet as stated in the results, there is not theoretical support for the correlation so modifications to the model were not made.

Final analysis of the measurement model indicated that the proposed model was deemed to be a reasonable fit, thereby finding that the guiding research question as to whether there was relationship was in fact conclusively supported by the data obtained from this population preprimary teachers. It can be concluded that there is a relationship between preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning and willingness to change.

Though this model yielded statistically significant relevance, the overall structural model interpretations must be considered with caution. Of the three fit indices considered

in determining significance, only the Root Mean Square Error Approximation (RMSEA) value supported the conclusion. The Comparative Fit Index (CFI) and Tucker Lewis Index (TLI) revealed low values in each model. This could be attributed to three primary factors that may have limited these results. First, the assumption of multivariate normality was not met because of evidence of skewness associated with receptiveness to new learning and willingness to change. It is also perceived that issues associated with the latent variable of personal attributes may have impacted the CFI and TLI values. In order to adhere to the law of parsimony, the personal attribute variable was eventually removed from the structural analysis. Another factor that may have impacted the model and inhibited model modifications was that data analysis was conducted with the scale scores for critical thinking dispositions. The researcher did not have access to item scores to further analyze if model modifications were needed.

Though these cautions are provided with an indication to plausible limitations, these findings do support varied theoretical propositions in the existing literature that have suggested the interrelatedness of the variables. A relationship was revealed between the proposed antecedents of preprimary teacher learning. This confirmatory overview of the model also provided a foundation for then analyzing the hypothesized interrelated variables which serve to inform the paths by which preprimary teachers construct meaning in facilitating emotional and cognitive growth.

Directional Relationships of Variables

As extensions of the research question, each hypothesis sought to more explicitly address the individual relationships within the conceptual model. Structural analysis was conducted to individually analyze and determine if the findings supported or failed to

support each hypothesis. The following discussion presents: the findings of each hypothesis in order of importance to the model; generalizations that can be inferred from the findings; and any limitations that may have impacted the results.

Emotional and will. Of most importance to the research question, it was hypothesized that there is a *direct* positive relationship from emotional understanding to one's willingness to change. Results revealed a statistically significant relationship supporting the hypothesis. This result predominately supports existing theories and philosophical arguments that suggest the basis of teacher emotions are either a source of resistance or the foundation for self-transformation (Hargreaves & Fullan, 2009; Illeris, 2003; Zembylas, 2003; Cranton, 1994; Mezirow, 1991). It has been stated that only when teachers have the ability to understand student reactions and are sensitively aware of others and self, can meaningful learning, experiences, and interactions occur (Rogers, 1980). This research confirms that there is a positive relationship from emotional understanding directly to willingness to change. According to Cranton (1994), effective teachers possess the will to be effective learners. Van Eekelen, Vermunt, and Boshuizen (2006) provided support for the assumption that one's will to learn must intrinsically exist before meaningful engagement in learning occurs. Thus, this relationship can be perceived as an essential determinant in whether preprimary teachers are responsive to professional development efforts. Consistencies in this relationship are essential for personal and professional growth because one may infer that preprimary teacher's level of emotional understanding informs the degree to which individuals see themselves, understand others, and seek opportunities for bettering themselves.

The role of critical thinking dispositions. The second hypothesis proposed that one's emotional understanding has a positive *indirect* effect on willingness to change *through* critical thinking dispositions. In other words, critical thinking dispositions serve to mediate the relationship between emotional understanding and willingness to change. While emotional understandings serve as a foundation, one's critical thinking dispositions provide evidence of logical skills, reflection on one's knowledge and beliefs, and a dispositional attitude to approach problems and new experiences. It is believed that the appropriate presence of these two variables, emotional understanding and critical thinking dispositions, precede a willingness to change. This research established that there is statistically significant evidence that this path of antecedents to learning exists. A strong relationship based on the effect size (.78) between emotional understanding and critical thinking dispositions was revealed in the path analysis. This adds empirical evidence to the existing body of qualitative literature that could only suggest a significant intersect between cognition and emotion. The studies of Yeh (2002) and Hager and Kaye (1991) previously discussed suggested a need for teachers to be willing and equipped to address the daily complexities associated with their own learning and the learning of children if they truly are to enhance and sustain improvements in education. This willingness is characterized by one's attention to circumstances, personal criteria for making sound decisions and orderliness when facing complexity each rooted in critical thinking dispositions and abilities (Facione, 1990; Facione & Facione, 2007). According to Pekrun, Goetz, Titz, and Perry (2002), examination of this element has been vastly neglected in the educational literature. This research provides support that critical thinking dispositions are linked to emotion with the plausibility of potential actions based

on one's willingness to change. The role of dispositional attributes associated with critical thinking and the underlying emotional aspects offers insight into the important role these variables play in facilitating the learning of preprimary teachers. It may also be suggested that before a preprimary teacher can address the social-emotional development and cognitive dimensions of children's learning, preprimary teachers themselves must possess these foundational attributes.

