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### Teaching and Teacher-Child Relationships as Explored Through Narrative Processes: a Mixed-Method Analysis

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SUFFOLK UNIVERSITY

TEACHING AND  
TEACHER-CHILD RELATIONSHIPS  
AS EXPLORED THROUGH NARRATIVE PROCESSES:  
A MIXED-METHOD ANALYSIS

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE COLLEGE OF ARTS AND SCIENCES  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY  
DEPARTMENT OF PSYCHOLOGY

BY  
MARGARET KOEPKE FOX

BOSTON, MASSACHUSETTS  
JANUARY 2013

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To my parents upon whose shoulders I stand

and

To Max and Adrienne who have imbued every step of this endeavor with meaning

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## TABLE OF CONTENTS

LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
ABSTRACT.....	ix
CHAPTER	
I. INTRODUCTION AND OVERVIEW.....	1
II. THE EFFECT OF DIALOGIC PROCESSES ON MENTAL MODELS OF TEACHING STYLE.....	4
III. TEACHER-CHILD RELATIONSHIPS: EMPATHY AND DISCONNECTION EXPLORED THROUGH NARRATIVES.....	42
IV. NARRATIVE DISCOURSE: THE RELATIONSHIP BETWEEN TEACHING STYLE, RELATIONSHIP QUALITY, AND EMOTION UNDERSTANDING.....	75
V. CONCLUDING REMARKS.....	122
REFERENCES.....	124

## LIST OF TABLES

Table 1.1:	Characteristics of Educators, Classrooms and System.....	20
Table 1.2:	LIWC Categories, Word Examples and Categorical Assignment for Study Analyses.....	72
Table 2.2:	Associations Among Narrative Emotion Words and Relationship Factors.....	73
Table 3.2:	Proportion of Emotion Words Used by Teachers and Children: Mean and Standard Deviations.....	74
Table 1.3:	Observed Teacher Style as Predictors of Distancing Emotion Expressions-Standardized $\beta$ (Beta) and Unstandardized Coefficients (B) and Standard Errors (SE).....	119
Table 2.3:	Observed Teacher Style as Predictors of Emotion Engagement, Standardized $\beta$ (Beta) and Bivariate $r$ .....	120
Table 3.3:	The Effect of Gender on Quality of Emotion Exchanges: Proportional Mean (SD), F Statistic and Effect Sizes (Partial $\eta^2$ - $\eta^2$ ).....	121



## LIST OF FIGURES

Figure 1.1:	Pre-Problem Mental Models and Components.....	24
Figure 2.1:	Post-Problem Mental Models and Components.....	24
Figure 3.1:	Mental Model Constructs (Pre-Problem) Most Important Information Necessary to Facilitate Teaching; Structure and Process Considerations.....	30
Figure 4.1:	Solutions to Education Problem: Structure and Process Considerations.....	31
Figure 5.1:	Making it Explicit: Mediating Effect of Talking About Mental Models.....	32
Figure 1.3:	Effects of teacher style and goals on mean levels of closeness as reported by teachers.....	118
Figure 2.3:	Effects of teacher style and goals on mean levels of conflict as reported by teachers.....	119

## ABSTRACT

This body of research presents outcomes of mixed-method examinations of teachers stated mental models (MMs) for best practice, observed practices (i.e., co-constructed narratives), and quality of teacher-child relationships. Overarching aims of the investigation were: 1) to identify the relationship between teachers' stated mental models of best practice and adherence patterns 2) to examine narratives of teachers and students to determine which elements of discursive praxis would be associated with relational connectedness, and 3) to examine the relationship between teachers' stated MMs for effective pedagogic practice and observed teacher-child interactions. Overall, the moderating effects of teacher (e.g., interaction style; goals for instruction) and child (e.g., gender) variables were considered. Six hundred and eighty-five children ranging from kindergarten to fourth grade (325 boys and 360 girls) and 33 teachers from a small suburb in the Northeast United States completed the Student-Teacher Relationship Scale; teachers also completed a questionnaire designed to identify MMs for effective practice. A sub-sample of 19 teachers and 397 kindergarten and first grade children (ages 5-7) were provided a wordless text and asked to co-construct narratives.

One finding of this exploration was that some educators did not adhere to stated MMs of best teaching practice when faced with an educational problem. However, those who responded to the problem in concert with stated MMs for teaching were more likely to have engaged in daily dialogue about pedagogic practices with colleagues. Results of

narrative inquiry confirm empathic and distancing praxis as predictive of relational indices with significant disparities and interactions found between voices of children and teachers. Specifically, children's empathic expressions predicted higher ratings of closeness whereas, teachers' empathy predicted relational distress. Significant gender disparities indicated teachers' distancing praxis in response to boys' expressions of vulnerability.

Surprisingly, teachers who identified MMs of teaching emphasizing structural consideration (e.g., cognitive, assessment) reported closer relationships with students than teachers who valued process considerations (e.g., relationship, teacher-child interactions) more highly. Qualitative analyses of narrative data revealed a discrepancy between stated MMs for teaching and explicit classroom practice. Nuances of teacher-child engagement revealed the association between relational engagement style and quality of emotion discussions, as well as the moderating role gender played to create disparities in the socialization of emotion understanding. Implications for teacher development and pedagogic practice are discussed.

## **CHAPTER 1**

### **INTRODUCTION AND OVERVIEW**

In the public discourse regarding education reform, increased attention is being placed on the role of the teacher in promoting social-emotional and academic competencies. Indeed, proximal-level teacher-child interactions represent one aspect of what theorists have long-identified as the “hidden curriculum” (Giroux, 1988; page 32). These dynamic moments move beyond mere instruction and represent opportunities in which socially mediated norms and principles of conduct are imparted and internalized. The role of the teacher, and teacher-child relationships are thus worthy of careful scrutiny. This investigation first considers the mental constructions of the teacher. How do teachers think about their profession and the role they serve as mediators of academic, social and emotional growth? What are their beliefs about the process of teaching and learning? What do good teachers know and how is this transformed into a knowledge that is accessible and usable? What role does dialogue, or processing what one knows with colleagues contribute to the development of this knowledge?

Chapter Two examines the practice of teaching, offering theories of cognitive development and learning to elucidate the process of “just knowing” how to teach. Teachers first describe their mental models (MMs) of teaching, identifying components of style they deem most important for effective practice. In an attempt to move beyond

the structure of pedagogy in into the process of teacher thinking, we next investigate whether educators adhere to these mental constructions when faced with a challenging classroom situation. Curious about the contribution of dialogic processes on teacher construction of self and subsequent ability to adhere to ideals of best pedagogic practice, we examine this association.

Moving from the isolated role of the teacher, we next investigate the proximal-level processes embedded within the micro-system of the teacher-child dyad. Identifying discursive praxis as a means of structuring consciousness, thought, and action, Chapter Three focuses on the shared narratives between teachers and children during story time. Extant research abounds examining the contribution of teacher-child relationships to social, emotional and academic competencies, although none to date have examined the nuances of teacher-child relationships via narrative processes. Narrative discourse, as captured between the teachers and children in our sample, provided us with the opportunity to examine the transmission-process of social-emotional understanding. In Chapter Three, we specifically investigate whether emotion words used during co-constructed narratives of teachers and children during shared story time are associated with teacher-child relational quality. In light of the corpus of literature identifying gender as a moderator of social-emotional understanding, as well as teacher-child relationships, we were cognizant of including this variable in our investigation.

In Chapter Four, we return to the role of the teacher: what do good teachers know, and when engaged in the intersubjective process of teaching/learning is this knowledge explicitly accessible and useable? This investigation initially focuses on the association between teachers' stated MMs for best practice and actual observed classroom engagement with children. Our earlier investigation (Chapter Two) illuminated the association between reflective and dialogic processes and adherence to mental models of teaching/learning in actual classroom practice. Chapter Four more deeply explores the nature of teachers' constructions (MMs) about teaching, actual classroom practices, and the role of teacher in the socialization of emotion understanding. Moving beyond our initial investigation, we now include the voices of the children. We examine the co-constructed narratives to gain insight into the relationship between teaching style, teacher-child relationship quality and nuances of social-emotional socialization processes. In our engagement with the narratives, qualitative procedures allowed us to better understand internal constructions and formal connections between teachers' thought and action. We listened to the voices of teachers and children engaged in the at once, both dynamic and reciprocal process of teaching/learning.

## **CHAPTER 2**

### **THE EFFECT OF DIALOGIC PROCESSES ON MENTAL MODELS OF TEACHING STYLE**

*“As is the teacher, so is the school.”*  
-John Dewey

In the early twentieth century, John Dewey recognized the discrepancy between educational theory and practice. Highlighting the importance of teachers, he stated that the gap between our “modern theories and what is accepted in school practice, is due to the fact that the intellectual responsibility of the classroom teacher has not been sufficiently recognized” (Dewey, 1924, page 186). Although theoretical understanding at that time held an appreciation for the benefit of active engagement in problem solving and the contribution teacher characteristics would make toward such efforts, classroom practice nonetheless emphasized rote memorization in service of acquired knowledge. The role of the teacher was underemphasized and undervalued in popular culture (Bruner, 1996). It was not until the latter part of the century that research in cognitive psychology began to identify defining characteristics of effective teaching. Linking teacher effectiveness to expertise in general, educational researchers began to call for theories of teacher development to better understand the transition from novice to expert (Berliner, 1997, 2004; Dreyfus & Dreyfus, 1986). Most recently, educators have called for greater collaboration between research and education; advances in biology, cognitive science and development are beginning to inform policy and the practice of teaching and learning

(Fischer, 2009). With state and national standards for assessment and accountability bearing down on pedagogic and curricular expectations, the need to understand teacher efficacy is greater than ever before. What do good teachers know and how is this transformed into a knowledge that is accessible and usable? What role does dialogue, or processing what one knows with colleagues contribute to the development of this knowledge?

Early childhood educators are compelled to have complex understandings of child development and educational issues in order to provide rich meaningful experiences that address cognitive, social and emotional imperatives. This understanding is often contingent upon state-mandated, ongoing professional development of practicing elementary and secondary educators as required to maintain licensure (Martinez-Beck & Zaslow, 2006; Sheridan, Edwards, Marvin, Knoche, 2009; U.S. Department of Education, 2011). Teacher development has traditionally targeted two primary systemic levels: to enhance the knowledge, skills, and practices of the individual, and to promote a professional culture that engenders growth-enhancement and self-sustenance (Sheridan et al., 2009). Promoting and sustaining an ethos of responsibility for ongoing development ideally becomes an “inside-out” process where educators retain responsibility to inform professional growth and development through continued study of best practices and reflective personal growth. Ideally, this process is effectively accomplished in collaboration with colleagues (Bray, Lee, Smith & Yorks, 2000; Semadeni, 2010;



Sheridan et al., 2009). Indeed, rather than simply identifying who knows what, collaborative processes bear the potential for the *creation of new* knowledge (Brown & Campione, 1990).

This paper examines the practice of teaching, offering theories of cognitive development and learning to elucidate possible cognitive underpinnings in the process of “just knowing” how to teach. We asked teachers to describe their mental models of teaching, borne of both formal post-secondary education as well as informal vivo classroom experiences. We then investigated whether educators adhered to these mental constructions when faced with a challenging classroom situation. We attempted to move beyond the structure of pedagogy and into the process of teacher’s thinking.

#### *Previous Research in Teacher Training*

The call for post-graduate education for teachers continues, although the relationship between a teacher’s level of education and overall classroom quality or student academic outcome has been found to be weak at best (Early, Maxwell, Burchinal, Bender, Ebanks, Henry, et al., 2007). Formalized teacher development traditionally takes place outside actual classroom experience, with limited opportunity for feedback or opportunities to engage in dialogue regarding observed practice (Pianta, 2006). Specialized training programs in which skills are practiced improve competencies of educators (Joyce & Showers, 2002); these competencies are further strengthened when opportunities for feedback are present (Fukkink & Lont, 2007). The consensus from

investigators is that teachers are more likely to implement new skills with training when combined with on-the-job coaching (Ager & O'May, 2001; 2007).

Traditional teacher development focused on workshop training and post-graduate coursework. More recently, discrete components of teacher training have been scrutinized in an effort to support No Child Left Behind Act (NCLBA) learning objectives (Tugel, 2004). Mentoring-coaching approaches to teacher training have long been emphasized as an effective means of providing support and guidance for novice teachers (Cummins, 2004; Onchwari & Keengwe, 2008). Recent findings from professional development approaches for Pre-K and Head Start Programs indicate that when teachers received consultancy and mentoring in addition to workshop training (2008; Pianta, La Paro, & Hamre, 2008), teachers improved the quality of their interactions with children (Onchwari & Keengwe, 2008; Pianta, Mashburn, Downer, Hamre & Justice, 2008). Improvements in student language arts and literacy skills were also noted within this mentoring model (Mashburn, et al. 2008). Meaningful differences attributed to consultant-effects (Downer, Locasale-Crouch, Hamre & Pianta, 2009) suggest that some mentor-mentee dyads may have been more relationally attuned and/or engaged in dialogue more easily, possibly affording a more meaningful experience for the trainee. More data are needed to elucidate precisely what effective coaches and consultants do to elicit desired competencies in practitioners (e.g., effective practice), whether these competencies included promoting self-reflection, and whether the capacity for self-

reflection mediated change. One possibility is that the mentor-mentee dyads provide opportunity for dialogic and dialectical processes to occur; a setting in which personally held constructions for teaching and learning are compared and contrasted until a consensus, or *public knowledge* is obtained (Scott, 2001).

Most salient is that inherent in the coaching paradigm is the opportunity for self-observation and critical feedback, each conducive to personal reflection. Taken at its core, dialogic, mutually reflective processes are identified as the source of and vital for the construction of a cohesive, subjective self (Stern, Hofer, Haft & Dore, 1984).

Evidence abounds indicating that an individual is capable of operating at a higher level of development when working in concert with a more accomplished other than when working alone (Fischer, 1993; Vygotsky 1978). The intersubjective nature of the interplay between self and other in this socio-cultural context highlights the nexus between social exchange and subsequent personal reflection. The framework used for the development of meaning is critically dependent on narrative discourse. In the coaching-mentoring paradigm, structure and support is provided for higher-ordered activity and meaning-making to be jointly constructed. Ultimately, in order for individual development to occur, effortful coordination and consolidation of action, thought and feeling must take place (Mascolo & Fischer, 2004). In this manner, the primary conscious activity performed in unison serves to promote and facilitate secondary self-reflective processes (2004).

Effective models for professional development would benefit from examining whether self-reflection processes effect sustained cognitive change, leading to increased efficacy. Shifting focus beyond the “basics” of teacher development (e.g., pedagogical methodology; curricular design), effective teaching practices (e.g., classroom management, assessment), and into the *process* of teacher development (e.g., mediators; mechanisms of change) is of scientific relevance. The application of scientific research and inquiry to practical and applicable programs of teacher training might afford insight into effective strategies for teacher development. Current efforts by the scientific community to integrate mind, brain and education posit that multiple lines of research within and across biology, cognitive science, human development and education can provide knowledge that is usable; that is, practical and applicable to programs of teacher education (Fischer, 2009). Processes that mediate change are inherently difficult to capture and measure. Theories of development and learning provide useful information regarding how teachers think and learn, and how one can best facilitate or scaffold these processes for optimal development. We next examine how various theorists have conceptualized teaching.

### *The Art of Teaching*

*“All the greatest achievements of mind have been beyond the power of unaided individuals.”*

*-Charles Sanders Peirce*

Theorists postulate that although teaching is a natural cognitive ability, found in human and non-human species alike (Caro & Hauser, 1992; Tomasello, 1999), the underlying processes have not been adequately studied (Strauss, 2005). Cognitive science provides a useful heuristic for capturing the underpinnings of this ubiquitous art. Unlike that of our closest primates, human educational practice is based on understanding children's minds (theory of mind, ToM) (Astington & Pelletier, 1996; 1992; 1999). Teaching includes understanding the beliefs, desires and knowledge of other minds, and the awareness or knowing that other minds might hold inaccurate assumptions, misconceptions and/or missing links (Astington & Pelletier, 1996; Gardner, 1991).

Teaching involves two types of knowing: declarative and procedural. Declarative knowing is accessible (e.g., knowing who is the first president of the United States) whereas procedural knowing tends to be in the service of accomplishing a task, and often is not accessible (e.g., knowing how to ride a bike). Good teaching is primarily procedural (Leinhardt, McCarthy-Young & Merriman, 1995). Consider the teacher, who aids one child in a particular manner, but at the next moment interacts with another child who is attempting the same exercise with a different approach. No doubt the teacher has an implicit understanding of two different minds, and a tacit ability to provide unique interventions. Good teaching is rarely pre-contemplated; moment-to-moment dynamic interactions require immediacy: a "just knowing." Tacit understanding has been referred to as "knowing more than we can tell," (Polanyi, 1967, page 4). The expert teacher who

appears to seamlessly weave individualized instruction in the classroom is enacting these intuitive processes. Tacit knowledge is required to handle challenging classroom situations effectively, and yet its elusive quality leaves the novice teacher wondering how and where to attain such (1995; Grigorenko, Sternberg, & Strauss, 2006).

Many cognitive theorists argue that although some knowledge essential to the practice of teaching is learned via formal training, tacit knowledge is acquired primarily through personal experience (Grigorenko, Sternberg, & Strauss, 2006). Common parlance is oft repeated; a teacher's "instinct" or "gut feeling" guides his or her actions. The teacher may not be able to articulate these "professional intuitions" as they are implicit; hence outside of focal awareness. One generally learned this type of professional tacit knowledge informally in context, generating a "feel" for what to do when. Theorists postulate that although philosophical and metaphysical underpinnings of tacit knowledge might be addressed, the guiding principles are rarely explicated, thus tacit knowledge is inaccessible (Leinhardt, Mcarthy-Young & Merriman, 1995; 2006). Implicit lay theories of the mind and learning have been referred to as "folk psychology" (Olson & Bruner, 1996). Folk psychology is thought to reflect not only innate human tendencies, but also cultural beliefs about the mind incorporated over time (1996). Armed with folk psychology, educators are thus directed in the activity of teaching so that learning occurs by enacting a "folk pedagogy" (1996, page 10).

To facilitate understanding and describing this “just knowing,” procedural knowledge, or folk psychology-folk pedagogy interface, previous investigators have utilized the concept and metaphor of a mental model (MM) (Johnson-Laird, 1983, Olson & Bruner, 1996; Strauss, 1996; Strauss, 2001). Teachers’ MMs constitute a cognitive structure that organizes how they think about learning and teaching. MMs are the “nuts and bolts” of how a teacher perceives the art of teaching, the process of learning, and the educator’s responsibility in the interface. For purposes pertinent to our investigation, we use mental models (MM) as a descriptive and explanatory system for understanding the development of teachers’ constructions of teaching and learning.

Investigators note discrepancies between in-action theories (what teachers do) versus espoused theories (what teachers purport to do) (Strauss, Ravid, Magen & Berliner, 1998). Although teachers refer to how they teach and may indeed have a mental model for such, it has been demonstrated that in actuality this model has little to do with how they enact their profession (Strauss, 1996; Strauss & Shilony, 1994).

In order to foster the connection between implicit espoused and in-action MM, teachers’ MM must be made explicit (Olson & Bruner, 1996; Strauss, 1996; Strauss, 1993). What is implicitly “known” is not verbalized and thus not accessible for reflection. Thinking explicitly about MM and assumptions about processes of teaching and learning leads educators out of the “shadows of tacit knowledge” affording deliberate application to the process of thinking and learning (Olson & Bruner, 1996, page 11). Teacher

reflection has been long identified as the process by which we understand the progression of professional practice (Dewey, 1924; Schon, 1983). Without a reflective capacity, teachers are unable to enrich understanding and correct misconceptions of how they teach and how children learn. Teacher reflection is seen as inquiry oriented, action-related and personal (Marcos, Sanchez & Tillema, 2008); the capacity of which is dependent upon experiences of the individual (Fischer & Pruyne, 2003).

In order to inform and facilitate best pedagogic practice, it becomes important to understand how reflective processes affect cognitive change. Karmiloff-Smith's (1992; 1994) constructivist approach to learning is a useful heuristic for understanding teacher development and mechanisms of change. The acquisition of usable knowledge that is progressively accessible synthesizes domain-general and domain-specific theories of cognitive development (Carey & Spelke, 1994; Fodor, 1983; Karmiloff-Smith, 1992, 1994). Via the synthesis of intra- and inter-domain relationships, representational redescrptions (RR) are created, and increasingly complex abstractions are constructed (Karmiloff-Smith, 1992). Karmiloff-Smith's theory supports previous educational research in which the notion of reflection is viewed as cyclical or recursive processes involving thought and action (Korthagen, 2002).