Critical thinking, receptiveness and will. The next three hypotheses explored the dynamics between critical thinking dispositions, receptiveness to new learning and willingness to change; findings revealed these constructs to be strongly interrelated. In sequence, it was proposed that critical thinking dispositions have a *direct* effect on willingness to change. While the results of this were approaching significance, findings did not support the hypothesis. This interaction, interestingly, indicated an effect in the opposite direction hypothesized which can not be explained by current research. It was also hypothesized that critical thinking has an *indirect* effect on willingness to change *through* receptiveness to new learning. The results of this analysis revealed a statistically significant relationship, which somewhat explains the insignificant result of the prior hypothesis. The findings of this proposition directly support the conclusions of Van Eekelen, Vermunt, and Boshuizen (2006) whose research revealed that one's expression of eagerness to learn links willingness and receptiveness. Further, the researchers suggested that one's openness to new learning constitutes a separate manifestation preceding one's willingness. The current study confirmed that the relationship between critical thinking dispositions and willingness to change is only significant when receptiveness to new learning precedes willingness. Related to the investigation of the

relationships between these variables it was also hypothesized that receptiveness to learning has a *direct* effect on willingness to change. Statistical analysis of this path provided evidence of a significant relationship between just these two variables. In the study, it was confirmed through exploratory factor analysis that the individual items associated with these constructs measured independent of one another. In other words, analysis revealed that the items measuring receptiveness and will constituted two completely separate constructs. This was important to establish given that research had suggested that receptiveness precedes will. Though initially there was concern that it was these two constructs were skewed and thus affected the assumption of normality, the consistency in participants' responses provide sufficient evidence of this strong relationship. Empirical support describing attributes directly associated with one's receptiveness to new learning and willingness to change is scarce in the current literature. For purposes of this research, measures of receptiveness included openness, curiosity, reflection and initiative. Measures associated with willingness included indications of inclinations, associations with typical actions, desires, and perceptions of change. The directional relationships revealed in this study provide a greater understanding of the antecedents to the willingness of preprimary teachers to engage in new learning. It may be suggested that individual's dispositional attributes to think critically and their levels of openness, curiosity, and reflection, all provide insight into the pending outcomes of desirable change.

The findings associated with these interrelated hypotheses support that learner empowerment and self-evaluation are essential components in the underlying variables that impact preprimary teacher's willingness to change. The relationship of these

variables from one's dispositional attributes to think critically points to the importance critical thinking holds in teacher's attitudes and abilities to authentically problem-solve, reflect, and ultimately act in reasoned and informed manners. As such, critical thinking involves a variety of variables to include inquisitiveness and confidence, knowledge and cognitive strategies, systematic thinking and self-awareness. The heart of critical thinking is reflective-informed thinking. It could be noted that the presence of these relationships are likely to change in different contexts. Hargreaves (1993) suggested that beliefs and practices have a tendency to interactively and simultaneously change as noted in studies pertaining to teacher developmental trajectories (Weimer, 2002; Biggs, 1999; Perry, 1970, 1981). Therefore, though this research establishes the relationships between these variables, one should remain optimistic that many of the skills, dispositions and desires, of preprimary teachers, can very well evolve based on individuals experiences.

Personal attributes. The final hypothesis suggested that there was a positive direct relationship from personal attributes to critical thinking dispositions. Measures of personal attributes included for the purpose of this research years of teaching experience, education level, and annual professional development participation. The latent variable of personal attributes was included in the model presented as a way to acknowledge and analyze situational variables that potentially impact one's dispositional inclinations to think critically. However, the research findings did not support that the identified measures of one's personal attributes had a significant relationship between critical thinking dispositions. As stated in the results section, this variable was removed from a second structural analysis using a bootstrap technique as a way of adhering to the law of parsimony.

It should not be inferred from this finding that social and cultural contexts do not matter. Research clearly supports that one's cultural and social contexts directly impact the origin of individuals' beliefs and perceptions as explained by ecological theory. Further, substantial research indicates that one's emotional and cognitive schema is rooted within one's social and cultural contexts. According to the literature (Hargreaves & Fullan, 2009; Zembylas, 2003; Illeris, 2003; Hargreaves, 1994; Mezirow, 1991; Denzin, 1984), emotional understandings and critical thinking are intrapersonally subjective and are influenced by one's individual experiences and subsequent experiences with others. What can be concluded from the finding associated with personal attributes is that the researcher's choice of measures was not appropriate for the model analyzed.

Summary of Findings

The depth and complexity of the analyses conducted revealed that the conceptual model presented is a feasible lens for considering the antecedents that influence preprimary teacher learning. Presently, there is such limited research that directly serves to inform what is known about preprimary teachers beyond descriptive statistics, beliefs, self-efficacy, and pedagogical preferences. Current concepts and theories related to learning no longer merely focus on pure knowledge and skills, but now seek to explore relationships between the emotional, social, and cognitive dimensions of learning. The insights gained from this research could serve to inform the means by which we teach preprimary teachers respecting the role of emotional ecology and emphasizing emotional pedagogy.

From the results of this research, one may be assured that there are essential underlying antecedents that must be present within the individual in order for meaningful

learning to occur. This research provides consequential evidence that the relationships between emotional understanding, critical thinking dispositions, receptiveness to new learning and willingness to change are viable emotional antecedents of preprimary teacher learning and practices. While these factors may not be easily measured, one's beliefs and dispositional attributes to think critically are influenced by their emotions, and thereby serve as evidence of the foundation for which personal and professional growth can evolve.

Specifically, the findings and interpretations of this study produced four main conclusions: 1) one's willingness to change stems directly from the individual's emotional understandings; 2) there is a strong relationship between emotional understanding and critical thinking dispositions; 3) receptiveness to new learning precedes one's willingness to change; and 4) there is a statistically significant relationship between the interactions of emotional understanding, critical thinking dispositions, receptiveness to new learning and willingness to change. The individual and collective relationships revealed provide support for existing theory and warrant recommendations to current practices in the field of early childhood education.

Recommendations for Present Practices

Results from analyses and interpretations of the conceptual model provide evidence of the relevance of this research and allow for global suggestions for current practices. This knowledge is important on many levels in ultimately providing leaders, educators, and professional trainers in the field of early childhood education considerations to either contemplate or act upon. As a result, preprimary teachers and educational leaders alike should ask themselves: What value do I place in considering the

role emotions play in teaching and learning? It is highly suggested that in considering the recommendations based on the evidence of this study, one should appreciate that both teaching and learning are truly emotional enterprises that require depth of dispositions to think critically, as to lay the foundation for one's receptiveness to new learning and willingness to change. Further, stakeholders of early childhood education should acknowledge the interrelated patterns of each teacher's experiences and beliefs as they impact the intrapersonal nature of teachers along a developmental continuum. The aim is to respect individuality while fostering transformative learning in preprimary teachers.

In spite of the need for this broad recognition, sufficient empirical research and consensus in the literature have historically dissipated when the topic shifts to meaningfully fostering the professional growth of a diversely qualified population of teachers, and while attempting to understand the dynamic dimensions associated learning. The findings of this research provide a platform for providing three specific recommendations for fostering the professional growth of preprimary teachers and influencing current practices associated with both teaching and learning.

Administrators and Professional Educators

Two specific recommendations can be ascertained from this research for administrators and professional educators of preprimary teachers. First, it is established in the literature that "how people are emotionally" (Hargreaves, 2000, p. 815) describes the level of emotional understanding. This study provided evidence that the emotional dimensions of learning are essential in the equation of fostering one's will to change. Therefore, it is recommended that in developing professional learning experiences for preprimary teachers, we consider what is relevant to the teacher. This is not to imply that

preprimary teachers should be able to choose whether or not they participate in professional advancement. Instead it is to reinforce that until individuals value and perceive how the professional learning experience will directly impact them, they will not benefit. If anything, these findings apply to considerations that are needed in all forms of professional learning and recommend that elements of emotional pedagogy be incorporated as to facilitate emotional and cognitive connections to new experiences and desired professional advancement.

Basically, it can be generalized from this study that the same proposition we embrace when teaching children should influence our approach to fostering preprimary teachers' professional growth. We know from existing theory that teachers develop along a continuum. Efforts should be made to identify and connect, at an emotional level, strategies for more relevantly engaging preprimary teachers in learning and change.

As a second recommendation, the results added support to the assertion that there is a strong relationship between emotion and cognition. This lends advice directly associated to the significant role that teacher's critical thinking skills play in both their own learning and interactions. As such, there exists the plausible need to incorporate critical thinking dimensions into professional development models for preprimary teachers. In effect, the ability of one to think critically should be seen as an antecedent to effective teaching. It is suggested that in order for teachers to facilitate depth of critical thinking in children, they must first possess the capabilities themselves. Consequently, professional learning experiences may need to employ elements of problem solving, analysis, and critical reflection.

In conclusion, educational leaders and facilitators of professional development should continue to examine the relationships between theory and practice as to realistically and authentically engage preprimary teachers in transformative learning. It is important to recognize that one's emotional dimensions precede the actual will to modify their thinking and practices. Employing both emotional and critical thinking strategies as part of learning will focus on broadening the emotional awareness and practices of teachers.

Preprimary Teachers

Acknowledging the significant implications of personal responsibility and one's moral purpose for teaching, it is recommended that preprimary teachers draw from this research a recognition of the important role that they play in the instructional ecology of a class and how their own willingness to change, for the benefit of others and self, impacts their personal and professional lives. It is specifically recommended that teachers engage in conscious critical reflection. Preprimary teachers should be mindful of their own emotional understandings and seek to engage in reflective practices that consider alternatives as a means of enhancing their own learning and understanding. Those who are reluctant about this prospect should ask themselves: what is my purpose for teaching?

In summary, this research intentionally sought to address conceptual understandings more so than direct measures of effects in beliefs and actions. Consequently, it is only feasible that the shared findings of this study provide recommendations to be contemplated. Response to the recommendations would involve educational leaders considering these factors when discussing how to ensure we provide children with quality teachers. Professional development approaches may be enhanced

by adding elements of emotional and cognitive strategies as to respect the interrelated connections of these constructs. Lastly, there is a need for teachers to engage in reflective thinking and practices. The findings of this study support, however, that this is only possible when the emotional antecedents of teacher learning align. To inform more precise implications to current practices in early childhood education, more explicitly focused research is needed.

Suggestions for Future Research

This study served to expand the professional literature associated with understanding and teaching preprimary teachers on many levels. It has been suggested that the quality of early childhood education will not meaningfully improve until the research closely examines the quality and attributes of teachers themselves (Hargreaves, 2001; Zembylas, 2007). While this research provided a step towards better understanding the underlying dynamics of preprimary teachers and served to inform what must be considered in engaging a diversely qualified population of preprimary teachers how to teach, much focus remains needed on this and related topics. The foundations of this study open the door for further examining six extensions of this research.

First, Facione (1990) argued that good critical thinkers demonstrate necessary cognitive skills but also possess specific dispositions that support the realization of critical thinking. Research in the area of critical thinking and education generally focuses on children (Paul & Elder, 2002). Additional research is needed to examine the critical thinking abilities of preprimary teachers and the possible impacts that levels of critical thinking have on new learning and instructional practices.

While this research provided strong evidence of the relationship between emotional understanding and critical thinking dispositions, as well as the existing relationship between critical thinking and willingness to change when receptiveness in individuals is present, future research could serve to analyze if the same is true between emotional understandings and measure of critical thinking abilities. Critical thinking abilities could also be correlated with one's expression of a will to change.

Further, a focused examination of the interplay of emotions involved with learning and the embedded patterns of meaning making that exist is needed. In efforts to more productively provide relevant professional development that fosters transformative learning, future research should focus on examining specific forms of emotional pedagogy. That is, research should seek to identify with adult learners which strategies can be utilized to link new learning by optimizing emotional connections and awareness.