If implicit knowledge is made progressively explicit and thus available for reflection, the MM undergoes a conceptual change, or representational redescription (RR). When this occurs, the likelihood that meaning-making and flexibility and creativity



of action is enhanced (Karmiloff-Smith, 1994; Vygotsky, 1978). Assumptions can be evaluated, pedagogic skills adjusted and teaching expertise improved (Bransford, Derry, Berliner, Hammerness, & Beckett, 2005). In essence, the capacity to “know” one’s own mind (beliefs, wishes, feelings and thoughts), to reflect upon the minds of others (ToM), to recognize that these other minds are different than one’s own and to respond in like is essential for “good teaching.” The capacity to access this type of “knowing” and apply it to given classroom situations, and interpersonal relationships flexibly and creatively is what developmental and clinical psychologists refer to as *mentalizing* (Bateman & Fonagy, 2006). The ability to access this “usable” knowledge in the moment distinguishes the expert teacher from the experienced who has accrued professional time, but has not developed these higher ordered capacities (Fischer, 2009). Despite the inherent benefit in better understanding these processes, educational psychology has given this domain of investigation short shrift.

Cognitive and developmental psychology offer theories of learning and development that can be of heuristic value for understanding both teacher and student development. Teachers possess MMs, or cognitive structures of how they view teaching and learning. Most likely, these MMs are derived from self-reflective, organizational and integrative processes borne of intersubjective dialogic experiences. Developmental theory highlights the importance of and connection between social interactions and individual construction of higher-order actions, meanings and skills. Teachers’ espoused MMs of

how they teach most likely do not reflect what actually occurs in classroom settings. Cognitive theorists offer ideas as to how best to facilitate connection between espoused and in-action MMs. In making MMs explicit via dialogic process, teachers enrich their understanding of teaching and learning; thus advancing pedagogic and relational expertise. Given recent national and state mandates for teacher assessment, the call to better understand process of teaching and learning becomes ever more resounding. Insight into the subtleties of expertise that arise from mere teaching experience could potentially inform and advance teacher education directives. Critical inquiry into the mediators that promote change and development of practitioners' mental models of teaching provide a means for insight into these processes.

### The Current Study

The current investigation is a mixed-method exploration of teachers' organizing mental constructions (MMs) for teaching and learning. We sought to investigate how educators construct their mental models of teaching and learning, and whether or not they adhere to these theoretical models in actual practice. Specifically we asked: 1. Do educators incorporate processes of learning and development into models for teaching, or are they more concerned with the structure of learning (e.g., goals and objectives)? 2. Are educators' espoused mental models of teaching and learning reflected in their practices? 3. What role do dialogic processes play in the construction of and adherence to MMs of teaching and learning?

The current study differs from previous investigations in three distinct ways. Adhering to the belief that teachers and learners can and should be vital resources in formulating research methods and questions (Coch, Michlovitz, Ansari, & Baird, 2009; Fischer, Goswami & Geake, 2010; Maxwell, 1996), the questions and hypotheses posed in this study were drawn from the first author's experiences as an early childhood educator. Few studies include this unique perspective. Second, while theories of teaching and learning processes abound, few studies investigating teachers' MMs of these processes exist. The present study attempted to gather empirical evidence to elucidate how teachers construct MMs. Third, while this study asked teachers to explain their constructions, or MMs of teaching and learning, the focus of the study was on the *process* of their thinking, rather on concrete examples put forth.

We hypothesized that teachers would report having pedagogic MMs that value the underlying processes of learning and development, but when presented with an educational problem, their in-action models for solutions would deviate from espoused models. Based on the theories of learning put forth, we believed that when under duress, teachers would cognitively lose access to knowledge that was not solidly grounded in implicit understanding. Process considerations of teaching/learning theory are inherently complex and abstract, and thus more difficult to access when faced with stressors. Therefore, we hypothesized that when confronted with increased curricular demands, teachers would deviate from stated MM for "best-practice" and instead place emphasis on

concrete structural learning goals and objectives. Based on theories highlighting the relationship between explication of mental constructions and subsequent development of complex, abstract understandings and accessible knowledge, we additionally assert that talking about teaching practices with mentors and colleagues would increase the likelihood of adherence to espoused MMs. Specifically, we hypothesized that teachers who talked with colleagues on a regular basis would be more likely to adhere to stated MMs when faced with an educational problem, and that teachers who did not engage in explication of MMs would instead rely on concrete structural solutions to the posed problem. Given our interest in the processes of teacher development as they move from experienced to expert, hypotheses are outlined according to level of professional mastery.

#### *Teaching Experience*

The literature regarding the role of teaching experience in teachers' subsequent expertise indicates that it takes roughly 3-5 years until a teacher is no longer surprised by what happens in the classroom (Berliner, 2004). Student scores for beginning teachers have been reported to rise every year during the first 7 years of their teaching (Lopez, 1995). The literature argues that more experienced teachers should possess a more comprehensive repertoire of teaching strategies, an ability to acknowledge the richness and complexity of individual differences in learners, and exhibit a more flexible response pattern (Berliner, 2004). To some degree that may be true, as teachers gain experience, they most likely become more expert. However, an alternative hypothesis is possible: not

all experienced teachers are expert. It may also hold true that some novice teachers exhibit professional expertise, although in the current study, quantitative lack of experience dictated novice status. Educators in the current study were asked to identify level of teaching experience and self-perception of expertise. Based on these responses and a review of the literature the following criteria for parsing educators into categories were utilized\*:

*Novice Teachers:* those who have taught fewer than seven years

*Experienced Teachers:* those who have taught seven or more years

*Expert Teachers:* those who have taught more than fifteen years and have been selected to serve as mentors to novice teachers.

\* Administrators, Curriculum Director, Special Education and Language Arts

Teachers were each included in the appropriate “teacher category” based on stated criteria.

Deviating from previous research models (Strauss, & Shilony, 1994) we chose to use experienced and expert classification distinctions. This was done in order to examine potential processes that hold the two classifications separate. As a result, there were 8, 9 and 9 educators in each of the three categories.

*Hypotheses regarding teachers’ espoused mental models of pedagogy and practice*

Few researchers have attempted empirical study of teachers’ models of teaching and learning processes (Strauss & Shilony, 1994); thus guiding theory was sparse. Hence

our hypotheses are presented with a caveat. Motivations for the hypothesized models for teaching and learning are borne of the first authors' teaching and mentoring experience and attempts to ground assumptions from cognitive development theories (Strauss & Corbin, 1998).

- *Novice teachers* will rely on structure to inform practice (e.g., curricular goals and objectives, instructional technique). While they deem psychological processes (e.g., theories of learning and development) to be important, novice teachers will not reflect upon these when discussing possible solutions for educational problem.
- *Experienced teachers* will rely on implicit knowledge of the child to inform their practice. Although they implicate knowledge of teaching and learning processes as essential components of mental models, when generating solutions for an educational problem, they rely on structure (e.g., curricular choices, teaching strategies).  
Espoused mental models will deviate from in-action models.
- *Expert teachers* will engage in dialogue regarding their practices daily. They will implicate knowledge of teaching and learning processes in their mental models.  
Espoused MMs will resemble in-action models when generating solutions to a given educational problem.
- Teachers whose mental models for teaching more closely match with their actual practices will more frequently engage in dialogue with colleagues than those for whom mental representations and actual practice are in discord.

## Method

### *Participants*

The sample consisted of 26 teachers and administrators recruited from a suburban public elementary school in the northeastern United States in May of 2004. A total of 80% were female; all were Caucasian. As per the Community's Report Card (U.S. Department of Education, 2007), 98.8% were considered "highly qualified." According to Census data (National Census, 2000), 1.9% of the children in the community lived below the poverty line (as compared to national average of 1.4%) and 4% resided in single parent homes. The median household income for the community in 2000 was \$82,000 (National Census, 2000) and median home price for 2003 was \$650,000. More than 63% of the community's residents had a bachelor's or advanced college degree. The school ranked in the 90<sup>th</sup> percentile for mandated elementary-level state testing and in the 90<sup>th</sup> percentile statewide for SAT performance. Elementary school teacher/pupil ratio was reported to average 18:1. Professional development of teachers was highly encouraged, and course offerings were available to teachers at no out-of-pocket expense. Pay scale for teachers in the sample ranked within the top 10% for the state. Descriptive characteristics of the participants in this study are presented in Table 1.

Table 1.1  
*Characteristics of Educators, Classrooms and System*

<i>Characteristic</i>	<i>N</i>	<i>%</i>
Educators		
Caucasian	26	100
Female	22	80
Novice	8	30.8
Experienced	9	34.6
Expert	9	34.6
Teachers		
Classroom, Grades K-4	17	65.4
Language Arts Instructors	2	7.7
Certified Special Ed. Instr.	3	11.5
Administrators:		
Principals	2	7.7
Superintendent	1	3.8
Director of Curriculum	1	3.8
Classrooms (N=16)		
Child-to-teacher ratio	18:1	
Percent poverty		3.1
System		
Mandated State Assessment	90 <sup>th</sup> percentile	
SAT performance/State ranking	90 <sup>th</sup> percentile	
	Mean	SD
Years of Experience	18.50	12.0
Years of Education	18.25	1.1



## *Procedure*

### *Researcher Bias*

An interview protocol designed for written responses was developed in order to provide some measure of control for reliability, validity, participant reactivity and researcher bias. The questionnaire was thus delivered to and retrieved from each participant via regular inter-office mail. No personal contact between the investigator and participants was made during this phase. Teachers were not compensated for participation in the study.

### *Measures*

A written-interview protocol questionnaire was designed to address factors that would allow for the analyses of the overarching questions of the study (e.g., impact of teacher-education; dialogue with professors, mentors, collaborators.) Teachers were asked to provide data regarding level of educational attainment and professional employment history (e.g., how many years taught, grade level, specialties). Further questions were designed to elucidate how each teacher constructed their mental model of teaching and learning (e.g., regarding your formal college teacher-education, what are the five most important things you remember? How do you use what you learned in Ed School to inform your teaching?) Respondents were asked to respond in written format whether or not they had ever changed their minds about teaching and learning, and were encouraged to identify what had effected the change. Drawing from previous research,

variables regarding how teachers inform their practices were presented and respondents were asked to rank order which factors they deemed most or least important (e.g., developmental considerations, educational assessment, curricular design, relationship with student, goals, objectives, class size). Following these inquiries, educators were given an educational problem and asked how they would attempt a solution. Most pertinent to the hypotheses of this study was whether the respondent deemed processes of learning and development important in their construct of mental models of teaching and learning, and second, whether or not educators implicated the knowledge of such in solutions for the educational problem.

#### *Educational Problem*

After teachers were queried regarding variables for constructing mental models of teaching, they were provided an educational problem and asked to generate possible solutions in written format. According to National Standards (Nation's Report Card, 2007), the following represents a realistic educational problem:

*“Increased curricular expectations for students entering the second grade have resulted in overall lower student performance on assessment measures. Specifically, 20% of the incoming second grade class has performed below grade level with regard to early literacy skills. Briefly name five possible courses of action that should be considered.”*

#### *Data Coding and Mental Models*

##### *Quantitative*

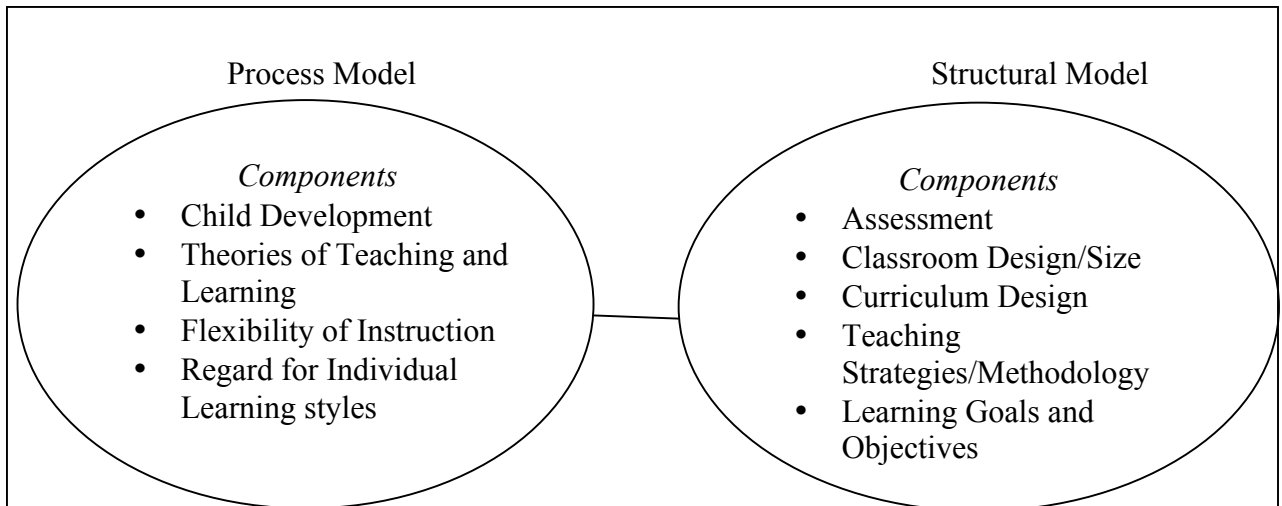
Teachers' (N=26) responses in which they rank ordered factors for effective teaching (e.g., developmental considerations, educational assessment, curricular design, relationship with student, goals, objectives, class size) are presented quantitatively as percentages. The importance of talking about teaching and learning was rated by teachers on a Likert-type scale of 1 ("not very important") to 10 ("of the utmost importance"), the results of which are presented as frequencies, means and SDs. Given our small sample size, data pertaining to Hypotheses regarding teacher status (e.g., novice, experienced, expert) are presented descriptively as frequencies.

### *Qualitative*

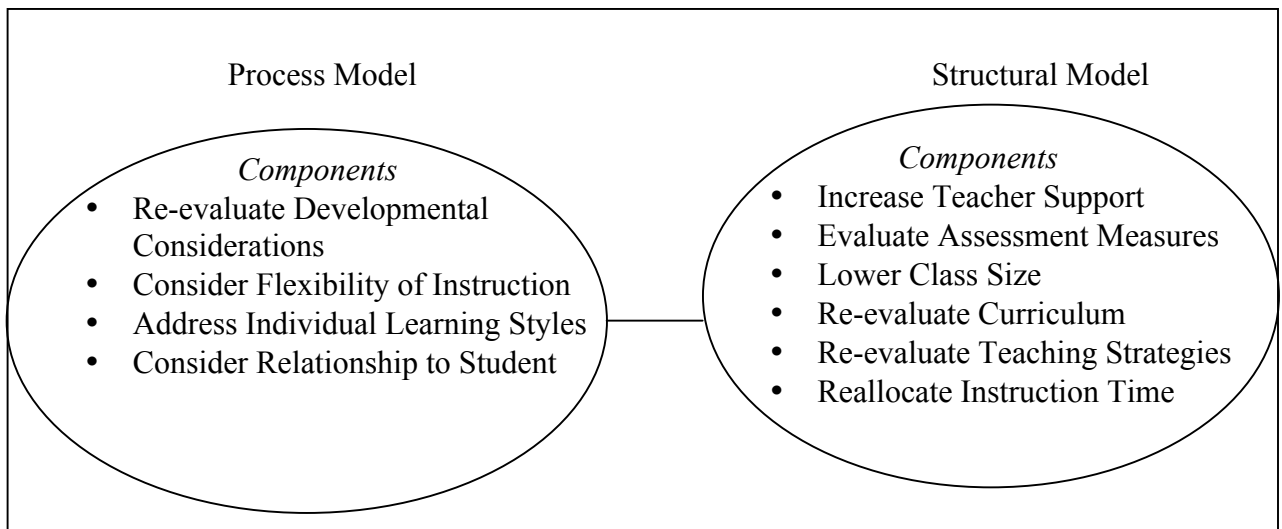
Figure 1, and Figure 2 illustrate mental models identified by the teachers in our study. Protocol written responses were first analyzed to determine teachers' MMs as they identified the components deemed most necessary to facilitate effective teaching. Teachers' written solutions to the educational problem (i.e., increased curricular demands; poor student performance) were analyzed to identify the constituent components educators deemed important when faced with an educational problem. Based on the literature, the identified components were parsed into two discrete categorical models: Process and Structural. Two MMs are illustrated each pre (Figure 1) and post-problem (Figure 2) along with identifying components. To facilitate discussion, the components are organized in terms of categories, but it must be noted that these

components are not organized into categories that are separate and distinct in educators' minds.

*Figure 1.1: Pre-Problem Mental Models and Components*



*Figure 2.1: Post-Problem Mental Models and Components*



## Results

*Hypothesis 1: Novice teachers rely on structure to inform mental models of teaching and learning.*

When queried about what informed their mental models for teaching, most novice teachers (N=7) cited teaching strategies (e.g., classroom design, grouping models) and curriculum development as the most important pedagogic tools. None of the novice respondents mentioned incorporating learning and development processes into their reasoning. All novice teachers (N=8) referred to using their knowledge of “curriculum and assessment tools” to inform their practice, and provided concrete examples of such. All cited feeling ill-prepared for the realities of the classroom, although none reported knowing how they could have been better prepared. None of the novice teachers referred to a connection between teaching and learning.

When asked whether they had changed their minds about teaching, the novice teachers most often cited classroom experience as having the greatest influence over their thinking (N=7), although they did not explicate what sort of changes had occurred. Another influence cited was “watching good teachers teach” (N=6). While implicit in these references is relational interaction and potential for meaningful dialogue regarding practice, this was not stated explicitly by any of the novice teachers. None of the novice teachers referred to talking about pedagogic practice as a means of effecting changes in their mental models for teaching.

When presented with an educational problem, novice teachers were less likely to draw upon process information when generating solutions, instead imposing structural solutions (e.g., improved assessment measures, N=6; adjusting teaching strategies, N=5; decreasing class size, N=5). Two novice teachers referred to “changing expectations for students” although neither explicated process considerations in this solution.

*Hypothesis #2: Experienced teachers rely on implicit knowledge of the child to inform mental models of teaching and learning.*

Of the nine respondents in this category, two incorporated knowledge of teaching and learning processes into their mental models. One respondent characterized theories of learning and development as “too general to be helpful.” All experienced teachers (N=9) referred to curriculum choices and strategies for delivering such as primary models for how they taught. Although the experienced teachers alluded to addressing “individual differences of the child” and utilizing “differentiated instruction” in their mental models for teaching, they did not explicate why these components of MMs were important. Two teachers cited “integrating it all” into their practices, but did not explicate what that meant. These two illustrations might be reflective of the disjunct between knowledge implicitly held, and knowledge that is explicated and thus available for professional discourse, reflection and development.

Experienced teachers most often cited classroom experience and collaboration with colleagues as having the greatest influence over their mental models for teaching

and any changes that these had undergone (N=7). Professional development and reading pertinent materials were rated as having the least impact on their models for teaching.

*Hypothesis #3: Expert teachers implicate teaching and learning processes as important components of their mental models. They are able to explicate their reasoning underlying practices and reflect on their development as a teacher.*

All of the expert teachers (N=9) cited their understanding of teaching and learning processes as a “very influential” component in their mental models of teaching. Three of the expert teachers referred to mentor relationships and discussions regarding “good practice” as being most influential to teaching practice. Expert teachers all cited incorporating knowledge of child development in daily practice. One teacher cited using her understanding of “cognitive processes” to “adapt imposed curriculum.” Another referred to utilizing what she had learned about the “cognitive, social and emotional development of the child” in order to best “engage them in the learning process.”

Expert teachers (N=9) each referred to interaction with students as having the greatest impact on their change of mind. In one teacher’s words: “It’s the students sitting in front of me...knowing children and their needs is what teaching is all about.” Another respondent referred to an in vivo graduate school experience: “Seeing children operate in a developmental classroom that supported their learning provided me a deeper understanding of the theories behind what the instructor was doing.” All expert teachers stressed the significance of dialogue with mentors and colleagues as a major influence in

developing and adapting their mental models. All respondents in the expert category cited advancements in educational research as having been instrumental in effecting changes in their thinking about teaching and learning.

*What information do teachers believe are most important in order to facilitate effective practice?*

Given seven categories from which to choose, teachers most often cited their relationship and interaction with the child as being the most significant source of useful information (77%). Next important domain cited was process/teaching and learning considerations. Information gleaned from previous teachers input was cited, but only by 6% of the teachers. Information deemed the least helpful in facilitating teaching was social economic status of the student (59% of the respondents named this the least significant factor). Interestingly 35% of the responding teachers regarded their

predecessor's report cards as being not helpful. This response pattern was evenly distributed regardless of the respondent's status as a novice, experienced or expert teacher. Interestingly, two administrators and one language arts specialist were the only respondents who labeled assessments as being the most helpful information to have.

How often do educators talk about their profession?