Much of the present research places emphasis on teaching educators the importance of recognizing the emotions of children and how to facilitate the children's social and emotional development. However, this researcher believes that this focus can be misguided if consideration is not given first to acknowledging the attributes of teachers. Preprimary teachers must truly possess a level of emotional understanding themselves as to guide the interactions and critical decision-making that occurs daily in the classroom. Therefore, future research could seek to answer if teachers' own level of emotionality predicts their perceptions of children.

Relatedly, one might seek to explore if teachers lacking in emotional understanding characteristics and critical thinking dispositions could perform instructionally as effectively as teachers deemed high in those attributes. It could be

hypothesized that there is a consistent pattern between one's ontogenetic self (including emotional dimensions and critical thinking dimensions) and the actual practices of engaging and responding to professional growth experiences as measured by the quality of instructional practices.

Though this study did not seek to evaluate the actual classroom practices or interactions of teachers, future research could examine the relationship between preprimary teacher's self-perceptions and actual practices, specifically rooted in the interactional responses teachers exhibit such as mediated learning and the impact of those responses. Associated with this is the opportunity to explore potential associations between what is believed and what is practiced, in the realm of relationships, which could prove seminal in the equation of both individualizing professional growth and enhancing the quality of teaching.

On a different note, this study provided inconclusive evidence of the relationship between the personal attributes of preprimary teachers and critical thinking dispositions. Future research could serve to discover social and cultural variables that influence preprimary teachers' perceptions of thinking and learning.

According to Hargreaves (2000), emotions are consistently indicated as the foundation of teacher's practices and professional learning. Future research could serve to continue to advance our understanding of the interplay of emotions, as related to learning and teaching. The provided suggestions for future research do not constitute an exhaustive list, but rather provide stimulation for contemplating and addressing the numerous topics of which there are significant voids in the professional literature as directly related to preprimary teachers.

Summary

This quantitative study of 186 preprimary teachers explored the constructs that lead to one's willingness to change their thinking and practices rooted in their emotional understandings. Theoretical frameworks associated with ecological and transformative theory guided by the philosophical beliefs of Dewey formed the foundation for this study. Various pieces of existing literature served to inform potential and identified relationships between receptiveness and willingness, emotion and cognition, emotion and receptiveness, and critical thinking and will. Hargreaves (2000) suggested that teachers are "emotional practitioners" (p. 812) and thus influence their own experiences and those of children in positive and negative ways. It is established that in order for teachers to teach critical thinking skills, they must first exhibit the ability to think critically themselves (Dewey, 1910; Marzano, 2007; Glasser 1941). As a result of considerable attention on the role and identity of teachers in general, much progress has been made in identifying dispositional attributes associated with effective teaching and critical thinking (Darling-Hammond & Bransford, 2005; Glaser, 1941; Facione & Facione, 2007) that recognized the importance of both cognitive and emotional dimensions of professional knowledge (Zembylas, 2007). This study's findings are consistent with implications in the psychological, sociological, and educational literature as to subjective nature of emotions and their influence on thinking, learning, and actions (Mezirow, 1991; Cranton, 1994; Hargreaves, 1999, 2001, 2003; Frijda, Manstead, & Bem, 2000; Paul & Edler, 2002; Mayer, Salovey, & Caruso, 2000; Rogers, 1980; Dewey, 1910).

According to the results obtained from this specific population of teachers, there is a viable relationship between self-reported measures of one's emotional understanding, critical thinking dispositions, receptiveness to new learning and ultimately one's willingness to change. While there remains growing discrepancies in numerous aspects of the literature focused on the interrelationships of affective, cognitive and behavioral processes involved with teaching and learning, the underlying conclusions of the data provided evidence that the field of education should explore both teaching and teacher quality with an emotional lens.

Conclusion

This study was motivated by the researcher's strong belief that emotional dimensions of teaching and learning are significantly lacking from the literature related to preprimary teachers and early childhood education. Yet, this biased belief served merely to guide inquiry into exploring the research question and hypotheses presented and ultimately contributing to the educational literature. This research assumed, based on the literature associated with teacher quality, that the need for quality preprimary teachers exists. It is recognized that early childhood education is no longer a childcare issue, but rather a critical educational issue and need in our society. In order to facilitate meaningful learning experiences for children, we must first provide meaningful learning experiences for teachers. Further, it is believed that professionals in the field should cautiously examine the empirical research associated with curriculum, pedagogy, and relationships, because existing research clearly establishes that the most significant variable impacting the quality of education is the teacher (Darling-Hammond, 2006). Therefore, findings of this study validated for the researcher the need for us to closely

examine the quality of teachers themselves when considering professional development and instructional practices.

Chapter V concludes this study which explored the relationships between emotional understanding, the dispositional attributes to think critically, receptiveness to new learning and willingness to change. The findings provided confirm and inform that emotional antecedents must be considered with teacher learning and change. Four specific findings addressed the individual and collective relationships between the variables expressed. Overall, a relationship was revealed between the constructs explored. Also, there is a positive direct relationship between emotional understanding and will to change. Critical thinking dispositions are strongly related to emotional understandings. Lastly, receptiveness to new learning precedes one's will to change. The recommendations drawn from the findings and interpretations serve to foster consideration of the variables that are important when addressing preprimary teacher learning and willingness to change. The recommendations further suggest that if the aim is to meaningfully impact quality early childhood preschool experiences and provide germane training, a deeper analysis is needed of the attributes and qualities that define effective preprimary teachers as well as the means by which we teach teachers. In conclusion, as John Dewey (1938) stated, "The self is not something that is ready-made, but something in continuous formation through choice of action" (p. 35). We must strive to continue to improve quality early childhood experiences by focusing our attention on the quality of preprimary teachers and what they contribute to education on multiple levels.

APPENDIX A

IRB APPROVAL FOR PILOT



THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147
 Hattiesburg, MS 39406-0001
 Tel: 601.266.6820
 Fax: 601.266.5509
 www.usm.edu/irb

**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
 Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 29042306

PROJECT TITLE: Receptiveness and Change in Preprimary Teachers

PROPOSED PROJECT DATES: 05/01/09 to 07/31/09

PROJECT TYPE: New Project

PRINCIPAL INVESTIGATORS: Elizabeth Beavers

COLLEGE/DIVISION: College of Education & Psychology

DEPARTMENT: Curriculum, Instruction, and Special Education


FUNDING AGENCY: N/A

HSPRC COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 05/04/09 to 05/03/10



 Lawrence A. Hosman, Ph.D.
 HSPRC Chair



 Date

APPENDIX B

IRB APPROVAL FOR STUDY



THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147
 Hattiesburg, MS 39406-0001
 Tel: 601.266.6820
 Fax: 601.266.5509
 www.usm.edu/irb

**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 29071304

PROJECT TITLE: **Emotional Antecedents of Preprimary Teacher Learning: The Interplay of Emotional Understanding, Critical Thinking Dispositions, Receptiveness to New Learning and Willingness to Change**

PROPOSED PROJECT DATES: 07/01/09 to 12/31/09

PROJECT TYPE: **Dissertation or Thesis**

PRINCIPAL INVESTIGATORS: **Elizabeth Beavers**

COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Curriculum, Instruction, & Special Education**

FUNDING AGENCY: **N/A**

HSPRC COMMITTEE ACTION: **Exempt Approval**

PERIOD OF APPROVAL: **07/21/09 to 07/20/10**

Lawrence A. Hosman

 Lawrence A. Hosman, Ph.D.
 HSPRC Chair

7-23-09

 Date

APPENDIX C

COPY OF AUTHORIZATION FOR PROVIDING CONTACT TRAINING HOURS AS
ENDORSED BY THE DIRECTOR OF LICENSURE AND REGULATION,
MISSISSIPPI DEPARTMENT OF HEALTH

Survey Participation

*is awarded one (1) contact hour
of
Professional Development*

*This session was approved for a maximum of one hour
of child care facility staff development by the
Child Care Facilities Branch
of the Mississippi Department of Health*

APPENDIX D

PILOT SURVEY

Receptiveness and Change

PLEASE ANSWER EACH OF THE FOLLOWING QUESTIONS:

AGE: _____	
HIGHEST EDUCATION LEVEL (please check): <input type="checkbox"/> GED <input type="checkbox"/> High School Diploma <input type="checkbox"/> CDA <input type="checkbox"/> 2 year Associates Degree Major: _____ <input type="checkbox"/> 4 year degree Major: _____ <input type="checkbox"/> Graduate Degree Major: _____	WORK SETTING: <input type="checkbox"/> Private Child Care <input type="checkbox"/> Head Start <input type="checkbox"/> Public Preschool <input type="checkbox"/> Family Child Care <input type="checkbox"/> Faith Based Preschool <input type="checkbox"/> Other: _____
YEARS OF EXPERIENCE WORKING WITH PRESCHOOL AGE CHILDREN: _____ years	AVERAGE AGE OF CHILDREN IN YOUR CLASSROOM: _____ years old
ARE YOU HAPPY WITH YOUR JOB? <input type="checkbox"/> Yes <input type="checkbox"/> No	AVERAGE NUMBER OF CHILDREN IN YOUR CLASSROOM: _____ children
AVERAGE HOURLY WAGE YOU RECEIVE AS PAY: \$_____ per hour	NUMBER OF IDENTIFIED CHILDREN WITH SPECIAL NEEDS IN YOUR CLASS? _____ children
AVERAGE AMOUNT OF PROFESSIONAL DEVELOPMENT HOURS YOU GET EVERY YEAR: _____ hours per year	YOUR RACE (please check): <input type="checkbox"/> Hispanic <input type="checkbox"/> Asian <input type="checkbox"/> Black/African American <input type="checkbox"/> Other: _____ <input type="checkbox"/> White/Caucasian

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820

Receptiveness and Change

Please read each of the following statements carefully and indicate the appropriate response that represents the level to which you agree or disagree with the statement. Only put an "X" below one response per statement. Please do not leave any questions unanswered.

	Statements	<i>Disagree</i>	<i>Somewhat Disagree</i>	<i>No Opinion/ Indifferent</i>	<i>Somewhat Agree</i>	<i>Strongly Agree</i>
1	I believe that my personal experiences with change are a result of thinking about how things could be better.					
2	I am always looking for ways to improve my teaching.					
3	I consider myself as someone open to new experiences.					
4	I am motivated from within to improve my teaching practices for the benefit of my students.					
5	Change is positive and negative, but I think of it mostly as positive.					
6	I continually find and try new ways to teach.					
7	I demonstrate a willingness to implement change in my classroom.					
8	I believe that classrooms are ever changing.					
9	I think about my teaching practices and change them as appropriate.					
10	I enjoy learning new strategies and ideas for teaching.					
11	I am a curious person.					
12	I find ways to strengthen my teaching practices.					
13	When learning new strategies related to teaching, I try to think of different ways that I can apply them.					
14	I prefer to be told directly what to teach and how to teach.					
15	If I have a choice, I will use my personal time to learn how to teach children better.					
16	I attend more than the required professional development workshops every year by choice.					