Respondents rated the importance of talking about teaching and learning on a Likert-type scale of 1 ("not very important") to 10 ("of the utmost importance"). The average for respondents was 9 (M = 9, SD = .3) indicating all educators surveyed deemed

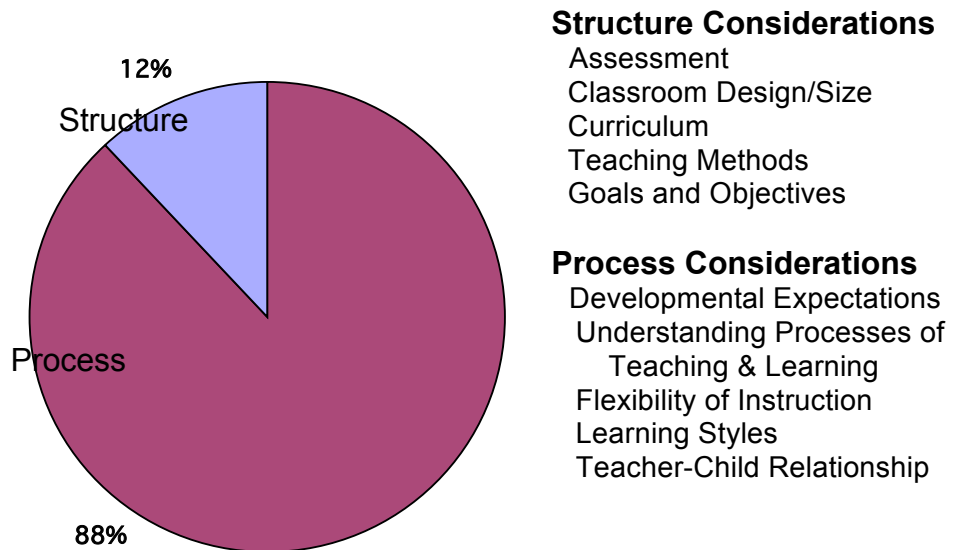


this activity integral to their profession. When asked “How often” (yearly, monthly, weekly or daily) each actually engaged in professional dialogue with colleagues the average response was weekly ( $M=6$ ,  $SD=1.5$ ). Both novice and experienced educators’ average response for engaging in professional dialogue was weekly. Most significant was that every expert teacher ( $N=9$ ) reported having daily conversations with colleagues regarding their mental models (MM) for teaching.

*Do educators look to the processes of teaching and learning to inform practice?*

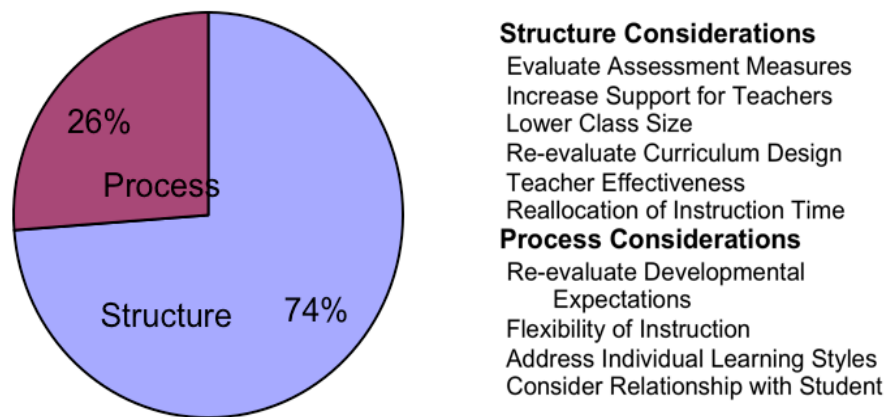
As Figure 3 represents, prior to being presented with an educational problem, the majority of respondents (88%) reported process considerations (e.g., student-teacher relationship, theories of teaching and learning) as important components of mental models of teaching and learning. 12% of respondents implicated structural considerations (e.g., curriculum design, assessment, physical characteristics of classroom) as important components of their MM.

**Figure 3**  
**Teachers' Mental Model Constructs (Pre-Problem)**  
**Most Important Information Necessary To Facilitate Teaching**  
**Structure and Process Considerations**

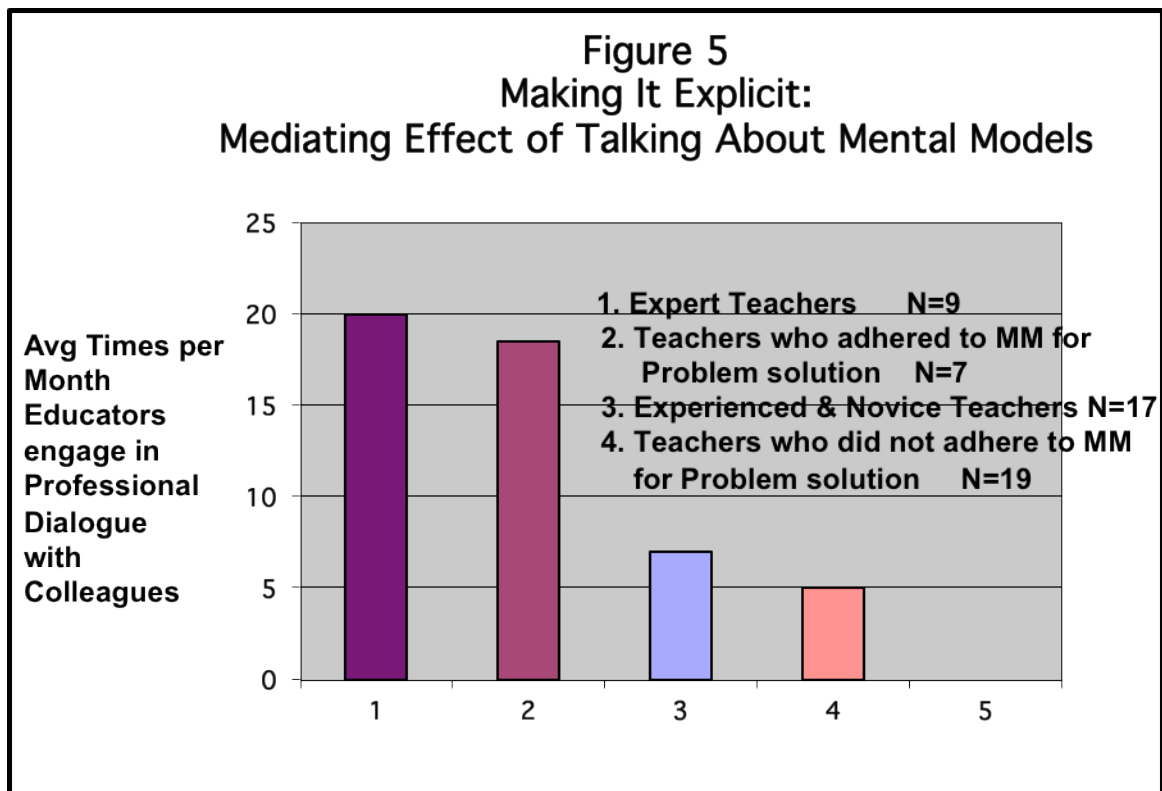


*When generating solutions to the educational problem, most teachers (74%) relied on structural interventions (see Figure 4). The discrepancy between espoused mental models (MM) of teaching and in-action MM becomes salient.*

**Figure 4**  
**Solutions to Education Problem:**  
**Structure and Process Considerations**



Hypothesis #4: Espoused mental models (MM) of teaching and learning are more likely to match with in-action models when educators engage in daily professional dialogue with colleagues (Figure 5).



### Discussion

The novice teachers in this study appeared to rely on previous coursework (e.g., curriculum design, classroom management and assessment) to inform their mental models of teaching. All novice teachers referred to “goals and objectives” of lessons, and expressed the belief that if these were foremost on their minds while delivering the lesson, then the children were “probably” learning the material. None of the novice teachers explicated how they thought learning occurred: nor did any allude to the minds of their students. Aside from the one-year student teaching requirement, most teacher education programs do not provide in vivo classroom experiences incorporating ongoing

mentorship. The tendency for novice teachers to rely on structural pedagogic components in their MM is most likely reflective of their limited experience engaging with students and reflecting on practices with mentors.

Although some of the novice teachers referred to the processes underlying teaching and learning (e.g., cognitive, social, emotional considerations), they did not elaborate on how these might inform their MM for teaching. When presented with an educational problem, novice teachers were less likely to draw upon process information when generating solutions, instead imposing structural solutions (e.g., improved assessment measures, adjusting teaching strategies, decreasing class size). While reluctant to draw facile conclusions, it might be that novice teachers have not yet had sufficient experiences upon which to reflect.

By contrast, the experienced teachers were more likely to implicate knowledge of teaching and learning in their solutions to the educational problem (e.g., re-examine expectations, increase support). Implicit in these solutions are process considerations (e.g., development trajectories; scaffolding for optimal performance). Although the experienced teachers generated solutions in which process knowledge was evidenced, they did not explicate these understandings in their reasoning.

The experienced teachers' ability to call upon implicit understanding of teaching and learning processes might be perceived as behavioral mastery (Karmiloff-Smith, 1992). Although the experienced teachers appeared to address children's needs

effectively, they did not appear to be able to explain their thinking. None of the experienced teachers cited self-reflection as important components of their MM. Practices employed by experienced teachers might reflect an implicit use of “causal rules” which have evolved from prior knowledge (Strauss, 2001); a folk pedagogical response to implicit folk psychology assumptions (Olson & Bruner, 1996). Regardless, the experienced teachers’ solutions did appear to incorporate understanding of teaching and learning processes; what remained elusive was the ability to articulate such. This apparent inability for explicitation, does have its negative effects. Models for teaching that are not made explicit are not accessible for reflection; the opportunity to enrich understandings of how children learn and subsequently how to improve teaching is missed. Creativity, flexibility and the potential for teacher development are inhibited. Interestingly, neither the novice, nor the experienced teachers cited the importance of or need for interpersonal discourse as a source of gaining insight. When presented with an educational problem, these teachers did not adhere to their espoused mental models for best pedagogic practice.

The expert teachers in our sample demonstrated an ability to incorporate both knowledge of teaching and learning processes, and emotion-cognition connections to inform their mental models of teaching and learning. They considered the minds of their students foremost when considering intervention strategies, and invoked teacher-child relationships as instrumental in effecting learning. The expert teachers all cited daily

dialogue with colleagues as essential for professional development. As they are able to reflect upon their MM for teaching and learning, these teachers are able to make connections and foster deeper meaning. Capacities for self-perception and awareness of others' beliefs, feelings, and perceptions (ToM, mentalizing capabilities) were evidenced and applied flexibly to the challenging pedagogic problem.

The fact that each expert teacher valued the opportunity to discuss MMs and experiences with colleagues bears great significance. These teachers are able to bring forth previous understandings and conceptualization; thus affording a potential for increasing complexity and gaining insight. The ability to recursively redefine previously implicit knowledge could serve as a significant developmental mediator. The interrelationship between social, discursive processes in action and thought and the ability to then reflectively assimilate this on an individual level represents the crux of development. As these teachers reflect upon their teaching, they are continually creating more complex understandings, developing beyond behavioral mastery and into expression of pedagogic creativity (*progressive explicitation*)(Karmiloff-Smith, 1992). Not surprisingly, most all of these teachers were able to approach the educational problem with surety and flexibility, adhering to their own model for best practice. One expert teacher, when confronted with the educational problem reported, "Well, first I consult with colleagues and think about it." Another stated simply, "I reflect."

Follow-up informal observations concurred with previous research indicating that teachers' practices were in discord with how they had represented their MM (Strauss & Shilony, 1994). For example, one experienced first grade teacher who espoused valuing a "hands-on activity-based learning environment," conducted didactic instruction for the better part of the morning. Another novice teacher (Kindergarten), who spoke of the importance of honoring the "developmental needs" of the child, engaged her class in group meeting (seated on the floor in a circle) for an hour while many squirmed in obvious discomfort. She appeared to rely on previously mentioned "management techniques" to keep control. Subsequent table activities were paper and pencil related, contrary with developmental considerations. Both teachers reported engaging in dialogue with colleagues on a "monthly basis."

By contrast, observation of two expert teachers revealed in-action practices coinciding with espoused MMs of teaching. Interestingly both observed expert teachers reported having daily conversations with colleagues in which they discussed "what had worked" as well as "trying to figure out how to better construct the lesson." Citing recent findings in cognitive science, one teacher referred to the "theory of nine" method of instruction. She explained that her students would be exposed to a new mathematical concept over a period of three days, in three distinct ways each day. She described in detail the level of mastery expected for each encounter with the materials she would present, and produced assessment tools designed to capture whether her methods would be effective. Indeed, in



the hour observed, after a mini-lesson presented by the teacher, groups of children gathered around tables and engaged in co-constructing three dimensional objects with cubes and cylinders as the teacher circled the room offering support when necessary. Another expert teacher cited differentiating instruction to “create efficient pathways” for understanding. She alluded to presenting her material in at least four separate ways in order to reach the various ways in which her students would be “constructing meaning.” When later queried, the teacher offered as explanation her understanding of current research in mind-brain education, which emphasizes the importance of stimulating many parts of the brain in order to invoke conceptual change. Follow-up observation concluded that indeed, this teacher not only explicated her keen awareness of how children learn, but she also demonstrated masterfully how to best facilitate that process. Most notably, this educator revealed she had been talking about this lesson with colleagues earlier in the morning, “Just to get the process going...”

#### *Limitations of the Current Study and Directions for Future Research*

There are several limitations of the current study worth noting. First, it is important to acknowledge the sample as a potential limiting factor with respect to generalizability. Results from this inquiry may not reflect the voices of educators from more diverse socio-cultural and economic settings. Current participants were investigated using a retrospective design; a longitudinal study investigating how educators shift mental models of teaching over time might illuminate both the nuances and trajectory of

teacher development. Future inquiry might delve more deeply into the recursive aspects of reflective processes thereby elucidating more clearly the intricate relationship between thinking and action.

The use of a self-report questionnaire might limit the findings in this study as both accuracy and social desirability require caveats. While participants were ensured confidentiality, it is possible that responses were influenced by social desirability. Validity of findings might be enhanced quantitatively with follow-up *in vivo* classroom observations utilizing valid and reliable coding methodology (see CLASS, Pianta, La Paro, & Hamre, 2008). While the informal observations conducted in this study provided interesting anecdotal data for illustrative purposes, the absence of established reliability and validity is noteworthy. It would be valuable to identify potential moderating variables (e.g., classroom size, presence of support staff, student demographics, etc.) contributing to the discrepancy between espoused mental models and actual classroom practices. Although a larger sample-sized, quantitative approach might identify possible moderators, the qualitative, emic approach taken in this study allowed for an in-depth exploration of internal reasoning and representational processes: an exploration of how 26 ordinary educators make meaning of their profession.

#### *Implications for Policy and Practice*

Dewey's 1924 edict remains relevant: the "intellectual responsibility" of the educator is pertinent now more than ever before. The state of education in our Nation

remains in crisis, and the stakes have never been higher. The emerging field of mind, brain and education calls upon cognitive science, biology, developmental psychology and education in order to link research imperatives with usable knowledge for educators. The process is dynamic and reciprocal. Providing an infrastructure for education research is relevant in order to provide impetus and foundation for interdisciplinary researchers and educators to connect research with practice and policy. Research Schools where practice and science could “jointly shape research” (Fischer, Goswami & Geake, 2010, page 68) might provide such structure where the mediators of teacher development can be unpacked.

Since the inception of the No Child Left Behind Act (NCLB, 2002) debates have raged as to what constitutes a “highly qualified teacher” (2002). Experts concur that knowing how to teach is at least as important as knowing what to teach, and that high-quality teaching, knowing the material and how to convey it, makes a difference in student achievement. Current restrictive definitions of teacher qualifications place foci of attention on content knowledge: subject matter expertise is indeed important, but of equal importance is the ability to work effectively with students, to develop relationships that matter, and to impart knowledge in such manner that together the zest for learning is unearthed.

With NCLB (2002) imposed emphasis on standards and testing, the curriculum is narrowed, developmentally appropriate practices are abandoned and ineffective teaching

practices abound. Teaching to the test becomes the norm, while once highly revered, theoretically sound constructivist approaches to teaching and learning, represent what is truly in danger of being left behind. The school experience for educator and student alike has become constricted. Understanding the underpinnings of effective teaching is thus of paramount importance. It appears that as expert teachers approach difficult classroom problems, such as those imposed by current standards (NCLB) they are able to maintain a MM for “best practice” against the odds. The expert educators in our sample were able to act explicitly upon implicit understandings of good teaching practice. Seemingly unthwarted by the destabilizing influence of increasing standards for performance, teachers who maintained self-identified MMs for “best practice” were those who valued and engaged daily in discursive practices with colleagues. The opportunity to talk in relationship with important others matters. These educators were able to adhere to the theories, models and practices of good teaching, even as the stress of imposed demands bore down upon them. Policy-makers would be wise to encourage programs that foster opportunities for peer mentoring and dialogue process between teachers.

Wittgenstein argued that language itself is the “vehicle of thought” (1953, page 329). The discursive “work” of the teachers who valued daily conversations with colleagues served them well: reflexively and in context, they constructed the essence of the objects and events they would encounter; thus holding the truths of “best practice” in thought and action. Not only did the expert teachers in our sample maintain their ideal

MMs, in doing so, they engaged in the process of solidifying their identity as educators. Creators of teacher development programs must work to identify the processes by which good teachers come to know, and how this knowledge is transformed into effective, unwavering pedagogic practice. Those who seek to inform policy for teacher education and standards for “highly qualified teachers” would do well to examine the mediating effects of discursive practices to inform their ideals.

The task before us is to encourage educators to make universal, formal and explicit knowledge that often remains situational, intuitive and tacit. Engaging into the social, intersubjective experience of discursive construction of self-as-educator facilitates the development of a knowledge that is usable, creative and flexible. As teachers move from novice to expert status they acquire skills. If in the mentorship and coaching process these skills are copied without explanation of abstract relationship between structure and function, the opportunity for secondary process reflection and representational redescription is thus thwarted. The goal of integrating espoused and in-action MMs of teaching and learning thus remains elusive.

...And voiceless thought...Returns to shadows chamber-*Osip Mandelstam* (Vygotsky, 1986).

**CHAPTER 3**  
**TEACHER-CHILD RELATIONSHIPS:**  
**EMPATHY AN DISCONNECTION AS EXPLORED THROUGH**  
**SHARED NARRATIVES**

*The justification for [teaching] is that it preserves the connection between knowledge and the zest of life, by uniting the young and the old in the imaginative consideration of learning.*  
*(Whitehead, 1929)*

Children enter into the formal learning process with vastly differing sets of social, emotional, and academic competencies (Chatterji, 2006; Entwisle, & Alexander, 2002; O'Connor & McCartney, 2006). Early education inequality often becomes cumulative with differing expectations and pedagogical choices initiating a cycle of disadvantage and advantage; thereby, contributing to widening gaps in academic achievement and social-emotional development (Ceci & Papierno, 2005; Crosnoe et al., 2010; 2002). Educational research has directed attention toward some possible contextual mediators: classroom characteristics, pedagogic imperatives, proficiency expectations and teacher-child interactions (Burchinal et al., 2008; Sheridan, Edwards, Marvin & Knoche, 2009).

Theorists postulate that although increased curricular expectations might address the academic gap for those entering into early academic settings, these directives are mute if not coupled with an emotionally supportive environment (Crosnoe et al., 2010; Greenberg et al., 2003). Although the contribution of teacher-child relationships on early school adjustment and experiences (Baker, 2006; O'Connor & McCartney, 2006; Pianta

& Stuhlman, 2004), and social and academic competencies (Burchinal et al, 2008; Hamre & Pianta, 2001; Noam & Fiore, 2004) has been examined widely, the proximal-level processes embedded within this dyadic micro-system are just beginning to be scrutinized (Crosnoe et al., 2010). Narrative discourse, between a child and his or her teacher, as presented here, represents one such opportunity to examine these processes. Specifically, this study aims to investigate whether emotion words used during co-constructed narratives of teachers and children are associated with teacher-child relational quality.

#### *The Role of Adults in Children's Evolving Narrative*

Evidence abounds that the framework children use to identify and give meaning to mental states is critically dependent on their conversations with others (Astington & Baird, 2005; Gopnik, Meltzoff, & Kuhl 1999; Harris, de Rosnay & Pons, 2005). Narrative discourse, between child and other is not a simple act, but rather a negotiable transaction, a dynamically inextricably interrelated exchange, in which cultural transmission of prescribed roles and values are revealed (Gergen & Gergen, 2006; Harkins, & Ray, 2004; Piryatinsky & Harkins, 2009). Narrative form, when applied to either an experienced or imagined event, creates a story: at once both dynamic and personal, infusing the child's sense of identity with culture and meaning (Bruner, 1986, 1996; Chafe, 1990; Engle, 1999). While cultural transmission represents more than simple acquisition of information, scaffolded discourse represents the primary mechanism for meaning making, promoting deep understanding of and reasoning about

complex concepts (Michaels, O'Connor, & Resnick, 2008). It has further been suggested that the child's construction of a cohesive, subjective self is attained via pedagogic communication, which focuses on the child's thoughts and feelings (Fonagy, Gergely, & Target, 2007).