Thank you for your time and assistance.

APPENDIX E

PILOT LETTER FOR PARTICIPANTS

Dear Preschool Teacher,

Hi! My name is Elizabeth Beavers and I am conducting research to establish validity and reliability on a self-administered questionnaire, "Receptiveness and Change," as part of my dissertation. The purpose of the questionnaire is to survey preprimary teachers about their perceptions regarding receptiveness to new learning and willingness to change. I am seeking your assistance. Being an educator myself, I know that your time is limited. However, to further research in the area of early childhood education, your input and participation is needed and valued. The attached questionnaire will take about 10 minutes to complete and requires nothing but your honest responses. As a result, all questionnaire responses will be anonymous. Please do not put any identifying information on the questionnaire. Any information inadvertently gathered during this pilot study will be kept completely confidential. The only individuals that will have access to the information will be my methodologist, Dr. Richard Mohn, and my dissertation chair, Dr. Hollie Filce and myself. Because completing the questionnaire is completely voluntary, you are free to decline participation at any time you feel necessary. Once complete, I will collect the questionnaire. I may follow up with some questions to gather your perceptions of the instrument as to improve it if necessary. Questions may be related to the phrasing of the statements, the readability, and the clarity. As mentioned, your assistance is greatly valued.

Based on your participation, I will be able to ensure that the instrument does in fact measure what it is suppose to consistently. Once you have completed the questionnaire, I will collect it. After all statistical analysis are complete, the questionnaires will be destroyed, leaving only the synthesized data. I will be using this questionnaire eventually to further research by studying the relationships between emotions, critical thinking, receptiveness to new learning, and willingness to change. Given the rapid changes in the field of early childhood education, it is imperative that we seek to better understand how to provide quality professional development and understand the nature of early childhood teachers themselves. Ultimately, this research serves to enhance our understandings of these variables. If you are interested in the results of the pilot study for which you are participating, please email me at Elizabeth.beavers@gmail.com.

By completing the self-administered questionnaire you granting anonymous permission for this confidential data to be used for the purposes described in this letter. I am available to answer any additional questions that you may have. Thank you for your time and support,
Elizabeth Beavers, MS Spec. Ed.

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

APPENDIX F

STUDY PARTICIPANT LETTER

Dear Preprimary Teacher,

Hi! My name is Elizabeth Beavers and I am conducting research related to preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning and willingness to change as part of my dissertation. The purpose of the questionnaires is to survey preprimary teachers about their self-beliefs and perceptions. I am seeking your assistance. Being an educator myself, I know that your time is limited. However, to further research in the area of early childhood education, your input and participation is needed and valued. The questionnaires will take about 45 minutes to complete and requires nothing but your honest responses. Given the reflective nature of the questionnaires, you will earn one contact training hour, as approved by the Mississippi Department of Health, Department of Child Care Licensure and Regulation. All questionnaire responses will be anonymous. You will not be asked to put any identifying information on the questionnaire. Any information inadvertently gathered during this study will be kept completely confidential. The only individuals that will have access to the information will be my methodologist, Dr. Richard Mohn, and my dissertation chair, Dr. Hollie Filce and myself. Because completing the questionnaire is completely voluntary, you are free to decline participation at any time you feel necessary. Once complete, I will collect the questionnaire. As mentioned, your assistance is greatly valued.

Based on your participation, I will be able to confirm relationships between the variables of emotional understanding, critical thinking dispositions, receptiveness to new learning and willingness to change. Once you have completed the questionnaire, I will collect it and provide you with one contact training hour certificate. After all statistical analysis are complete, the questionnaires will be destroyed, leaving only the synthesized data. I will be using this questionnaire to further research in the field of early childhood education. Given the rapid changes in the field of early childhood education, it is imperative that we seek to better understand how to provide quality professional development and understand the nature of early childhood teachers themselves. Ultimately, this research serves to enhance our understandings of these variables. If you are interested in the results of the study for which you are participating, please email me at Elizabeth.beavers@usm.edu.

By completing the self-administered questionnaires you granting anonymous permission for this confidential data to be used for the purposes described in this letter. I am available to answer any additional questions that you may have.

Thank you for your time and support,
Elizabeth Beavers, MS Spec. Ed.

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820

APPENDIX G

STATEMENT TO BE USED ON STATEWIDE EARLY CHILDHOOD LISTSERV
AND ADVERTISEMENT OF DATA COLLECTION SESSIONSInterested in Participating in a Study
and
Receiving One Contact Training Hour of Professional Development
(approved by the MDH, Child Care Licensure)

Elizabeth Beavers is conducting a study that is seeking the beliefs and opinions of teachers and childcare providers of 3, 4, and 5 year-old preschool aged children. The purpose is to conduct research related to preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning and willingness to change as part of a dissertation.

If you are interested in attending one of the five sessions indicated below or would like more information, please email Elizabeth at Elizabeth.Beavers@usm.edu or call 60.310.3068. Registration is required.

July 24, 2009	1:00 PM	Hattiesburg	USM Campus
July 28, 2009	6:00 PM	Natchez	To Be Announced
July 29, 2009	6:00 PM	Gulf Coast	USM Campus
July 30, 2009	1:00 PM	Hattiesburg	USM Campus
Aug. 4, 2009	6:00 PM	Hattiesburg	USM Campus
Aug. 8, 2009	9:00 AM	Jackson	To Be Announced

One approved contact training hour of professional development will be provided for teachers and childcare providers of preschool aged children. Participation will take approximately one hour.