In the context of a warm, supportive teacher-child relationship, the child engages in higher order cognitive capacities (Panksepp & Trevarthen, 2009; Stephens, Silbert, & Hasson, 2010). Held within this subjective space, the child develops the recursive capacity to mentalize: to envision and think about his or her own mental states (thoughts, feelings and beliefs), and to reflect upon those of others (Fonagy & Target, 2002; Meins, Fernyhough, & Wainright, 2003).

Most research investigating how children learn to understand narrative processes relies on the role of the mother (Fivush Sales, & Bohanck, 2008; Harris, de Rosnay & Pons, 2005). Extant research illustrates the significant contribution of maternal emotion socialization processes on children's emotional understanding and competence (Denham & Weissberg, 2004; Dunn, Brown & Beardsall, 1991; Harris, 1999). Throughout early development, the role of the mother is invoked to help explain the development of the child's understanding of first his or her own mind, and subsequently the mind of others (Astington, 2001; Harris, 2005). Mothers' references to the child's mental state are an important source of information for the child's developing understanding of false belief and belief-based emotions (De Rosnay, Pons, Harris, & Morrell, 2004; Meins,



Fernyhough, & Wainright, 2003). Studies also indicate that exposure to maternal conversation rich in references to and explanations of, mental states facilitates mental-state understanding (2003; Ruffman, Slade & Crowe, 2002) and self-awareness (Warren & Stifter, 2007). Investigators interested in learning how children make meaning for past events have also invoked the narrative of mother-child dyads (Nelson & Fivush, 2004) illustrating that mothers who use more emotion words and more contextual information in co-constructing narrative about the past with preschool children, facilitate increased mental-state language and contextual themes in their child's later personal narrative (Fivush & Nelson, 2006).

In one study, researchers demonstrated that mothers' use of emotion explanation during storybook reading predicted prosocial as well as aggressive behavior (Garner, P., Dunsmore, J. & Southam-Gerrow, M., 2008). In another study, researchers found that difficult-to-manage children engaged in fewer connected conversations than other mother-child dyads (Brophy & Dunn, 2002). Researchers have further demonstrated that mothers of children with internalizing behavior problems discussed emotions less often, were less likely to use positive emotion words and were more likely to discourage their children's discussions of mental states (Suveg, Zeman, Flannery-Schroeder & Cassano, 2005). It has been widely substantiated that both mothers and fathers use emotion-based language to aid their children in identifying and understanding both the experience of their emotions and how to respond appropriately to evocative situations (Brophy & Dunn,

2002; Denham & Weissberg, 2004; Fivush & Sales, 2006), however few studies have looked at teacher-child interactions vis-a-vis storytelling.

### *Gender Differences of the Child*

Some research on parent-child storytelling indicates stylistic differences in parental narratives to children attributable to the gender of child (Alexander, Harkins & Michel, 1994; Fivush, Brotman, Bruckner, & Goodman, 2000). Most salient in the literature include differences in how mothers socialize emotional understanding differently with daughters than with sons. For example, some studies found that mothers talk about emotions more with daughters than sons (Gleason, 1987; Fivush et al., 2000), while others found no gender differences (Denham and Weissberg, 2004). Studies involving conversations about the child's personalized experiences as opposed to imaging the mental state of a story character reported the largest gender differences (2000). Studies in which mothers discussed past emotions, revealed that while mothers talked equally about emotion-states with sons and daughters; mothers discussed anger more with sons than with daughters, and sadness more with daughters than with sons (Fivush, 1989). Similarly, in follow-up studies with 3 and 4-year old children, it was discovered that fathers as well as mothers discussed emotions more with daughters than with sons, and alluded to sadness more with daughters than sons (Adams, Kuebli, Boyle, & Fivush, 1995; Kuebli & Fivush, 1992). These findings suggest that parents' narratives are internalized by the child and reflected in later story construction (Alexander, Harkins, &

Michel, 1994; Fivush et al., 2000). Most notable research was that at age 3, children did not differ in their emotion talk, however at age 6 gender differences emerged, with girls talking more than boys about emotion, and using more terms connoting sadness (2000).

Careful scrutiny of early gender-specific socialization processes indicates pathways for affiliation and connectedness versus autonomy and independence are gender specific and socially constructed (Gilligan, 1982; Miller, 1987; Pollack, 1995). Research indicates boys are indoctrinated through emotional socialization to conceal, channel or deny their emotional states, whereas girls are encouraged toward expressivity (Brody & Hall, 2000; Fivush, 1989). Both mothers and fathers have been found to use more social-relational themes when discussing emotions with daughters, whereas parents draw upon themes of autonomy when discussing emotions with sons (Fivush, Brotman, Buckner, & Goodman, 2000). The stories of children reflect these socialization processes: girls have been demonstrated to tell stories imbued with a help sought/received pattern, whereas boys reveal aggression/mastery patterns in their stories (Libbey & Aries, 1989). By age 8, girls' narratives are more relationally oriented and socially contexted than those of boys (Buckner & Fivush, 1998).

#### *The Language of Empathy and Distancing*

Beginning in early infancy, the child moves quickly beyond his or her solipsistic, egocentric experience, constructing a sense of identity in relation to another (Fonagy, Gergely, & Target, 2007; Gallese, 2003). Drawing upon object relations and attachment

theories, the construct of connectedness refers to the emotional bond formed between a child and supportive “other” (e.g., parent or teacher), where emotional availability of the caring adult results in coherence for the child (Emde, 2007). Relational warmth, or resonance mediates the child’s prosocial, empathic orientation and relates to the numbers of mutual friends as well as peer acceptance (Clark & Ladd, 2000; Eisenberg & Fabes, 2006). Empathy has been identified to include both affective and cognitive components: an affective response to what one comprehends another might feel or be expected to feel (Eisenberg, 2000). This ability to empathically relate with, or be in connection with others enhances growth and development (Miller, 1976), predisposes children to resilience in later development, enhancing self-esteem, psychological adjustment, academic achievement and peer relationships (Eisenberg & Fabes, 2006; Pianta & Stuhlman, 2004), whereas, lack of this ability links with later development and maintenance of psychosocial adversity and psychopathology (2006; Oppenheim, 2006).

Expressions of sadness have been viewed by theorists as efforts to seek help and to remain attached (Barr-Zisowitz, 2000; Bowlby, 1980) and as expressions of grief and loss (Bowlby, 1980). The use of sadness has been invoked to aid in values identification and conservation (2000), to preserve self-image (Kohut, 1971) and to maintain attachment to others (1980). The expressions of sadness and loss (loneliness) have been linked to yearning for empathic understanding and connection (2000; 1980), whereas expressions of anger, hate and annoyance have each been associated with aggressive,

conflictive (Lemerise & Dodge, 2000; Cohen, 1990) and distancing (Lemerise & Dodge, 2000; Tomkins, 1991) impulses. Thus, for purposes pertinent to our study, expressions of sadness, loneliness and grief were categorized as *empathic*, and words denoting anger and hate were categorized as *distancing*.

### *Models of Teacher-Child Interactions in Relation to Emotions and Narratives*

Although education practice has traditionally been grounded in some understanding of children's minds (Astington & Pelletier, 1996; Strauss, 2005; Tomasello, 1999), the lack of common theoretical framework makes investigation into models of teaching and teacher-child interactions inherently difficult (Strauss, 2005). Pedagogic practice, or mental models articulated by teachers are often based on previous experiences as learners, experiences with students and demands of programs adopted by schools; yet, educators are often unaware that their implicit beliefs about how children learn influence their modes of interaction (Astington & Pelletier, 1996; Grigorenko, Sternberg, & Strauss, 2006; Koepke, Harkins & Fischer, 2012).

Several lines of thinking comprise perspectives on the intersection of teaching and learning. First, intersubjectivity, the co-created collaborative enterprise where teacher and child create new understanding and awareness (Trevvarthen, 2009); second, theory of mind (ToMM; Harris, 1989; Astington, 2001), a child's grasp of another's intentional states, and metacognition, or what children think about their own learning, remembering and thinking (Harris, de Rosnay, & Pons, 2005). Imposed by this model is the nexus of

intersubjectivity; the “we” of teacher-child dynamics. Definitional and theoretical variability notwithstanding, the micro-systemic contribution of proximal-level interactions between teachers and students; typically considered *proximal processes* (Bronfenbrenner & Morris, 1998) or *process quality* (Pianta et al., 2005) represents a primary mechanism of human development with important implications for early education practice. Narrative construction between children and teachers provide a viable resource for investigation into these processes.

#### *Previous Research*

Proponents of Education Reform underscore the importance of including social-emotional, ethical and cognitive competences into educational settings (Cohen, 2006; Zins, Weissberg, Wang, & Walberg, 2004); efforts are currently underway to integrate social-emotional learning (SEL) into targeted academic pedagogic imperatives (2006). One such Program, (PATHS: Promoting Alternative Thinking Strategies) strives to bridge social-emotional functioning to cognitive-academic development via explicit curricular instruction targeting emotion vocabulary and discussion as well as metacognitive aspects of emotions (Greenberg, Weissberg, O’Brien, Zins, Resnik & Elias, 2003; Kusche & Greenberg, 1994).

While the review of social, emotional and relational processes in child development highlights the role of adults, the vast majority of research on children’s social-emotion understanding focuses on parent-child narrative; scant research has

examined everyday teacher-child narrative processes. A recent review of the literature on PsycINFO using keywords: teacher, narrative, socialization, storytelling, and emotion revealed no studies in which teacher-child storytelling had been utilized to better understand how this micro-system may influence social-emotion understanding and interpersonal or relational skills. Indeed, teacher-child storytelling is invoked daily to promote early literacy skills (e.g., grammar, structure, syntax, phonemic awareness and phonetic competency), as well as critical thinking, metacognitive and comprehension competencies (NAEP, 2007). Early literacy pedagogical directives mandate incorporating reading, telling, re-telling, co-creating and writing stories daily into the literacy curriculum (2007). Nuances of these everyday narrative transactions provide an opportunity to explore the role language plays in the development of interpersonal and prosocial competencies.

Extant educational research has examined structural pedagogic efforts (e.g., methodology, assessment), classroom characteristics (e.g., class size, demographics, teacher-child ratio) and teacher characteristics (e.g., experience, level of education) (NAEP, 2007; NCLB, 2001; NICHD Early Child Care Research Network, 2004; 2005b). Foundational research has focused attention on observable teacher behaviors and process-product outcomes, (Burchinal et al., 2008; Hamre & Pianta, 2005), however, few studies have examined the potential moderating effects inherent in proximal-level processes between children and teachers.

Current research attempting to elucidate process characteristics of teacher-child interactions assigns three domains: instructional support (e.g., language and concept development; feedback), classroom organization (e.g., effective behavior management) and emotional support (e.g., positive or negative climate) (Classroom Assessment Scoring System; CLASS; Curby, Grimm & Pianta, 2010; Pianta, LaParo, & Hamre, 2005). Utilizing CLASS, researchers have begun to narrow focus of investigation into the nature and form of the emotional and instruction climate of the classroom; results implicate proximal teacher-child characteristics as most closely related to quality (Pianta, Howes, et al., 2005). Most recent findings suggest that disparities in skill acquisition can be mediated by higher order instruction (e.g., deductive and critical thinking skills) when coupled with an environment that recognizes that this complex pedagogic intervention style requires sensitivity and emotional support: in essence, a warm, supportive teacher-child relationship (Crosnoe et al., 2010). Interestingly, scant focus of educational research has been consigned to the dynamic aspect of these important relationships.

### The Current Study

Although extant research examines the contribution of teacher-child relationships to social, emotional and academic competencies, none to date have examined the nuances of teacher-child relationships via narrative processes. Utilizing narratives co-constructed by teachers and children, this study seeks to examine the association between emotion words



used in shared storytelling and the relational connectedness between teachers and students.

Ten each Kindergarten and First grade teachers were asked to parse every child in each of their classrooms into three groups (e.g., male, female, mixed), and to share a wordless storybook (e.g., *A Boy*, *A Dog*, and *A Frog*) with each group individually as they would normally, and in accordance with requisite language arts curriculum. Each classroom teacher thus shared the storybook at three different times, once with each of the three different groups in her classroom. Following this, each teacher was asked to complete a measure of relationship status for each child in her classroom (Student-Teacher Relationship Scale; STRS, Pianta, 1991). First, we examined the word content for each group storybook narrative to determine the type of emotion words used (e.g., positive, negative, empathic, distancing). We next examined the association between mean scores of emotion words used in each group and individual ratings by the teacher of closeness, conflict and overall warmth in the teacher-child relationships. Within each classroom, the proportion of the type of emotion words used during shared story time in each of the three groups was compared with the teacher's rating of the same individual students who comprised each group. Consistent with guiding theory, we identified emotion words (e.g., sad, lonely) as expressions of empathy, and emotion words (e.g., angry, mad, hate) as distancing expressions. Second, we examined separately the voices within the shared storybook narratives to identify any gender differences between

children, as well as differences between children and teachers in the type of emotion words used.

We explored teacher-child relationships and emotion words used during storytelling in two ways. First, we examined the relationship between emotion words used during storytelling and teacher-child relationship. Specifically, are types of emotion words use during shared storytelling associated with relational closeness or conflict between a teacher and child? We expected that empathic (e.g., sad, lonely) emotion words used during the co-construction of narratives would correlate positively with teachers' ratings of closeness with children, and that negative (e.g., hurt, ugly, nasty) and distancing (e.g., angry, mad) emotion words used during narrative construction would correlate positively with teachers' ratings of relational conflict. We also expected that expressions of empathy and sadness by teachers and children would each have a unique effect on relational closeness.

Second and related, we examined the types of emotion words used by teachers and children. Specifically, we expected that children would use more emotion words denoting vulnerability and empathy (e.g., sad, lonely) than teachers, and that teachers would use more distancing emotion words (e.g., angry, mad). In addition, we expected that boys would use more words denoting distancing and girls would use more empathic expressions.

## Method

### *Participants*

The sample included 19 kindergarten and first grade female teachers recruited from a Northeastern suburban public school system. As evaluated by the Community's Report Card (NCLB, 2006) 98.8% of the teachers were considered "highly qualified." The sample included 397 children ages 5 through 7 years old (207 girls and 190 boys); mean classroom teacher to child ratio was 20:1. 80.8% of the participants were European American, 3.6% African American or Black, 3% Bi-racial, 1.7% Latino/a, .3% Middle Eastern, 1.6% Eastern European, and 9.9% were Asian. The school department from which the sample was drawn, reported 3.1% of the students eligible for free lunch. According to Census data (National Census, 2000) 1.9 % of the children in the community live below the poverty line (as compared to the National average of 18.4%); 4% reside in single-parent homes. The median household income in 2000 was \$82,000 (National Census, 2000); median home price for 2003 was \$650,000. Over sixty-three percent of the community's residents have a bachelor's or advanced college degree.

### *Procedure*

#### *Narrative Data Collection*

In May 2007, 10 each kindergarten and first grade regular education classroom teachers (N=20) was asked to share a wordless story (Mercer Mayer's *A Boy, A Dog and A Frog*, 1967) individually with three groups (male, female, mixed) comprised of the children within her classroom. This has been a popular and reliable task for narrative

inquiry, and contains 24 pictures relating the story of a boy and his dog in search of a lost frog. Although non-worded, the pictorial content represents essential and common story elements (initiating event, goal, climax and resolution) (Bamberg, 2009). Each teacher was allowed to choose group composition (approximately 6 children/group; all children within each classroom participated); the order of groups (e.g., male, female, mixed) was counterbalanced. Teachers were instructed to engage in storytelling with each group using the non-worded picture book as they would normally, according to the requisite language arts curriculum. Homogeneity of groups was maintained with regard to reading and language abilities. Storytelling sessions were recorded. Due to a faulty recording, one classroom was omitted from the analyses, resulting in teacher ( $N=19$ ), group ( $N=57$ ), and student ( $N=397$ ) participation. The narratives were fully transcribed, serving as the basis for linguistic analysis. Narrative data used for analyses were from group composition ( $N=57$ ), individual voices of children were not analyzed.

Also in May, the same teachers were asked to report on the quality of their relationship with each student in their classroom ( $N=397$ ) by completing the Student-Teacher Relationship Scale (STRS, Pianta, 2001). The scale was administered at this time (i.e., spring) to ensure sufficient time for teachers to develop an impression of their relationship with each child. For the purpose of comparing overall teacher-child relational quality with other studies utilizing the STRS, all three subscales were administered: conflict, closeness and dependency. Teachers completed a separate STRS for each of the

children in her classroom, as well as a brief demographic questionnaire and consent.

Teachers received a small monetary compensation for their participation.

### *Coding*

Narratives were analyzed using Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Francis & Booth, 2001). This program was designed as a means for studying various emotional cognitive and structural components present in narrative samples, and counts the proportion of words falling into specific linguistic categories. Internal reliability, as measured by Chronbach's alphas, for words/categories pertinent to the current study have been demonstrated to be between  $\alpha = .91$  and  $.97$  (2001). External validity indicates that LIWC successfully measures positive and negative emotions, cognitive strategies, and thematic content (Mehl & Pennebaker, 2003; Pennebaker & Francis, 1996). The default LIWC dictionary is composed of 4500 words, each defining one or more word category, arranged hierarchically. For example, the word cried is part of five word categories: sadness, negative emotion, overall affect, verb and past tense verb; all anger words are categorized as negative emotion and overall emotion words. Categories and examples used for analysis are presented in Table 1.2 Teacher-child narratives were analyzed both together and separately, as pertinent to hypotheses. Analyses of narrative were conducted on the group level.

### *Measures*

*Student-Teacher Relationship Scale.*

The Student-Teacher Relationship Scale (STRS) is a 28-item Likert-type rating scale designed to assess a teacher's feelings and beliefs about his or her relationship with a student and the teacher's beliefs about the child's feelings toward him or her. The scale, which measures the overall quality of relationship, is based on three factor-based subscales designed to capture three facets of relationship between teachers and students: closeness, conflict and dependency.

The STRS is a widely used, self-report scale where significant test-retest correlations, high internal consistency, and predictive and concurrent validity have been established (Hamre & Pianta, 2001; Pianta, 2001). The STRS is correlated with both current and future academic skills, and disciplinary violations (Hamre & Pianta, 2001), risk of retention, behavioral adjustment and peer relations (Hamre & Pianta, 2005). Chronbach's alpha for conflict is .92 and for closeness is .88; total scale: .89 (Pianta, 2001).

#### *Preliminary Analyses and Data Screening*

Prior to conducting statistical tests, we examined the data for differences based on teacher variables: age, years of education, teaching experience, and ethnic background, as well as ethnic background of student. No significant statistical differences were found.

#### *Data Analysis*

We first examined associations among predictor and outcome variables using Pearson product-moment correlations ( $r$ ). Results are presented in Table 2.2. Hypotheses

regarding associations between empathic emotion words used during co-construction of narratives and teacher-child relationship quality were tested using two-way MANOVA procedures. In order to compare group narrative data to individual measures of STRS ratings, a median split conversion of was utilized. In the analysis of distancing emotion words we did not expect to find interactions, therefore ANOVA statistics were employed. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. We provide  $\eta^2$  estimates to indicate a measure of the proportion of variance of the dependent variable accounted for by each of the independent variables.  $\eta^2$  results between .01 and .05 are considered to be a small effect size,  $\eta^2$ s between .06 and .13 a moderate effect size and  $\eta^2$ s above .14 are considered to be a large effect size (Cohen, 1988).

## Results

### *Hypothesis 1: The Effect of Empathy and Distancing Praxis on Closeness and Conflict*

Findings indicate that type (e.g., empathic, distancing) of emotion words used by teachers and children were associated with teacher ratings of closeness, conflict and overall relational connectedness. Our hypothesis regarding the unique effect of empathic expressions on reports of closeness was supported. A two-way between-groups multivariate analysis of variance MANOVA was conducted to determine the effect of empathic expressions by each teachers and children on the three dependent variables of

closeness, conflict and overall relational well-being. Subjects were divided into categories utilizing a median split conversion. MANOVA results indicate that empathic expressions by each children (Wilks'  $\Lambda = .936$ ,  $F(3, 390) = 8.93$ ,  $p < .0001$ , partial  $\eta^2 = .064$ ) and teachers (Wilks'  $\Lambda = .967$ ,  $F(3, 390) = 4.45$ ,  $p = .004$ , partial  $\eta^2 = .033$ ) significantly affect the combined DV of closeness, conflict and overall relational connectedness. A significant interaction effect was noted between the independent variables (Wilks'  $\Lambda = .972$ ,  $F(3, 390) = 3.78$ ,  $p = .01$ , partial  $\eta^2 = .03$ ). Utilizing a Bonferroni adjusted alpha level of .017, univariate post hoc tests were conducted on each of the three dependent variables. ANOVA results indicate that children's empathic expressions (e.g., sadness, loneliness) were associated with higher ratings of closeness:  $F(1, 392) = 12.60$ ,  $p < .0001$ , partial  $\eta^2 = .03$ ; lower ratings of conflict:  $F(1, 392) = 13.02$ ,  $p < .0001$ , partial  $\eta^2 = .03$ ; higher ratings of overall relational connectedness:  $F(1, 392) = 23.88$ ,  $p < .0001$ , partial  $\eta^2 = .06$ . ANOVA results indicate that teacher's empathic expressions (e.g., sadness, loneliness) were associated with lower ratings of closeness:  $F(1, 392) = 11.47$ ,  $p = .001$ , partial  $\eta^2 = .028$ ; higher ratings of conflict:  $F(1, 392) = 3.85$ ,  $p = .05$ , partial  $\eta^2 = .01$ ; lower ratings of overall relational connectedness:  $F(1, 392) = 7.31$ ,  $p = .007$ , partial  $\eta^2 = .02$ .

In the model examining the effect of distancing expressions on closeness, conflict and relational connectedness MANOVA results indicate that distancing expressions by children significantly affect the combined DV of closeness, conflict and overall relational



connectedness: Wilks'  $\Lambda = .953$ ,  $F(3, 390) = 6.35$ ,  $p < .0001$ , partial  $\eta^2 = .05$ . Utilizing a Bonferroni adjusted alpha level of .017, univariate post hoc tests were conducted on each of the three dependent variables. ANOVA results indicate that children's distancing expressions (e.g., anger, hate, mad) were associated with lower ratings of closeness:  $F(1, 392) = 16.33$ ,  $p < .0001$ , partial  $\eta^2 = .04$ ; higher ratings of conflict:  $F(1, 392) = 6.71$ ,  $p = .01$ , partial  $\eta^2 = .02$ ; lower ratings of overall relational connectedness:  $F(1, 392) = 12.44$ ,  $p < .0001$ , , partial  $\eta^2 = .03$ . The use of teachers' distancing expressions (e.g., anger, hate, mad) on the dependent variables (e.g., closeness, conflict and overall relational connectedness) was tested using ANOVA procedures utilizing Bonferonni adjusted alpha level for multiple comparisons. The only association to reach statistical significance was teachers' use of distancing expressions, which resulted in lower ratings of relational closeness:  $F(1, 394) = 3.71$ ,  $p = .05$ , partial  $\eta^2 = .01$ . The use of a median split conversion was necessary in order to parse group narrative data into categories for analyses with individual ratings of STRS. However, this loss of data variability most likely resulted in lower effect sizes. Mean scores and standard error are presented in Table 3.2

### *Hypothesis 2: Voices and Children and Teachers*

Overall, findings indicate significant differences between the voices of children and teachers. A one-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate teacher-child differences in the proportions of emotion

words used. Four dependent variables were used: positive, negative, sadness and anger; the independent variable was status (e.g., child, teacher). Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices and multicollinearity, with no serious violations noted. There was a statistically significant difference between teachers and children on the combined dependent variables:  $F(4, 109) = 3.53, p < .0001$ ; Wilks' Lambda = .072;  $\eta^2 = .93$ . Using a Bonferroni adjusted alpha level, all dependent variables were found to reach statistical significance. Positive emotion:  $F(1, 112) = 41, p < .0001, \eta^2 = .27$ ; negative emotion:  $F(1, 112) = 42.60, p < .0001, \eta^2 = .28$ ; anger:  $F(1, 112) = 13.50, p < .0001, \eta^2 = .11$ ; sadness:  $F(1, 112) = 35.76, p < .0001, \eta^2 = .24$ .

Inspection of the mean scores indicated that teachers used higher proportions of positive emotion words in narrative construction ( $M = 3.34, SD = 1.19$ ) than did children ( $M = 2.11, SD = .80$ ). Conversely, and contrary to our hypothesis, results indicated that children used proportionately more negative emotion words ( $M = 1.43, SD = .59$ ); more anger ( $M = .48, SD = .34$ ) and sadness ( $M = .68, SD = .38$ ) than did teachers: negative words ( $M = .83, SD = .35$ ); anger ( $M = .27, SD = .25$ ); sadness ( $M = .34, SD = .19$ ) respectively. Large effect sizes provide strong support for these findings; the variance attributable to teacher-child differences in emotion-laden discourse was demonstrated to be 24% - 28%.

Interestingly, and in support of our thinking that teachers would use proportionately more words denoting anger and distancing, significant gender disparities were found. Independent samples t-tests indicated that teachers used significantly more proportions of distancing and anger words when working with groups comprised of boys ( $M = .37$ ,  $SD = .32$ ) than of those with girls ( $M = .20$ ,  $SD = .15$ );  $t(36) = -2.0$ ,  $p = .05$ . The magnitude of the differences in the means was considerable ( $\eta^2 = .10$ ), indicating that 10% of the variance in teachers' expression of anger was associated with the gender of the child with whom the narrative was constructed. Results indicated no significant differences in teachers' proportional use of distancing words between groups comprised of males and mixed gender, or between female groups and mixed gender groups.

### *Discussion*

Results of the current study provide evidence to support the association between the discursive praxis used in shared story time and the relational quality of the teachers and children. In contrast to much of the extant research on distal structural indicators of teacher-child interactions and relationships, the co-constructed narratives in this study afforded proximal-level analyses of specific dynamic interactional processes.

### *Empathic Understanding: The We'ness of Teacher-Child Interactions*

Although our examination revealed that discursive expressions of empathy and distancing were each associated with relational connection and conflict, interesting and significant differences between children and teachers emerged. Overall, it was

demonstrated that children use proportionately more negative emotion words (e.g., anger, hurt, sadness) in narrative construction than do the teachers with whom they are working. The fact that children use more negative emotion words than the adult with whom they are speaking is not surprising. Children at this age have the developmental task of ascribing meaning to words, thoughts and feelings. That the children in our sample used more words denoting negativity than positive feelings is, however, interesting. It might be that negative feelings are not easily borne alone, once projected onto a safe “other” (story character), they are removed from self; the child is free to explore feelings that if ascribed to oneself, might become overwhelming and unbearable. Held in a safe and supportive relationship, children can learn to ascribe meaning to their own feelings of loss, loneliness, sadness and anger. This language of mental states might provide insight for the child regarding characteristics and processes of theory of mind (ToMM); they are afforded insight into the thoughts, beliefs and desires of their own minds, and the understanding that these emotion states may be represented differently in another’s mind. It is also plausible that the children in our sample were displaying nascent empathic understanding. The boy and the frog in the story encounter stressful moments. It is possible that negative feelings expressed by the children were representative of actual felt emotions in response to a storybook character’s perceived sadness, anger and loneliness. Developmentally unable to distinguish emotional self from other, they could possibly have merged with Froggie in his sad and lonely feelings. It should be noted, however,

that narratives by nature, incorporate unexpected and often unwanted situations, creating the potential for negative emotion response (Piryatinsky & Harkins, 2009).

Most notable was the manner in which children differed from teachers in their use of vulnerable and empathic emotion words. The finding that children's expressions of sadness and loneliness projected onto the storybook character (i.e., "Froggie is lonely, sitting all by himself") were associated with teachers' report of relational closeness might represent comfort in-relationship. From the child's perspective, expressions of vulnerability (e.g., sad, lonely) occur when one feels appropriately "held" in a warm supportive environment; that is, relationally attuned, and free from conflict. It is plausible that the teachers are either implicitly, or focally aware of the child's distress; thus imbuing empathic understanding into proximal interactions. Children advantaged in this manner might feel comfortable expressing the full range of their experiences: "froggie" is not restricted to the domain of happy and engaged feelings, but he is also free to express lonely and sad feelings. As the literature indicates, freedom to express feelings of vulnerability has profound implications for positive prosocial, relational, and emotional well-being (Cohen, 2006; Eisenberg & Fabes, 2006 Laible & Song, 2006).

The fact that it was the teachers who reported on relational closeness might also represent pedagogic efficacy. It has been suggested that teachers who feel attuned to and responsive of their students' emotional states might experience their pedagogic efforts as appropriate and effective, and believe the child views them as a viable resource (Pianta,

1991; Pianta & Stuhlman, 2004). The ability to transcend difficult behavioral characteristics of children is fundamental to effective teaching practice. In our sample, it might be that the teachers were able to relationally attune to children who may have been experiencing situational or characterological distress.

#### *Distancing and Disconnection*

The finding that distancing words such as angry and mad used by both teachers and children, resulted in lower ratings of closeness and increased ratings of conflict is not surprising. Whether teachers and children are aware that emotional distress expressed during shared story time could be reflective of the way they feel about the person whom they are interacting remains unknown. It is plausible that on some level of awareness both teachers and children are responding to disconnection the relationship. Interestingly, and in contrast to the association of children's empathic expressions, teacher's use of empathy was associated with lower ratings of relational closeness. One explanation could be that teachers were attempting to repair relational disconnection via empathic attunement.

#### *Gender Differences*

Overall, and surprisingly, the voices of boys and girls did not differ significantly from one another with regard to emotional expression. Use of emotion expressions did not differ with regard to racial or cultural identification. Boys and girls used proportionately similar expressions of happiness, sadness, loneliness, anger, fear and

disappointment in their narratives. However, statistically significant gender disparities were demonstrated in the teachers' responsive emotion expressions. Specifically, when constructing the story with boys, teachers used significantly more distancing expressions (e.g., anger, dislike) than when they worked with girls. Several exchanges highlighted this discrepancy. When one boy voiced feelings of vulnerability, "I think Froggie is lonely" the teacher replied, "He must be mad about that." In another example, the teacher's response to a boy's feelings of vulnerability, "I think Froggie is scared" implored a call for action: "What can Froggie do about that?" By contrast, following a similar expression by a girl: "Froggie is going to be left alone" the teacher responded, "Oh, how sad for him." As has been previously demonstrated, during the ensuing discussion other girls in the group were invited into the narrative to share personal experiences with feelings of loneliness (Kuebli & Fivush, 1992).

The results of our inquiry might reveal one aspect of how culture and context each shapes a child's inter- and intrapersonal processes. Embedded within these discursive transactions is the implicit message for girls: although loneliness and disconnection might be sad, these feelings can be transitory; as girls appear to be encouraged to experience feelings of vulnerability via reconnection with others (Gilligan, 1982; Laible & Song, 2006). The boys in our sample who dared to express feelings of vulnerability (e.g., Froggie is sad, lonely) did not have the same encouragement from the teachers as the girls did. How should Froggie respond to his aloneness? He should become angry, or

exert control to fix the problem. These transactions might represent previously identified socialization processes, which encourage girls toward expressivity and boys toward concealment of emotionality and channeling into action (Levant, 1995). In this context, the boy is bereft of modeling suggestive of connection, instead, he is indoctrinated into the “Boy Code,” where the full range of feelings are denied; vulnerability is shameful; sadness and loneliness are replaced with anger and action, each culturally acceptable masculine responses (Pollack, 1998).

Recent research investigating conflict and closeness in teacher-child relationships reveals gender disparities beginning in kindergarten, whereas boys experience less closeness and more conflict with their teachers than do girls (Koepke & Harkins, 2008); over time this pattern of disconnection increases with each passing grade (2008, Jerome, Hamre, & Pianta, 2009). Gender-biased discursive exchanges highlighted in our analyses, might represent proximal-level moments where socio-emotional enculturation is internalized. Most likely, teachers are unaware of the manner in which they collude to deny boys the same opportunities for prosocial development that are afforded girls. It might be that teachers are responding to what developmental psychologists have long been aware: boys are biologically predisposed for higher levels of emotional expressivity (Brody & Hall, 2000). Concerned that exuberant emotional expression of boys could become problematic or unwieldy; the teachers might be attempting to keep classroom order.



It is noteworthy that all of the teachers in our sample were female. It is quite plausible that male teachers might respond in a more empathic manner when working with boys than did the female teachers in our sample. Interestingly, no differences of emotion expressions by teachers were found when comparing the gender-specific groups with mixed-gendered groups.

### *Limitations*

The narratives were analyzed using LIWC, a software program that allows for investigation of proportions of words falling into linguistic categories. While valuable quantitative data were captured, further qualitative analysis of the discursive praxis between teachers and children might allow for a deeper analysis of emerging themes and variations. An in-depth investigation of the strategies used toward narrative coherence by the teachers and children might also allow for a connection to be made between the narrative structure and purposes and intentions that each might be attempting. Analysis and interpretation of plot and thematic structure as represented by story characters might also extend our understanding of how the meaning imbued in stories transcends to the relationship between teacher and child.

To the extent that interactions between teachers, classrooms, and children might not be highly consistent from one day to the next, repeated measures of shared storytelling might be needed to capture more valid data regarding children's experiences in multiple contexts. The protagonist in the storybook was male; the moderating effects

of gender identification on specific emotion-word responses should be considered.

Repeating the study with another storybook would prove useful to determine whether the gender-specific findings in the current study would be replicated. It is also noteworthy that all the teachers in our sample were female. It is possible that narratives between male teachers and children would differ in emotion word usage. It might also be valuable to gather longitudinal data, as in a cohort sample, to ascertain the moderating effects of child and gender characteristics on teacher variability (e.g., teaching style; goals for storytelling). It must also be noted that the current study is correlational; it is thus impossible to determine the direction of the effects. Any causal interpretations cannot be made.

Another limitation of the current study was the sample. Although drawing from a low-risk population provided valuable insights with regard to limits of protective factors inherent in socioeconomic status, understanding the richness and variability of discursive praxis requires expansion of demographic variables.

#### *Practical Implications For Educators*

Deviating from previous polarized models in which relational social-emotional concerns are held separate from formal academic skills attainment directives, researchers are beginning to acknowledge a dialectical stance in which formal, instructional and the informal, socio-emotional components of early schooling converge (Cohen, 2006; Fischer, 2009). Narratives constructed by children with significant adult figures afford

educators a unique perspective into understanding how children make meaning of their affective and relational experiences. These processes are an integral part of normative development with important implications for the child's development of a cohesive sense of self, others and their social environment (Cohen, 2006; Oppenheim, 2006). Moving foci of investigations beyond distal contextual considerations to proximal dynamic and transactional processes might illuminate mediators affecting teaching and learning, providing the impetus to properly implement effective pedagogic imperatives. In doing so, the preservation of the *connection between knowledge and zest for life* might indeed be realized, as teachers and children join in the *imaginative consideration of learning*.

Table 1.2 *LIWC Categories, Word Examples and Categorical Assignment for Study Analyses*

<i>LIWC Category</i>	<i>Examples</i>	<i>Number of words in category</i>	<i>Categorical Assignment</i>
Affective Processes	Happy, cried, abandon	915	
Positive Emotion	Love, nice, sweet	406	Positive Valence
Negative Emotion	Hurt, ugly, nasty	499	Negative
Anger	Hate, kill, annoyed	184	Distancing
Sadness	Crying, grief, sad	101	Empathic

Table 2.2 *Associations Among Narrative Emotion Words and Relationship Factors-  
Pearson Correlation Coefficients (r)*

	Teachers' Voice (N=19)				Grouped Children's Voice (N=57)			
	Positive	Negative	Distancing	Empathic	Positive	Negative	Distancing	Empathic
<hr/>								
STRS (N=397)								
Closeness	.120*	-.229***	-.168**	-.112*	-.072	.043	-.171**	.199***
Conflict	-.086	.154**	.148**	.039	.030	.008	.111*	-.141**
Total Raw	.130**	-.202***	-.175***	-.060	-.051	.024	-.130**	.205***

*Note:* STRS Total Raw = Student-Teacher Relationship Scale; Subscales: Closeness, Conflict

\* $p < .05$ . \*\* $p < .01$  \*\*\* $p < .0001$ .

Table 3.2 *Proportion of Emotion Words Used by Teachers and Children: Mean and Standard Deviations*

	Teachers' Voice (N=19)				Grouped Children's Voice (N=57)			
	Positive	Negative	Distancing	Empathic	Positive	Negative	Distancing	Empathic
Male Group (n=19)	3.49 (1.37)	.91 (.44)	.37 (.32)	.33 (.15)	2.12 (.81)	1.40 (.49)	.46 (.36)	.68 (.29)
Female Group (n=19)	3.33 (1.11)	.77 (.26)	.20 (.15)	.34 (.18)	2.26 (.80)	1.51 (.51)	.48 (.34)	.74 (.33)
Mixed Group (n=19)	3.19 (1.12)	.81 (.34)	.25 (.22)	.34 (.23)	1.97 (.80)	1.37 (.75)	.51 (.35)	.61 (.50)

*Note: Examples of words parsed into empathy category: lonely, alone, sad; Distancing category: angry, mad, hate*

**CHAPTER 4**  
**NARRATIVE DISCOURSE:**  
**THE RELATIONSHIP BETWEEN TEACHING STYLES,**  
**RELATIONSHIP QUALITY, AND EMOTION UNDERSTANDING**

*“The language of education is not merely theoretical or practical, it is also relational.”*  
*-Henry Giroux*

In his seminal work regarding the relationship between teaching and learning, Lev Vygotsky invoked the concept *obuchenie*. Translated as either instruction *or* learning, depending on the text (Vygotsky, 1978; 1986), the true meaning of the term was thus reduced to an either/or dialectic proposition. The accurate interpretation of *obuchenie* as *both* teaching *and* learning depicts a dynamic process of action, thought and co-constructed meaning (Scrimsher & Tudge, 2003). Theorists have argued that teachers teach best, when engaged in a reflective process of redefining personal constructs: teachers *as* learners (Strauss, 2005). Teachers create mental constructs, or belief systems of teaching/learning that offer insight into how they attempt to engage in the process of teaching (Olson & Bruner, 1996). Research reveals that engagement in reflective and dialogic processes promotes adherence to mental models of teaching/learning (Koepke, Harkins, & Fischer, 2012) in actual classroom practice.

Although teacher-child relationships have been implicated as of primary mediators of early school adjustment (Baker, 2006; O'Connor & McCartney, 2006), language and literacy (Mashburn, et al., 2008), and social-emotional competencies

(Denham, Bassett, & Zinsser, 2012; Sheridan, Knoche, Edwards, Bovaird & Kupzyk, 2010), few studies have examined the nuances of proximal-level teacher-student interactions. The underlying mechanisms embedded in the dynamic and transactional aspects of these relationships have begun to be unpacked (Crosnoe et al., 2010; Koepke & Harkins, 2012). Understanding teachers' mental models for teaching (MMs), and conceptualizations of the role his or her relationship contributes to effective teaching/learning practice and social-emotional competency is an important area of investigation.

Whether teachers adhere to stated mental constructions of best practice when engaged with students in classrooms remains uncertain (Strauss, 2005; Koepke, et al., 2012). What do good teachers know, and when engaged in the intersubjective process of teaching/learning is this knowledge explicitly accessible and useable? When faced with pedagogic imperatives, are teachers able to move beyond the monologic voice of authority, and engage in dialogue that promotes democratic, transformative learning? The present study considers the role of the teacher: self-identified mental constructions of effective practice, comparing these to both relational quality, and actual classroom engagement with students via narrative inquiry.

#### *Models of Teaching Style; Teacher-Child Interactions*

Theorists utilize the construct of a cognitive entity, or mental model (MM) as representative of a belief system; which may hold predictive and explanatory power



(Strauss, 2005; Johnson-Laird, 1983; Olson & Bruner, 1996). MMs offer insight into the beliefs that teachers hold about teaching and learning and the manner in which they attempt to enact these beliefs. Investigators into these models have noted discrepancies between stated theories (what teachers purport to do) and in-action theories (what teachers do; Strauss & Shilony, 1994; Strauss, Ravid, Magen & Berliner, 1998). Research demonstrates that teacher reflection and dialogic engagement with colleagues can enhance teacher adherence to stated MMs for best practice (Koepke, et al., 2012). While capturing one's beliefs or MMs of teaching/learning offers no absolutes for actual practice, many researchers contend that conceptions of teaching/learning influence pedagogic approach and offer insight into teacher behaviors (Eley, 2006; Olson & Bruner, 1996; Strauss & Shilony, 1994). Mental models are an inherently complex concept, incorporating teachers' implicit assumptions about overarching style of interaction and goals for instruction. Attempts to conceptualize teaching style (i.e., as proximal-level interactions between teachers and students) have incorporated theories from various disparate domains. Scant research has compared multiple styles, or examined styles currently utilized, as a lack of common underlying theoretical framework, poses theoretical and practical difficulties (Marcos & Tillema, 2006). The effect of teachers' beliefs about, or MMs for teaching style on proximal-level classroom practice receives short shrift.