Professional Development Opportunity



Interested in Participating in a Study and Receiving One Contact Training Hour of Professional Development

(approved by the MDH, Child Care Licensure)

Elizabeth Beavers is conducting a study that is seeking the beliefs and opinions of teachers and childcare providers of 3, 4, and 5 year-old preschool aged children. The purpose is to conduct research related to preprimary teachers' emotional understandings, critical thinking dispositions, receptiveness to new learning and willingness to change as part of a dissertation.

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If you are interested in attending one of the three sessions indicated or would like more information, please contact Elizabeth



Sessions

August 4 6:00 PM
USM Hattiesburg
August 6 6:00 PM
USM Gulf Coast
August 11 1:00 & 6:00
USM Hattiesburg

This is for teachers and providers of preschool aged children.
Participation will take approximately one hour.

Registration is Required

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

APPENDIX H

ORAL INSTRUCTIONS

For Use at Data Collection Sessions

1. Welcome all participants for attending. Ensure that participants signed in upon arrival, received an ID number, and thank them for their time. Introduce self and lead into the stated purpose (This may be paraphrased)
2. State Purpose and Description of Study: “What you will be doing today is answering several questions. Though this is not typical of most professional development you engage in, you will receive one contact training hour if you complete the questionnaires. The overarching purpose of collecting this data and seeking your participation today is to study the relationships between emotional understanding, critical thinking dispositions, receptiveness to new learning and the willingness of teachers to change. The purpose is to attempt to confirm relationships among these variables as they relate directly to preprimary teacher learning and practices, which is why only teachers who teach 3, 4 and 5 year old children can participate. The results of the information that you will contribute to will hopefully inform what we know about professional development efforts and your growth as early childhood teachers. I am trying to understand the factors that may explain individual’s willingness to modify their thinking and practices in order to facilitate meaningful interactions and experiences with children.”
3. State Requirements and Benefits: “You will be asked to fill out 4 questionnaires. Let me state clearly that you are not to include your name or any other personal information on these forms. I have provided each of you with a specific and unique number that you will use instead of your name. The first document that you are asked to complete is just some general information. This will allow me to describe all of the types of teachers that are participating in this study and compare this information to other studies if necessary. The second questionnaire, *Receptiveness and Change*, involves just a few questions that you will mark according to the level that you agree or disagree with the statements. The third and fourth questionnaires are published instruments that you will also indicate the degree to which you agree or disagree with presented statements. (If taking the written forms- indicate that they each have separate answer sheets that are provided inside the cover of each test booklet using the pencils provided. The ID number that you have been provided, as you signed in, is to be indicated on each.) (If using the online forms: Indicate that each computer is already opened to the two links and to begin they need only to click on the link and log in with the ID number provided. They are not to open any other applications and to ensure security of the instruments the administrator will be monitoring computer screens). You will not be timed but it is estimated that completing all of the instruments will take approximately 45 minutes. Each of the questionnaires seek information related to your beliefs and opinions. It is very important that you answer the questions honestly. Please be assured, that other than the ID number indicated on each so that they may be connected and compared, no personal

information will be identifiable. I assure you that confidentiality will be maintained by following the procedures I have explained. It is anticipated that in order for you to answer the questions truthfully, you will have to reflect and think about your beliefs and practices. Given the reflective nature of these instruments, upon verified completion of them, you will be awarded one hour of professional development as approved by the Mississippi Department of Health, Office of Child Care Licensure.”

4. State Risks, Assurances, and Reinforce Confidentiality: “This research and the use of the questionnaires have been approved by The University of Southern Mississippi, Human Subjects Protection Review Committee. A copy of the approval is available for your review at the sign in table and contact information regarding any questions or concerns about this research is indicated on the first page that you were provided. The only possible risks that have been identified are associated with time constraints, confidentiality, and your beliefs about your own skills and abilities. Each of these potential concerns have been addressed in that there are no time constraints for you to answer the questions, no identifying personal information is being requested and you are strongly encouraged to answer all questions honestly. Only myself, my methodologist, my dissertation chair and the publishing companies will have access to this information but no one other than myself will have direct contact with you. If you are interested in a summary of the results of this study when it is completed, my email address (or state, the email address of the researcher) is provided on your certificate of professional development and participation.”
5. Informed Consent Verification: “As stated, these questionnaires will take approximately 45 minutes. I have briefly reviewed the purpose of the research and your involvement. If you do not wish you participate you are free to leave at any time. There are no consequences for your not participating only that the hour of reflective professional development will not be fulfilled meeting the Mississippi Department of Health requirement to received the contact training certificate. By fully completing all four instruments and turning them in to me upon your completion, I will have evidence of your informed consent to participate. Also, upon full completion of all four questionnaires you will be provided a certificate verifying your participation. Again, you will receive documentation of one contact training hour.”
6. “Does anyone have any questions?” Address questions as appropriate.
7. Initiation of Data Collection: “As a teacher myself, I know how valuable your time is. I want to thank you again for participating in this study and hope that you find the questions reflective. I also want to assure you that your involvement in this study is important to current research in the field of early childhood education. As a preprimary teacher, you are very important and your beliefs matter significantly. Please follow the directions, as explained, and answer each question to reflect your honest beliefs and reflection of your practices. So...Thank you. You may now begin with the demographic sheet. I will be floating around verifying that each form has your appropriate ID number.