Recent research has begun to scrutinize observable teacher behaviors linking these to process-product outcomes (Burchinal, Howes, Pianta, et al., 2008; Brophy, 2004; Hamre & Pianta, 2005). Attempts to elucidate proximal-process characteristics of teacher-child interactions assign three domains: instructional support (e.g., language and concept development; feedback), classroom organization (e.g., effective behavior management) and emotional support (e.g., positive or negative climate) (Classroom Assessment Scoring System, CLASS, Pianta, LaParo, & Hamre, 2005; Curby, Grimm & Pianta, 2010). Within the emotional support domain, positivity of climate, teacher sensitivity, and regard for perspective of child serve as underlying dimensions of interest (Pianta, et al., 2005). Previous studies, attempting to identify underlying processes of teacher-child interactions have utilized goodness-of-fit (Grasha, 1996), cooperative learning (Parker 1984) dichotomized assignment of adult-centered versus child-centered (Hayes, 2008), and parental (control, demand, democratic communication and responsiveness) models (Baumrind, 1971; Wentzel, 2002).

For purposes pertinent to the current study, identification of four broad domains of teacher style (e.g., Authoritarian Control, Instrumental Practice; Empowering Stance; and Dialogic Engagement) are identified, based on an accumulation of theory and evidence about the specific styles of engagement that best promote children's social, emotional and academic competencies. These domains draw from investigations of teaching styles (LaBillois & Lagace-Seguin, 2009) teacher-child relationships (Pianta &

Stuhlman, 2004), and from research relating parent-child relationships to teacher-child interactions (Hayes, 2008; Walker, 2008; Wentzel, 2002), providing a framework for investigating proximal-level and classroom contextual teacher-child interactions.

Drawing from what Baumrind (1971; 1991) has identified as an authoritarian style of parenting, in classroom context, the *Authoritarian-Control* teacher adopts highly demanding, sole-authority stance, coupled with limited responsiveness to child inquiry, creating thwarted child motivation and impeded learning. Authoritarian style, characterized by limited teacher warmth and support for student autonomy has been associated with student avoidance behaviors and negative feelings about learning (Patrick, Ryan, & Kaplan, 2007). Teachers employ *Instrumental Practice*, focused on pedagogic learning objectives that include specific aims for child performance. At odds with mastery-focus, performance-focused practice places emphasis meeting external expectations and standards. Although some research indicates positive outcomes if performance-instrumental practice is coupled with strong affective support, research has linked this interaction style with limited-ability beliefs and maladaptive forms of engagement, for example, high rates of avoidance behavior (Turner, Meyer, Midgley, & Patrick, 2003). In an *Empowering Stance*, the teacher is responsive to students; assumes partnership, acting as the more experienced other, while simultaneously encouraging the child to construct his or her own learning. An empowering stance combines much-needed scaffolding while simultaneously encouraging autonomy and motivation. Exposure to

child-focused autonomy support has been associated with positive feelings about school, increased motivation and classroom engagement (Grolnick & Ryan, 1987; Pianta, LaParo, Payne, Cox & Bradley, 2002). Research consistently relates teacher integrative processes of demandingness and responsiveness to positive student outcome (Wentzel, 2002; Pianta, Belsky, Houts, Morrison, & The National Institute of Child Health and Human Development Early Child Care Research Network, 2007), with a positive effect of warm sensitive engagement well documented (Hamre, et al. 2012; McCartney, Dearing, Taylor, & Bub, 2007). Relational warmth, or resonance, as evidenced in this style of interaction mediates the child's prosocial, empathic orientation and has been associated with prosocial development (Denham & Weissberg, 2004) and peer acceptance (Clark & Ladd, 2000; Wentzel, Barry, & Caldwell, 2004), predisposing children to resilience in later development, enhancing self-esteem, psychological adjustment and academic achievement (Pianta & Stuhlman, 2004; Rutter, 1990). *Dialogic Engagement* is above all, intersubjective and relational. Holding the power of growth through connection with another, this style of interaction imports the transactional nature of *obuchenie*; both teacher and student are engaged in the creative process of transformative learning (Giroux, 1988). Through dialogic and democratic engagement, children are more likely to adopt and internalize expectations, values, goals and cultural meaning (O'Connor & Michaels, 2007; Tomasello, 1999); the development of emotion

understanding (Harris, 2005), critical thinking, reasoning and metacognitive abilities is enhanced (Michaels, O'Connor, & Resnick, 2008).

### *The Role of Teachers in Social and Emotion Understanding*

An abundance of empirical data have been accumulated to implicate social-emotional development as of primary importance for positive early childhood experiences, with teachers assuming a primary role in the development of competencies (Denham, Basset, & Zinsser, 2012; Walker, 2008; Wentzel, 2002). Extant data abounds demonstrating the framework children use to identify and give meaning to mental states is critically dependent on their conversations with others (Astington & Baird, 2005; Gopnik, Meltzoff, & Kuhl 1999; Harris, de Rosnay & Pons, 2005). Research has reliably demonstrated the crucial role parental modeling and teaching of, as well as reactions to children's emotion plays in these emotion competencies (Denham, Bassett, & Wyatt, 2007; Harris, de Rosnay & Pons, 2005; Fivush & Sales, 2006); research is beginning to cast foci on teacher contribution to these capacities.

Educators have been noted to promote emotional competency via targeted pedagogical efforts (Meyer & Turner, 2007), striving to bridge social-emotional functioning to cognitive-academic development via explicit curricular instruction targeting emotion vocabulary and discussion as well as metacognitive aspects of emotions (Greenberg, Weissberg, O'Brien, Zins, Resnik & Elias, 2003; Kusche & Greenberg, 1994). We know little about how implicit socialization techniques (i.e.,

conflict resolution) and everyday teacher-child emotion exchanges affect emotion capacities. Much is known about parent modeling (i.e., emotional expressiveness) with both positive and negative maternal emotions being noted to contribute to children's emotion regulation capacities and social functioning (Eisenberg & Spinrad, 2004). Encouragement of emotion expressivity has been associated with increased capacity for distress tolerance and emotion control (Eisenberg et al., 2001), whereas parental minimization or dismissal may encourage a child's subdued, sad or fearful response (Berlin & Cassidy, 2003). Invalidation of feelings has been associated with diminished emotion regulation capacities: emotion arousal remains elevated as skills necessary to assuage remain elusive (Fabes, Leonard, Kupanoff, & Martin, 2001). Paradoxical responses to children's emotions, such as parental anger or happiness in reaction to sadness, thwart learning about emotion (Denham & Kochanoff, 2002; 2001) and invalidate the child's experience. Conversely, conversations and direct engagement about emotions demonstrate the valuing of emotion-states; the emotional availability of the caring adult results in coherence for the child (Emde 2007; Clark & Ladd, 2000). Conversely, a lack of empathic connection and reasoning has been linked to later development and maintenance of psychosocial adversity and psychopathology (Eisenberg & Fabes, 2006; Rutter, 1990).

Educational research indicates teachers are likely to engage in a proclivity of emotion socialization behaviors previously noted in parents (Denham, Bassett, & Zinsser,

2012). Explicit modeling and teaching about emotions has been demonstrated to promote more adaptive emotion regulation patterns (Denham & Kochanoff, 2002); helped children infer causes of negative emotions (Ahn & Sifter, 2006; Fivush, Sales & Bohanek, 2008), and aided in facilitating constructive ways of expressing negative emotion (2008). Research demonstrates both positive and negative teacher reaction to emotion expressivity, with children found to absorb content, form and quality (Dunn, 1994). In their research with preschoolers, Ahn and Stifter (2006), noted teacher willingness to both encourage positive emotional expressions, and to respond empathically. By contrast, in response to children's negative emotional expressions, teachers responded empathically, but response to negativity was less frequent, and included significantly more negative reactivity, (e.g., punishing; minimizing; distraction; problem-solving; ignoring or shaming) (2006). Age served as a moderator, with younger children benefitting from physical comfort and distraction while teachers verbally mediate negative emotion expressions in older children (2006).

One such means whereby children are enculturated into the domain of emotion socialization in educational settings is via narrative construction. Narrative discourse, between child and other is a dynamically inextricably interrelated exchange, in which cultural transmission of prescribed roles and values are revealed and internalized (Gergen & Gergen, 2006; Harkins, & Ray, 2004; Piryatinsky & Harkins, 2009). Narrative interaction and style have each been demonstrated to enhance the ability to make

meaning out of emotion-laden events (Fivush, Sales, & Bohanek, 2008), to increase complex working model of relationship, (Labile & Song, 2006), promote prosocial development (Denham, Bassett, & Wyatt, 2007), and to increase coping skills (Fivush & Sales, 2006). Narrative form, when applied to either an experienced or an imagined event, creates a story: at once it is both dynamic and personal, creating a unified view of the self (McAdams, 1992), imbued with culture and meaning (Bruner, 1996).

The importance of imbuing social-emotional competences into educational settings has been reliably documented (Cohen, 2006; Zins, Weissberg, Wang, & Walberg, 2004). While the review of socialization processes in emotion understanding highlights the role of adults, the vast majority of the research on children's emotion understanding focuses on parent-child or examiner-child narrative; scant research has examined teacher-child narrative processes. Indeed, teacher-child storytelling is invoked daily to promote early literacy, critical thinking, metacognitive and comprehension competencies (NAEP, 2007). Early literacy pedagogical directives mandate incorporating reading, telling, re-telling, co-creating and writing stories daily into the literacy curriculum (2007). These proximal-level narrative engagements are rife with possibilities for investigating the nuances of teacher-child dialogic emotion exchanges, possibly illuminating the contribution educators make in the transmission of social and emotional competencies.

### The Current Study



The present study explores the nature of teachers' constructions (MMs) about teaching, actual classroom practices, and the role of teacher in the socialization of emotion understanding. Our mixed-methodology strategy included qualitative procedures as well as quantitative. We sought to understand internal constructions and formal connections between teachers' thought and action. Qualitative research allowed us to illuminate the process of a progressive conscious access to this meta-knowledge. In our engagement with the narratives, we strove to remain close to the data and to be objective: we listened to the voices of teachers and children engaged in the process of learning.

*The Relationship between Teachers' Stated MMs of Teaching and Ratings of Closeness and Conflict*

We first examined the association between teachers' stated mental models (MM) (e.g., style and goals) for effective teaching, and reports of relational closeness and conflict. We hypothesized that teaching style identifying process (e.g., relational considerations) and goals of social-emotional development as most important would be correlated positively with teachers' ratings of relational closeness and would be negatively correlated with teachers' ratings of conflict. We further expected that teaching style identifying structure (e.g., assessment and pedagogy) and goals of cognitive development as most important to effective teaching would be positively correlated with teacher ratings of relational conflict, and negatively associated with relational closeness.

*The Relationship between Stated and In-Action Mental Models of Teaching*

Second, we examined teacher's *stated* MMs of teaching style and goals of instruction to determine whether teachers would adhere to these MMs during actual *in-action* classroom practice. As a means of exploring in-action models of teaching, we employed a qualitative analysis of shared narratives between teachers and children, identifying first, the observed style of teacher-child interaction (e.g., authoritarian; instrumental; empowering; dialogic), the types of emotion words used by teachers and children during story construction (e.g., empathic; distancing) and the quality of emotion discussion (e.g., attribution; confirmation; denial; action; elaboration; relational). Drawing from theoretical literature, stated MMs for effective practice would not be expected to be associated with in-action observations (Strauss, 2005). Given the paucity of data investigating this association with actual classroom practices in high SES systems such as our sample (i.e., with highly qualified teachers, ongoing requisite professional development programming; strong in-classroom support, and higher-than-average teacher-to-child ratios), we anticipated a novel outcome. We hypothesized that teachers who identified process (e.g., relational considerations) and goals of social-emotional development as most important for effective teaching practice would be associated with in-action observed styles of empowerment and dialogic engagement. We further hypothesized that teaching style identifying structure (e.g., assessment and pedagogy) as most important to effective teaching would be associated with observed authoritarian and instrumental interaction styles.

We next investigated the in-action observed styles of teachers to determine the association between these and (1) the type of emotions expressed (e.g., empathic; distancing) and (2) the quality of emotion discussions (e.g., attribution; confirmation; denial; action; elaboration; relational). We hypothesized that teachers observed to utilize empowering and dialogic styles would be more likely to engage in emotion dialogues that were empathically inclined, and that these discussions would be more elaborative and relational. Drawing from extensive literature on gender differences in engagement style between parents and children (Harkins & Ray, 2004), particularly in the socialization of emotions (Fivush, Brotman, Buckner, Goodman, 2000), we hypothesized that gender would moderate the both the overall observed teacher engagement style, and the quality of emotion engagement.

Specifically, we sought to determine whether, and to what extent teachers are engaged in promoting transformative teaching and learning. To this end, we addressed four specific questions: (1) what is the association between teachers' mental constructions of teaching/learning and their perception of the teacher-child relationship. (2) Do teachers adhere to stated MMs for best pedagogic practice when engaged in actual classroom instruction? (3) What is the association between observed, in-action teaching styles and the type and quality of emotion dialogues? (4) What role does gender serve in moderating these discussions?

## Method

### *Participants*

The sample consisted of 698 children ranging from kindergarten to fourth grade (333 boys and 365 girls) from a small upper-middle class suburb in the Northeast United States. 80.9% of the student participants were European American, 3.6% African American or Black, 3% Bi-racial, 1.6% Latino/a, .3% Middle Eastern, 1.6% Eastern European, and 9.8% were Asian. We recruited 35 teachers from four elementary schools, all within the same suburban community. Ninety four percent of the teachers were female; all were Caucasian. As per the Community's Report Card (NCLB, 2007) 98.8% of the teachers were considered "highly qualified." The school department, from which the sample was drawn, reported 3.1% of the students eligible for free lunch.

According to Census data (National Census, 2000) 1.9 % of the children in the community live below the poverty line (as compared to the National average of 18.4%); 4% reside in single-parent homes. The median household income in 2000 was \$82,000 (National Census, 2000); median home price for 2003 was \$650,000. Over sixty-three percent of the community's residents have a bachelor's or advanced college degree.

### *Procedure*

In May of the 2006-2007 academic year, 35 teachers from four separate elementary schools Kindergarten through grade four reported on the quality of their relationships with students ( $N = 698$ ) by completing the Student-Teacher Relationship Scale (STRS, Pianta, 2001). We administered the scale at this time to ensure sufficient

time for teachers to develop an impression of their relationship with each child. We administered all three subscales (conflict, closeness and dependency) to compare overall teacher-child relational quality with other studies utilizing the STRS. Teachers completed a separate STRS for each of the children in their classrooms, as well as a written interview protocol and a demographic questionnaire.

### *Measures*

#### *Student-Teacher Relationship Scale.*

The Student-Teacher Relationship Scale (STRS) is a 28-item Likert-type rating scale designed to assess a teacher's feelings and beliefs about his or her relationship with a student and the teacher's beliefs about the child's feelings toward him or her. The three factor-based subscales are designed to capture three facets of teacher-student relationship: closeness, conflict and dependency.

The STRS is a widely used, self-report scale with significant test-retest correlations, high internal consistency, and predictive and concurrent validity (Hamre & Pianta, 2001; Pianta, 2001). The STRS is correlated with both current and future academic skills, and disciplinary violations (Hamre & Pianta, 2001), risk of retention, behavioral adjustment and peer relations (Hamre & Pianta, 2005). Chronbach's alpha for conflict is .92 and for closeness is .88; total scale: .89 (Pianta, 2001). Teachers received a small monetary compensation for their participation.

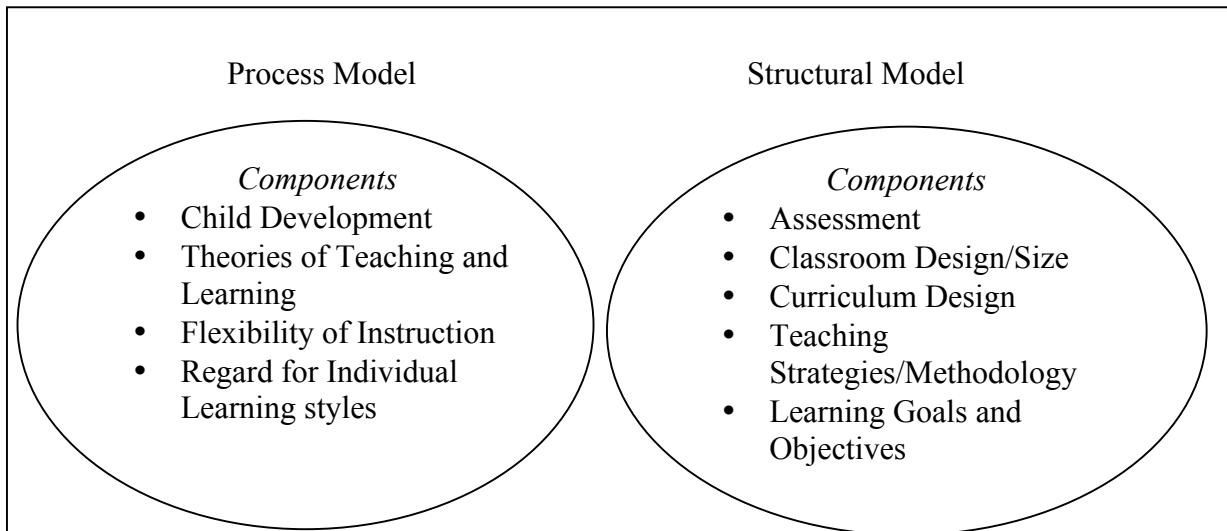
### *Interview Protocol*

We designed an interview protocol questionnaire to elucidate how teachers constructed mental models (MM) of teaching and learning. Drawing from previous research (Koepke, et al., 2012), variables regarding how teachers inform their practices were presented and respondents were asked to determine on a Likert-type scale, which factors they deemed most or least important (e.g., developmental considerations, educational assessment, curricular design, relationship with student, goals, objectives, adequate teaching materials/classroom environment). We asked teachers to rank order specific goals they had in mind for shared story time (e.g., cultural awareness; enjoyable experience with reading materials, improvement of reading phonemic awareness/reading skills; text-to-self identification; social-emotional development; cognitive development).

### *Protocol Data Coding: Mental Models*

First we analyzed protocol responses to determine teachers' MMs as they identified the components deemed most necessary to facilitate effective teaching. Based on a review of the literature and guiding theory, identified components were parsed into two discrete categorical models: *process* (e.g., teacher-child relational, social-emotional) and *structural* (e.g., program goals, objectives, assessment, technique).

### *Mental Models and Components*



### *Narrative Data Collection*

In May 2007, we asked 9 kindergarten and 10 first grade regular education classroom teachers (N=19) to share a wordless story (Mercer Mayer's *A Boy, A Dog and A Frog*, 1967) individually with three groups (male, female, mixed) comprised of the children within each classroom (group N = 57). This has been a popular and reliable task for narrative inquiry. The book contains 24 pictures relating the story of a boy and his dog in search of a lost frog. Although non-worded, the pictorial content represents essential and common story elements (initiating event, goal, climax and resolution) (Bamberg, 2009). Each teacher was allowed to choose group composition (approximately six children/group; all children within each classroom participated); the order of groups (e.g., male, female, mixed) was counterbalanced. We instructed teachers to engage in

storytelling with each group using the non-worded picture book as they would normally, according to the requisite language arts curriculum. Homogeneity of groups with regard to reading and language abilities existed. We recorded storytelling sessions. We transcribed the narratives for linguistic analysis.

#### *Quantitative Coding of Narrative Data: Emotion Words and Categories*

First, we analyzed narratives using Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Francis & Booth, 2001). We designed this program to study various emotional cognitive and structural components present in narrative samples, and to count the proportion of words falling into specific linguistic categories. Internal reliability, as measured by Chronbach's alphas, for words/categories pertinent to the current study are demonstrated to be between  $\alpha = .91$  and  $.97$  (2001). External validity indicates that LIWC successfully measures positive and negative emotions, cognitive strategies, and thematic content (Mehl & Pennebaker, 2003). The default LIWC dictionary is composed of 4500 words, each defining one or more word category, arranged hierarchically. For example, the word "cried" is part of five word categories: sadness, negative emotion, overall affect, verb and past tense verb; all anger words are categorized as negative emotion and overall emotion words.

#### *Emotion Words Denoting Empathy and Distancing*

Theorists view expressions of sadness as efforts to seek help and to remain attached (Barr-Zisowitz, 2000; Bowlby, 1980) and as expressions of grief and loss



(Bowlby, 1980). Researchers assume the use of sadness aids in values identification and conservation (2000), to preserve self-image (Kohut, 1971) and to maintain attachment to others (1980). The expressions of sadness and loss (loneliness) have been linked to yearning for empathic understanding and connection (2000; 1980), whereas expressions of anger, hate and annoyance have each been associated with aggressive, conflictive (Lemerise & Dodge, 2000; Cohen, 1990) and distancing (2000; Tomkins, 1991) impulses. Thus, consistent with guiding theory, and for purposes pertinent to the present study, we categorized expressions of sadness, loneliness and grief as *empathic*, and words denoting anger and hate as *distancing*. We analyzed teacher-child narratives both together and separately, as pertinent to hypotheses. Analyses of narrative were conducted on the group level; three each (e.g., male, female, mixed) per classroom (N = 57).

#### *Qualitative Coding of Narrative Data*

First, we designed the narrative coding scheme to capture the overall engagement style of the teacher and second, to identify potential qualitative aspects of emotion discussions. We developed two overarching domains for analyses: *Teacher Engagement Style* and *Emotion Exchanges*. We developed the domain of teacher engagement style, utilizing the theoretical underpinnings of Baumrind's dimensions of effective parenting (1971, 1991). Expanding on this typology of parenting styles, and in an effort to encompass contextual integrity (Broffenbrenner & Morris, 1998) the following teacher-engagement styles were identified: Authoritarian (i.e., teacher acts as sole authority;

limited autonomy support of child's/children's ideas); Instrumental Practice (i.e., performance-focused); Empowering (i.e., teacher solicits opinions of child/ren; mastery-focused) and Dialogic (i.e., extended conversation regarding single theme; text-to-self connections made; relational). We identified and coded all references to emotions to characterize the interaction into one of the following six discrete categories (adapted from Fivush & Wang, 2005): Attribution -teacher or child attributes emotional state to self, other, or storybook character; no further discussion ensues regarding emotion. For example, the child (C) says, "Froggie is sad." To which the teacher (T) responds, "The pond was right in front of him." Confirmation – the child makes reference to an emotional state of self or storybook character and the teacher confirms, no further discussion of emotion ensues (e.g., C: "Froggie is sad." T: "Yes, he is sad"). Denial – child refers to emotion, teacher either disagrees about the emotional reaction, or attempts to mitigate the reaction (e.g., C: "Froggie is sad." T: "Oh maybe a little bit"). Action – child attributes emotional state to self, other or storybook character, but teacher redirects conversation to acting upon the feeling (e.g., C: "Froggie is sad." T: "What should he do about that?"). Elaboration –Teacher and child/ren engage in extended conversation about an agreed-upon, or negotiated emotion, extending at least three conversational turns (e.g., C: "Froggie is sad." T: "Yes, I think he is sad." C: "I wonder if he is also lonely because the boy is leaving?" T: "That would make sense"). Relational –Teacher and child/ren engage in extended conversation about emotion. Must extend three or more

conversational turns; teacher invites text-to-self connections, and/or offers relative personal examples (e.g., C: “Froggie is sad.” T: “Oh, yes, he is. I wonder if you have ever felt that way.” C: “Once when I was...”).

#### *Coding of Teacher-Child Discourse.*

The domains of *interaction style* (e.g., authoritarian, instrumental, empowering, and dialogic) and *affective exchange* (e.g., denial, attribution, confirmation, action, elaboration and relational) between teachers and groups of children were coded as proportions of overall c-units for each narrative (N = 57). “A c-unit is an independent clause along with any dependent clauses it contains” (Loban, 1976). Each c-unit was assigned a discrete domain status (e.g., interaction style, or emotion exchange), resulting in proportions of total narrative. Inter rater reliability was obtained for all measures and ranged from .82 to 100 with a median of .88. We discussed disagreements revealed during reliability until consensus was obtained.

#### *Quantitative Data Analysis*

We tested hypotheses regarding associations between the independent variables: teaching style and goals, and the dependent variables of interest: relationship quality, and use of empathic emotion words used during co-construction of narratives using a four-way MANOVA procedure. Prior to conducting statistical tests, we examined the data for differences based on teacher variables: age, years of education, teaching experience, and ethnic background, as well as ethnic background of student. We found no significant

statistical differences. We conducted preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. We provide  $\eta^2$  estimates to indicate a measure of the proportion of variance of the dependent variable accounted for by each of the independent variables.  $\eta^2$  results between .01 and .05 are considered a small effect size;  $\eta^2$ s between .06 and .13 a moderate effect size and  $\eta^2$ s above .14 a large effect size (Cohen, 1988).

## Results

### *Quantitative*

#### *Hypothesis 1: The Effect of Teachers' Stated Teaching Style and Goals on Teachers' Ratings of Teacher-Child Closeness and Conflict (K-4)*

Findings indicate that stated teaching style (e.g., structure, process) and stated goals (e.g., cognitive development, social-emotional learning) related to teacher ratings of closeness and conflict. We conducted a two-way between-groups multivariate analysis of variance MANOVA to determine the effect of teachers stated style of and goals for teaching on the two dependent variables: ratings of relational closeness and conflict. MANOVA results indicate that teaching style (Wilks'  $\Lambda = .985$ ,  $F(2, 680) = 5.01$ ,  $p = .007$ , partial  $\eta^2 = .02$ ) and goals (Wilks'  $\Lambda = .975$ ,  $F(2, 680) = 8.66$ ,  $p < .0001$ , partial  $\eta^2 = .025$ ) significantly affected the combined dependent variables of closeness and conflict ratings. A significant interaction effect was noted between the independent variables

(Wilks'  $\Lambda = .975$ ,  $F(2, 680) = 8.86$ ,  $p < .0001$ , partial  $\eta^2 = .025$ ). We utilized a Bonferroni adjusted alpha level of .017, to conduct univariate post hoc tests on each of the two dependent variables. ANOVA results indicate that ratings of closeness significantly differ for stated teaching style: [ $F(1, 681) = 8.78$ ,  $p = .003$ , partial  $\eta^2 = .02$ ] and goals: [ $F(1, 681) = 12.8$ ,  $p < .0001$ ,  $p = .02$ ] (Figure 1.3). Ratings of conflict did not differ for either stated teaching style, or goals, however significant interactions were detected (Figure 2).

Ratings of closeness [ $F(1, 681) = 4.81$ ,  $p = .029$ , partial  $\eta^2 = .007$ ] and conflict [ $F(1, 681) = 7.57$ ,  $p = .006$ , partial  $\eta^2 = .011$ ] each significantly differed for the interaction of stated teaching style and goals. Specifically, teachers who identified structural MMs for best practice and cognitive development as primary goals for shared story time rated their relationships with students as significantly less conflicted as the teachers who identified structural MMs and social-emotional goals (see Figure 2.3). Teachers who identified process MMs and social emotional goals rated their relationships as less conflicted than those who identified process MMs and primary goals of cognitive development for shared story time.

Contrary to our hypothesis, inspection of the mean scores indicated that a stated process-oriented teaching style related to lower ratings of closeness ( $M = 43.53$ ,  $SD = 6.5$ ) than a stated structure-oriented teaching style ( $M = 44.88$ ,  $SD = 7.0$ ). Not surprisingly, results indicate a relationship between teachers' stated pedagogy and how they rate their relationship with children.

*Hypothesis 2: The Relationship Between Teachers' Stated Mental Models of Effective Practice and Observed Classroom Practices (K-1)*

In support of the theoretical literature, and contrary to our hypotheses, teachers' stated mental models for teaching style and goals for instruction were not significantly associated with actual classroom practices. We conducted a two-way between-groups multivariate analysis of variance MANOVA to determine the effect of stated teaching style (e.g., process, structure) and goals (e.g., cognitive development, social-emotional learning) for storytelling on the four dependent variables of observed teaching style (e.g., authoritarian; instrumental; empowering; dialogic) revealing no significant effect of either of the two independent variables. We conducted a two-way between-groups MANOVA to determine the effect of stated teaching style and goals for storytelling on the six dependent variables of emotion engagement (e.g., denial, attribution, confirmation, action, elaboration and relational), with no statistically significant effects noted. We also conducted a two-way between-groups multivariate analysis of variance MANOVA to determine the effect of teaching style and goals on the four dependent variables (e.g., teacher and child each empathic and distancing expressions), with no statistically significant effects noted. Results support prior literature revealing no relationship between stated MMs for teaching and observed practice.

*Hypothesis 3: Observed Teacher Style of Engagement and Observed Emotion Dialogues*

We found partial support for our hypotheses regarding the association between observed styles of engagement and the type of emotions discussed. We conducted standard multiple regression procedures to determine which independent variables (observed teaching styles: authoritarian; instrumental; empowering; dialogic) would predict expressions of empathy and distancing by each teacher and grouped child voices. Regression results indicate that the overall model significantly predicted teacher distancing expressions,  $R^2 = .342$ ,  $R^2_{adj} = .291$ ,  $F(4, 52) = 6.75$ ,  $p < .0001$ . A summary of regression coefficients (presented in Table 1.3) indicated three (authoritarian; instrumental; dialogic) of the four variables significantly contributed to the model. Regression results also indicate the overall model significantly predicted child distancing expressions,  $R^2 = .192$ ,  $R^2_{adj} = .130$ ,  $F(4, 52) = 3.09$ ,  $p = .023$ . Regression coefficients indicated only two (authoritarian; instrumental) of the predictor variables significantly predicted child distancing expressions. Table 1.3 presents estimates of standardized  $\beta$  (Beta) and unstandardized regression coefficients ( $B$ ) and standard errors ( $SE$ ) indicating the magnitude and direction of associations between the observed style of teacher interaction and distancing expressions by teachers and children. We found no support for our hypotheses regarding the effect of observed teaching style on empathic expressions by teachers and children, however split-file analysis revealed the interactions were moderated by gender. This finding supports our previous investigation into this data set (see Koepke & Harkins, 2012, for a full discussion) which indicated that overall, teachers

use significantly more distancing expressions when working with boys than when working with girls or mixed groups of children.

We found support for our hypotheses regarding the association between observed styles of engagement and the quality of emotion discussion. Results indicate that teachers observed utilizing empowering and dialogic styles of interaction are more likely to engage in emotion discussions that are qualitatively elaborative and relational. We conducted standard multiple regression procedures to determine which independent variables (observed teaching styles: authoritarian; instrumental; empowering; dialogic) would predict the quality of emotion discussions across six dimensions (e.g., attribution; confirmation; denial; action; elaboration; relational). Regression results indicate the overall model significantly predicted relational emotion discussions,  $R^2 = .333$ ,  $R^2_{adj} = .281$ ,  $F(4, 52) = 6.49$ ,  $p < .0001$ . Regression coefficients (presented in Table 2) indicated one (dialogic) of the four variables significantly contributed to the model. Results also indicated the overall model significantly predicted elaboration of emotion discussions,  $R^2 = .492$ ,  $R^2_{adj} = .453$ ,  $F(4, 52) = 12.60$ ,  $p < .0001$ . Regression coefficients indicated three (authoritarian; instrumental; empowering) of the four variables significantly contributed to the model. Regression results also indicated the overall model significantly predicted attribution  $R^2 = .262$ ,  $R^2_{adj} = .205$ ,  $F(4, 52) = 4.62$ ,  $p = .003$ ; confirmation  $R^2 = .223$ ,  $R^2_{adj} = .164$ ,  $F(4, 52) = 3.74$ ,  $p = .009$ ; and denial  $R^2 = .207$ ,  $R^2_{adj} = .146$ ,  $F(4, 52) = 3.39$ ,  $p = .015$  emotion discussions. Interestingly the model did not significantly predict action



emotion discussion, although significant differences were noted in action emotion exchanges when teachers were working with boys (see additional analyses of the moderating effect of gender). Table 2.3 presents estimates of standardized  $\beta$  (Beta) and unstandardized regression coefficients ( $B$ ) and standard errors ( $SE$ ) indicating the magnitude and direction of associations between the observed style of teacher interaction and quality of emotion discussion across the six dimensions. As expected, observed teacher engagement matched teachers' emotional dialogue.

We expected gender to contribute significantly as a moderating factor in both the observed teaching style and quality of emotion engagement, given the corpus of literature on gender differences in emotion dialogues (Fivush, Brotman, Buckner, Goodman, 2000; Harkins & Ray, 2004) as well as earlier findings noted in this data set (Koepke & Harkins, 2012). We performed a one-way between groups multivariate analysis of variance (MANOVA) to investigate the effect of gender on observed teacher style. We used four dependent variables: authoritarian, instrumental, empowering and dialogic. The independent variable was gender group (e.g., male; female; mixed). MANOVA results indicated a trend, in the effect of gender on observed teacher style (Wilks'  $\Lambda = .753$ ,  $F(8,102) = 1.94$ ,  $p = .06$ ,  $\eta^2 = .132$ ) on the combined DVs. We expected the moderating effect of gender would be most salient on either end of the observed teaching styles spectrum. Utilizing a Bonferroni adjusted alpha level of .017, we conducted univariate post hoc tests on each of the four dependent variables. ANOVA results indicate that that

gender group (e.g., male, female) significantly affects observed teaching styles: authoritarian [ $F(2, 54) = 3.87, p = .02, \text{partial } \eta^2 = .13$ ], and dialogic [ $F(2, 54) = 4.71, p = .013, \text{partial } \eta^2 = .15$ ] with large effect sizes demonstrated. No statistical differences were found between the gendered groups and the mixed gender group. An investigation of the means indicated that teachers engage in a higher proportion of narrative exchanges using an authoritarian style with boys than with girls, and a higher proportion of narrative exchanges using a dialogic style when working with girls than with boys. This trend was not indicated with observed instrumental and empowering styles. We present means and standard deviations in Table 3.3.

We performed a one-way between groups multivariate analysis of variance (MANOVA) to investigate gender differences in narratives exploring emotion understanding. We used six dependent variables: attribution, confirmation, denial, action, elaboration and relational. The independent variable was gender group (e.g., male, female, mixed). MANOVA results indicate that gender group (Wilks'  $\Lambda = .591, F(12, 98) = 2.46, p = .008, \eta^2 = .231$ ) significantly affects the combined DVs, with large effect sizes demonstrated. Utilizing a Bonferroni adjusted alpha level of .017, we conducted univariate post hoc tests on each of the six dependent variables. ANOVA results indicate that that gender group (e.g., male, female) significantly affects emotion dialogue involving action [ $F(2, 54) = 4.21, p = .02, \text{partial } \eta^2 = .14$ ]; denial [ $F(2, 54) = 4.51, p = .016, \text{partial } \eta^2 = .14$ ], and elaboration [ $F(2, 54) = 3.98, p = .024, \text{partial } \eta^2 = .13$ ]. We

found no statistical differences between the gendered groups and the mixed gender group. An inspection of the mean scores indicated teachers engaged in a higher proportion of emotion denial when working with boys ( $M = 4.75$ ,  $SD = 4.49$ ) than with girls ( $M = 1.5$ ,  $SD = 1.9$ ); a higher proportion of emotion action exchanges with boys ( $M = 4.22$ ,  $SD = 3.88$ ) than girls ( $M = .92$ ,  $SD = 1.42$ ); and higher proportion of elaboration of emotion exchanges when working with girls ( $M = 9.02$ ,  $SD = 7.0$ ) than with boys ( $M = 3.64$ ,  $SD = 4.09$ ). We present means and standard deviations for proportions of emotion exchanges by gendered group ( $N = 57$ ) and qualitative aspect of observed emotion exchange in Table 3.3. As anticipated, gender served as a moderating factor in both observed teacher style and the quality of emotion exchange.

### Discussion

Results of the current study provide evidence to support the association between teachers' stated mental constructions of teaching (MMs) (e.g., style; goals) and their perceived relationship with their students. In support of much of the research on MMs of teaching/learning the teachers in our sample did not adhere to *stated* MMs for best practice when in *actual* pedagogic engagement with children. In contrast to much of the extant research on distal structural indicators of teacher-child interactions and relationships, the co-constructed narratives in this study afforded proximal-level analyses of specific dynamic interactional processes. Qualitative analyses revealed an association between observed teacher interaction style and narrative expressions of distancing (e.g.,

angry; hate). Specifically, authoritarian, instrumental, and dialogic observed styles of teacher engagement positively associated with teachers' distancing expressions, and authoritarian and instrumental styles positively associated with children's distancing expressions. Interestingly, teacher engagement style did not predict either teacher or child expressions of empathy (e.g., sad, lonely, grief). However, gender affected teaching style, with teachers engaging in an authoritarian style significantly more with boys than with girls. Conversely, teachers utilized a dialogic style more often when working with a group of girls than with boys. Overall, interesting gender differences emerged in the emotion exchanges, supporting previous research investigating parent-child interactions (Fivush, et al., 2000; Harkins & Ray, 2004; Koepke & Harkins, 2012). As demonstrated with parents, when engaged in emotion dialogues with girls, teachers engaged in significantly more proportions of elaborative discussions. Most notably, teachers working with males were significantly more likely to invoke or invite an *action* in response to an emotional event (i.e., either positive or negative) and to deny an emotion when broached by the male child.

#### *Teachers Mental Models of Teaching and the Teacher-Child Relationship*

As noted in Figure 1.3, and in contrast to our prediction, overall, teachers who identified a style incorporating structural components (e.g., assessment; classroom design/size; curriculum design; goals and objectives) as most important rated their relationships with students as significantly closer than teachers who identified process

components (e.g., understanding child development and theories of teaching/learning; flexibility of instruction; regard for individual differences) as more important. When asked to identify most important goals for the current task (i.e., constructing a narrative during shared story time), teachers who identified goals of social-emotional development rated their relationships with children as significantly closer than teachers who identified goals of cognitive development.

When presented with a concrete task of shared story time, it is possible that relevance of social-emotional development is brought into immediacy: teachers might not experience increased closeness with students at all times, but when the idea of a shared story is being considered, the desire for, and feelings of relational harmony might be brought into conscious awareness. Interestingly, and in concert with this line of thinking, teachers who identified their overall style as process-oriented, and specific goal for the task as cognitive development rated their relationships with the children as less close than teachers with process-oriented MMs for teaching and social-emotional goals for instruction. The largest increase in ratings of closeness occurred with teachers who identified structural-oriented MMs for teaching and social-emotional goals for instruction.

At first glance, this finding appears incongruent: should not teachers who identify MMs of best practice as process-oriented (i.e., most notably comprised of social and emotional concerns), also experience their relationships with children as closer and their

teaching as effective? Drawing from previous research demonstrating a significant discrepancy between child and teacher ratings of relational closeness (Koepke & Harkins, 2008), this finding is less surprising. It is likely that teachers who deem process components as most inherent in their teaching styles have intuited the mental states of their students. In essence, these teachers might have reflectively recognized relational disconnect, and are rating the relationships more realistically than teachers who identify structural components as more essential to good pedagogic practice. In addition, structural components (e.g., defined goals and objectives; classroom design) may be essential for creativity. As notable theorists have argued: the more informal the pedagogy, the greater the need for formal structuring of the environment (Bruner, 1996; Dewey, 1924). Given inherent difficulties translating theory to practice, capturing what teachers construct from identified MMs of structure can be a messy enterprise. Structured classroom environments need not imply rigidity, but rather expressed in pedagogical terms through reflective and informed planning. Context matters. It might be that teachers who identify MMs of structure as most important for effective practice do so to enhance the potential for in-action process components (i.e., social, emotional and relational learning) to thrive.

Taken separately, teacher differences in stated MMs of style (e.g., structure; process) and goals for instruction (e.g., cognitive development; social emotional development) did not affect ratings of relational conflict. However, the demonstrated

significant interaction effect of teacher stated style of teaching and goals for instruction revealed interesting associations. Most salient in this finding is that teachers for whom overarching MMs for best practice are in accord with current action goals rated their relationships with the children as having less conflict. The potential for parallel processes should be considered: teachers' experience of concordance between identity and action resulted in lower ratings of conflict with students. It is worthy to consider that teachers for whom stated MMs for best practice and aspired goals for instruction closely match might experience increased efficacy in their efforts and less conflict in their relationships.

#### *Incongruency between Stated and Observed Teaching Practices*

Given previous findings highlighting the discrepancy between stated and in-action MMs of teaching (Strauss & Shilony, 2004), results from this investigation are hardly surprising. Our expectancy of a different outcome was due to the sample demographic from which the data were drawn. Given the higher than average socio-economic status, we hypothesized this teacher sample might be granted insularity from inherent risk factors of disadvantaged settings and systems. It appeared reasonable to consider that the advantages afforded by economic status (e.g., lower class size; highly qualified teachers; support structures) might allow the teachers a contextual advantage. Stressors thus reduced, teachers might be more likely to adhere to mentally desirable models for teaching. Engagement in dialogue about pedagogic practice with colleagues (Koepke, et al., 2012) moderates adherence to MMs. The stressors imposed by public demand for

teacher accountability and improved performance on state and federal mandated assessments reach across socio-economic lines. Our finding suggests that the time necessary to discuss thoughts/ideals for teacher/learning with colleagues on a daily basis is either not available for teachers, or the importance of this activity remains undervalued. The notion that engaging in dialogue with colleagues (i.e., explication of mental ideals) regarding MMs for teaching/learning might lead to improved pedagogic practice is worthy of future investigation.