Signature of Person Communicating the Oral Instructions and Date Administered

APPENDIX I

RECEPTIVENESS TO CHANGE

*Please read each of the following statements carefully.
Indicate the appropriate response that represents the level to which you agree or disagree with the statement. Only put an "X" below one response per statement.
Please do not leave any questions unanswered.*

	<i>Statements</i>	<i>Disagree</i>	<i>Somewhat Disagree</i>	<i>No Opinion/ Indifferent</i>	<i>Somewhat Agree</i>	<i>Strongly Agree</i>
1	I consider myself as someone open to new experiences.					
2	I am a curious person.					
3	I find ways to strengthen my teaching practices.					
4	I prefer to be told directly what to teach and how to teach.					
5	If I have a choice, I will use my personal time to learn how to teach children better.					
6	I attend more than the required professional development workshops every year by choice.					

**Thank you for your time and assistance
involved with participating in this research.**

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APPENDIX J

WILLINGNESS TO CHANGE

Please read each of the following statements carefully and indicate the appropriate response that represents the level to which you agree or disagree with the statement. Only put an "X" below one response per statement. Please do not leave any questions unanswered.

	<i>Statements</i>	<i>Disagree</i>	<i>Somewhat Disagree</i>	<i>No Opinion/ Indifferent</i>	<i>Somewhat Agree</i>	<i>Strongly Agree</i>
1	I believe that my personal experiences with change are a result of thinking about how things could be better.					
2	I am motivated from within to improve my teaching practices for the benefit of my students.					
3	I continually try new ways of teaching.					
4	I believe that classrooms are ever changing.					
5	I think about my teaching practices and change them as appropriate.					
6	When learning new strategies related to teaching, I try to think of different ways that I can apply them.					

Thank you. Please proceed to the next questionnaire, the EJI.

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APPENDIX K

VARIANCE COVARIANCE MATRIX

	Ed_Level	YrsExp	ModPDHours	WillC1	WillC2	WillC3	WillC4	WillC5	WillC6	Recept3
Ed_Level	2.325									
YrsExp	2.731	83.378								
ModPDHours	6.189	53.139	416.809							
WillC1	0.086	-0.054	-0.189	0.495						
WillC2	0.041	-0.670	-1.356	0.178	0.291					
WillC3	0.049	0.246	0.703	0.184	0.195	0.392				
WillC4	0.081	-0.525	0.318	0.183	0.181	0.195	0.478			
WillC5	0.105	-0.144	0.099	0.135	0.191	0.224	0.214	0.375		
WillC6	-0.012	-0.406	-0.404	0.209	0.178	0.176	0.162	0.171	0.317	
Recept3	0.121	-0.369	0.049	0.156	0.135	0.157	0.103	0.133	0.136	0.338
Recept5	0.172	-0.115	2.608	0.129	0.166	0.205	0.093	0.129	0.110	0.298
Recept6	0.329	2.320	3.868	0.135	0.134	0.219	-0.009	0.148	0.166	0.293
CTDTruth	1.470	9.356	-3.469	-0.545	-0.049	0.238	-0.239	0.470	-0.301	-0.034
CTDOpenmind	-0.386	-10.392	-12.692	0.720	0.603	0.662	0.746	0.684	0.285	0.292
CTDAnalyt	0.641	-8.607	-29.238	0.858	0.643	0.403	0.113	0.118	0.422	0.753
CTDSystem	0.538	-3.067	-11.571	0.955	0.202	0.500	0.060	0.374	0.476	0.885
CTDConfid	2.389	-1.603	-7.890	1.315	0.737	0.959	0.521	0.594	0.934	1.317
CTDInquiz	2.010	-7.604	-8.696	1.183	0.648	0.959	0.771	1.024	0.916	1.176
CTDMature	2.483	5.101	-11.764	0.697	0.631	1.141	0.318	1.007	0.049	0.390
EJI_AW	1.932	-14.201	-30.385	1.076	0.979	0.427	1.327	1.052	0.720	0.573
EJI_IOthersE	-0.563	-9.736	-29.234	0.249	0.628	0.314	0.643	0.407	0.402	0.536
EJI_ManOwn	1.693	4.277	-2.211	0.432	0.684	1.070	0.454	1.051	0.858	0.942
EJI_ProbSol	1.349	-6.792	-0.634	1.684	1.201	0.965	1.300	1.174	0.746	0.731
EJI_IMIndex	1.593	2.448	4.930	1.243	1.073	1.230	0.289	0.996	0.887	1.385

VARIANCE COVARIANCE MATRIX CONTINUED

	Receipt5	Receipt6	CTDTruth	CTDOpenmind	CDTAnalyt	CTDSystem	CTDConfid	CTDInquiz	CTDMature
1.047									
0.707	1.688								
0.416	0.605	48.532							
0.746	-0.024	15.002	34.886						
0.902	1.018	1.895	12.679	40.503					
0.538	0.497	13.845	14.877	20.813	42.548				
2.323	2.677	2.036	11.988	29.266	21.664	60.464			
2.021	1.856	10.079	16.109	23.166	21.381	25.586	60.199		
0.500	0.770	37.739	20.679	16.323	21.615	6.935	18.642	80.093	
0.007	-1.761	6.217	11.430	14.649	11.798	15.706	19.504	17.699	
0.630	-0.494	6.617	8.048	12.767	8.099	14.299	11.240	6.409	
1.491	1.010	21.551	11.214	12.057	18.787	18.103	14.751	20.272	
0.650	0.188	-7.125	4.231	13.296	5.976	13.048	13.075	-0.576	
2.603	2.681	19.804	8.116	18.066	21.456	28.177	27.288	22.043	

VARIANCE COVARIANCE MATRIX CONTINUED

EJI_AW	EJI_IOthersE	EJI_ManOwn	EJI_ProbSol	EJI_IMIndex
54.400				
17.750	40.863			
11.008	12.291	78.509		
25.394	13.901	-3.224	67.416	
24.057	9.384	38.879	-0.556	86.225

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