#### *Observed Teacher Style of Engagement and Observed Emotion Dialogues*

As noted in Table 1.3, three observed teaching engagement styles related to teachers' expressions of distancing (e.g., angry, hate). At one end of the spectrum, authoritarian and instrumental styles of engagement, with emphasis on teacher-as-expert, child performance expectations and limited responsiveness resulted in teachers using proportionately higher expressions of distancing. For example, in one teacher's response to a child's observation: "I think Froggie is a little lonely" the teacher responded, "I'll bet he's angry about that." Whether this is a reflection of either consciously known, or unconscious negativity, or whether the teacher's MM for how to engage empathically was expressed in this manner is unknown. In one example, both teacher and child engage in distancing expressions: child, "The frog looks mad" to which the teacher responded, "Yes, he's mad alright." Previous research found that overall, children use significantly more distancing (e.g., anger; mad; hate) and empathic (e.g., sad; lonely) expressions than



do teachers (Koepke & Harkins, 2012). A dialogic style of interaction, in which co-construction of meaning occurs, and the teachers respond and validate the child's experience, relates to higher proportions of teachers' distancing expressions. It might also be that teachers try to promote emotion understanding of one the most difficult of emotional experiences: ambivalence. For example, in this transaction, the teacher appears to be guiding the child to integrate disparate concerns: child, "I wonder why Froggie is so mad" to which the teacher responded, "I wonder if he's not only mad, but also a bit lonely?" In this exchange, it might be that the teacher was attempting to hold the simplistic interpretation at bay, in this instance distancing efforts afforded time and opportunity for the child to construct a more complex experience of emotion.

Our analysis of the relationship between teacher engagement style and children's use of distancing expressions revealed that authoritarian and instrumental styles related to higher proportions of children's distancing expressions. Perhaps children simply respond to the teachers' use of disengaged and non-relational interaction styles. Previous research indicates that style of teaching distinguished by authoritarian-control, and lack of responsiveness, and relational warmth, negatively associate with motivation (Grolnick & Ryan, 1987; Wentzel 2002), autonomy (Baumrind, 1971; 1991; Denham, Bassett, & Zinsler, 2012) and academic success (Hamre, & Pianta, 2005). Given previous findings that children experience the teacher-child relationship as less warm and connected, and more conflicted than teachers might be aware (Koepke & Harkins, 2008), these findings

might very well indicate children's efforts to relate their view of the relationship via the safe "other," in this instance, Froggie. It is noteworthy that no association existed between observed teaching style and empathic expressions by either teacher or child.

Overall, observed teaching style related to the qualitative aspects of emotion exchanges between children and teachers. Most pertinent to our hypotheses: dialogic engagement style (i.e., democratic; relational; responsive) positively associated with relational emotion exchanges (i.e., responsive to the child's history, self-identity and culture). For example, in response to one child's expression, "I think Froggie might be lonely" the teacher responded, "Oh my, that must be difficult for him. Have you ever felt lonely?" Authoritarian and instrumental styles associated negatively with emotion elaboration exchanges, and an empowering style positively associated with elaboration (i.e., moves toward empathy; teacher invites child to construct deeper understanding), for example: Teacher, "How do you think Froggie is feeling?" Child, "I think he is sad." Teacher, "Oh, I wonder why he might be feeling that way...." Either that teacher's style of engagement might invoke social emotional understanding or thwart development in this domain is of primary interest to early childhood educators. Children's attempts to invite elaborative discussion of emotions might be interpreted as missed "teachable moments" in social-emotional learning. When denied opportunity to elaborate on identified feeling-states, in either self or storybook character, an implicit message might be that feelings do not matter. Consider the following exchange: child, "Froggie is so

lonely” to which the teacher replied, “I wonder why he jumped on the lily pad.” It might be that teachers who employ an authoritarian or instrumental style are unaware the power of these subtle exchanges to either enhance understanding or invalidate feelings. What appears to be salient, however, is that in these exchanges, children have little room to generate their own meanings, to act on their own lived histories, or to develop an awareness of and capacity for critical thought.

#### *Gender Differences in Emotion Discussion*

In concert with the corpus of literature on gender-specific socialization of emotions (Brody & Hall, 2000; Fivush, Sales, & Bohanek, 2008; Harkins & Ray, 2004) results of the present study demonstrated the moderating influence of gender on both the observed teaching style and the quality of emotion exchanges. The finding that teachers engage in an authoritarian style more frequently when working with boys than girls is not surprising. Teachers’ socially constructed MMs for appropriate classroom behavior may not be in concert with activity levels displayed by groups of boys. When engaged with boys, teachers might perceive the potential for loss of classroom control; thus employ an authoritarian mode. The boys might be attempting to engage in shared story time in harmony with how they are hard-wired: to be emotionally expressive (Brody & Hall, 2000), and action-oriented (Levant, 1995) in attempts to relate. That the teachers in our sample invoked a dialogic style when interacting with groups of girls significantly more than when working with boys represents not only a relational loss for the boys, but also

an academic marker. Given recent evidence to suggest that boys are lagging behind their female counterparts in academic domains (The Nation's Report Card; NAEP, 2007), and experiencing the teacher-child relationship as less warm and more conflicted (Koepeke & Harkins, 2008), increased focus on the nuances of teacher engagement style might be warranted.

The most salient aspect of gender differences occurred within the quality of teacher-child emotion exchanges. Of note, teachers employed action-oriented language when responding to boys' discussions of emotion-states. For example upon one boy's observation, "I think Froggie is scared" the teacher replied, "What do you think he should do about that?" Another example highlighted this call-to-action solution-oriented focus: child, "The boy looks sad and lonely...really, really sad" teacher, "So what should he do?" Teachers in our sample also used expressions of denial when working with boys significantly more often than when working with girls. A boy's exclamation of "Oh, look at poor Froggie, sitting by himself all lonely and sad!" was met with the teacher's response of, "oh, well, maybe..." One form of denial evidenced in the narratives included minimization of boys' experiences of empathic expression. For example, a boy's expression, "Froggie looks sad" led to, "Oh, do you think so? Well, maybe a little unhappy." The boy responded with, "Oh, well maybe he got overreacted." This boy got the message: strong feelings should be either solved, or mitigated; certainly not felt. These findings illuminate possible early socialization processes which result in what

investigators have demonstrated: that by middle childhood, females report more feelings of sadness than do boys (Fivush, et al., 2008), and that boys resort to invoking anger when sadness might be the underlying suppressed emotion-state (Levant, 1995).

Teachers more often encouraged elaboration of the emotion experience when engaged in emotion exchanges with girls. For example, one teacher invited a girl into more complex understanding of the dual experiences of emotion: child, “I think Froggie is angry.” Teacher, “I wonder if he is feeling lonely too? What might that be like?” Child, “He is both angry and lonely!” Given that previous investigation into differences in child narrative utterances revealed no significant differences in the voices of males and females when discussing sadness (Fivush, Brotman, Buckner, & Goodman, 2000), loneliness or anger (Koepke et al., 2012), it appears differences in the socialization of emotion understanding is not directly elicited by child gender differences, but rather in the response of the teachers. Of course, another explanation is that teachers might be responding to nonverbal or unconscious cues initiated by the children. More research into the nuances of these exchanges is necessary in order to unpack potential moderating factors.

### *Limitations*

MMs for teaching/learning are complex constructs to capture in language. It is reasonable to consider that our identified models were insufficient in representational

capacity; what teachers identified as most important components for best practice did not in fact faithfully represent what their best hopes would be for implementation.

Given the inherent complexities imbedded in discursive construction, an in-depth investigation of the strategies used toward narrative coherence by the teachers and children might also allow for a connection to be made between the narrative structure, purposes and intentions each might be attempting. Analysis and interpretation of plot and thematic structure as represented by story characters might also extend our understanding of how the meaning imbued in stories transcends to the ensuing engagement style of both the teacher and children.

Interactions between teachers, classrooms, and children might not be highly consistent from one day to the next; therefore repeated measures of shared storytelling might capture more valid data regarding teacher-child transactions in multiple contexts. Of note, the protagonist in the storybook was male; moderating effects of gender identification on specific emotion-word responses should be considered. Repeating the study with another storybook would prove useful to determine whether the gender-specific findings in the current study would be replicated. The teachers in our sample were all female. It is reasonable to assume that interaction-styles and constructed narratives between male teachers and children would highlight variability in a different manner. It might also be valuable to gather longitudinal data, as in a cohort sample, to

ascertain the moderating effects of child and gender characteristics on teacher variability (e.g., observed teaching style; quality of emotion-exchange engagement).

Another limitation of the current study was the sample. Although drawing from a low-risk population provided valuable insights with regard to limits of protective factors inherent in socioeconomic status, understanding the variability of teachers' interactions with students as well as capturing the rich complexities of discursive praxis requires expansion of demographic variables.

#### *Implications For Practice and Policy*

Recent mandates for performance-based assessment organize a top-down effect: experts theorize the curriculum, instructional techniques and evaluation tools, while teachers implement. This model removes educators from the process of deliberation and reflection, the very actions needed to enhance teachers' adherence to the MMs for best practice they espouse. Teacher education programs recognize and value the contribution mentoring models provide as an important professional development tool to promote teachers' engagement in reflective and discursive explication of MMs (Hamre et al., 2012; Strauss, 2005; Onchwari, & Keengwe, 2008). Results of this investigation lend credence to this ideal. The construction of self-as-educator; in particular, the ability to continually integrate multiple identity concerns into a cohesive and resilient whole is not an easy task; it requires thoughtful awareness, sustained presence of mind, and above all, connection with others.

Deviating from previous polarized models in which relational social-emotional concerns are held separate from formal academic skills attainment directives, research reveals the importance of a dialectical stance in which formal, instructional and the informal, social-emotional components of early schooling converge (Cohen, 2006; Fischer, 2009). Teachers are stewards of social-emotion understanding. Narratives constructed by children with significant adult figures afford educators a unique perspective into understanding how children make meaning out of their affective and relational experiences. These processes serve as an integral part of normative development with important implications for the child's development of a cohesive sense of self, others and their social environment (Cohen, 2006; Oppenheim, 2006). Moving foci of investigations beyond distal contextual considerations to proximal dynamic and transactional processes might illuminate mediators affecting teaching and learning, and provide the impetus to properly implement effective pedagogic imperatives and ideals. Teachers can thus be supported in efforts to engage in teaching/learning that is transformative.



Figure 1. Effects of teacher style and goals on mean levels of closeness as reported by teachers

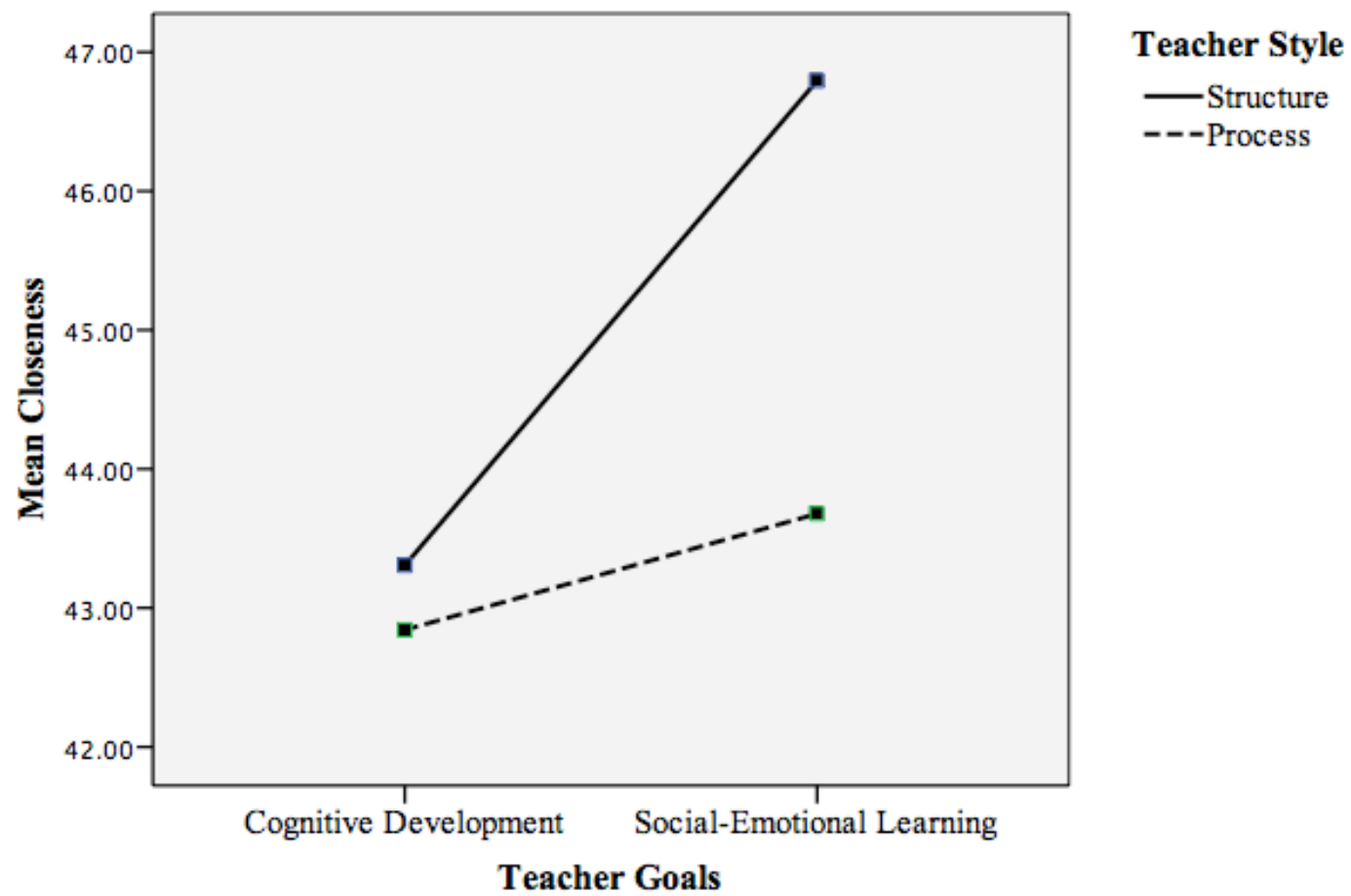


Figure 2. Effects of teacher style and goals on mean levels of conflict as reported by teachers

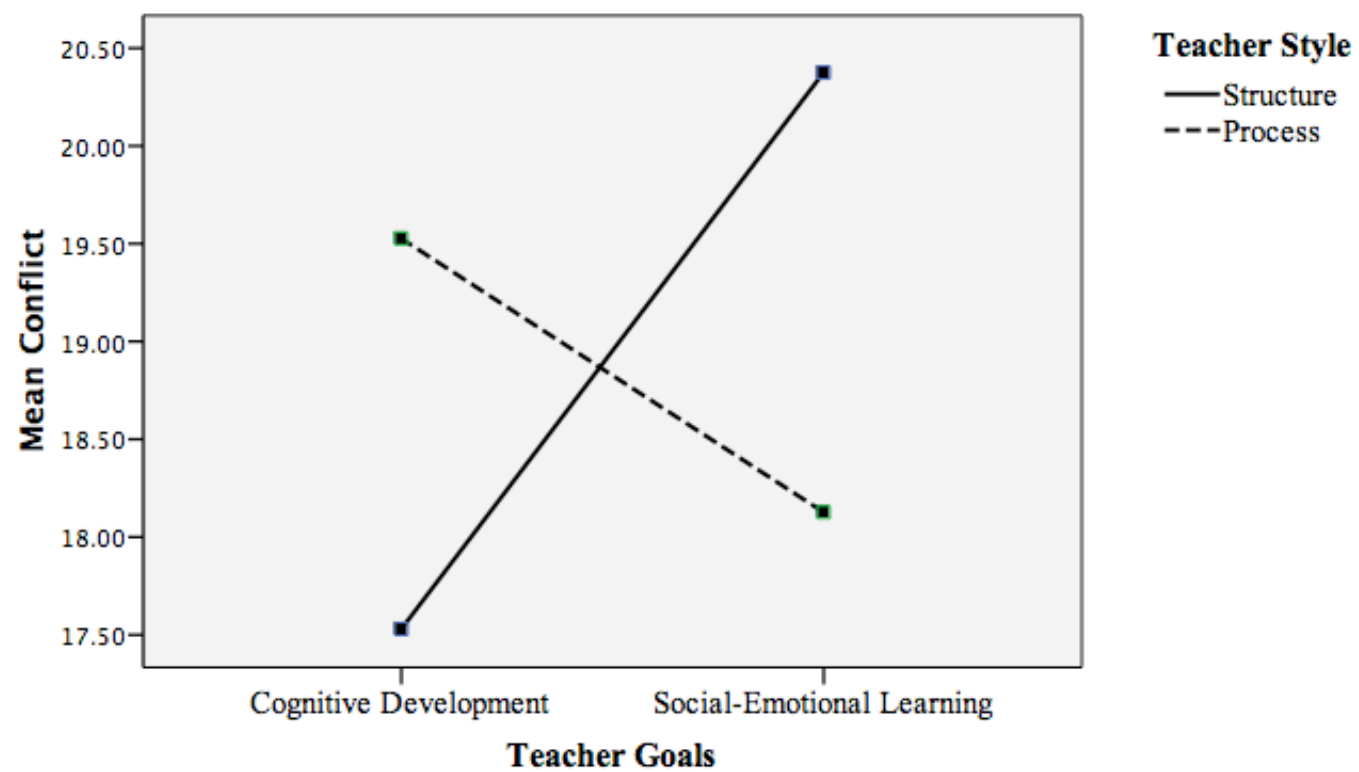


Table 1.3

*Observed Teacher Style as Predictors of Distancing Emotion Expressions-Standardized  $\beta$  (Beta) and Unstandardized Coefficients (B) and Standard Errors (SE)*

<i>Predictor</i>	<i>Criterion</i>							
	<i>Teacher Voice- Distancing Expressions</i>				<i>Children's Voices- Distancing Expressions</i>			
	<i>B</i>	<i>SE B</i>	<i><math>\beta</math></i>	<i>Bivariate r</i>	<i>B</i>	<i>SE B</i>	<i><math>\beta</math></i>	<i>Bivariate r</i>
Authoritarian	-.008	.004	-.317	-.123*	-.015	.006	-.417	-.232*
Instrumental	-.012	.003	-.757	-.401***	-.013	.004	-.606	-.307*
Empowering	-.005	.004	-.252	.296	-.009	.006	-.362	.211
Dialogic	-.021	.006	-.517	-.142***	-.014	.009	-.253	.057

\* $p < .05$ ; \*\*  $p < .001$ ; \*\*\*  $p < .0001$

Table 2.3

*Observed Teacher Style as Predictors of Emotion Engagement-Standardized  $\beta$  (Beta) and Bivariate  $r$*

<i>Predictor</i>	<i>Criterion</i>											
	<i>Attribution</i>		<i>Confirmation</i>		<i>Denial</i>		<i>Action</i>		<i>Elaboration</i>		<i>Relational</i>	
	$\beta$	$r$	$\beta$	$r$	$\beta$	$r$	$\beta$	$r$	$\beta$	$r$	$\beta$	$r$
Authoritarian	-.221	.204	-.624	-.247**	.085	.196	-.346	-.155	-.635	-.406**	-.210	-.269
Instrumental	-.705	-.041**	-.465	.021*	-.551	-.279*	-.384	-.113	-.895	-.511***	-.337	-.374
Empowering	-.739	-.248**	-.591	-.045*	-.162	.083	-.257	-.101	-.638	.301**	-.237	.220
Dialogic	-.410	-.233*	-.389	-.136*	-.324	-.155*	-.330	-.113	-.090	.345	.379	.534**

\* $p < .05$ ; \*\*  $p < .001$ ; \*\*\*  $p < .0001$

Table 3.3

*The Effect of Gender on Quality of Emotion Exchanges: Proportional Mean (SD), F Statistic and Effect Sizes (Partial  $\eta^2$ - $\eta^2$ )*

<i>Narrative Code</i>	<i>Male (n=19)</i>	<i>Female (n=19)</i>	<i>Mixed Group (n=19)</i>		
<i>Emotion Exchange</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>F</i>	<i><math>\eta^2</math></i>
Attribution	8.74 (5.57)	7.40 (6.3)	8.45 (6.55)	.251	
Confirmation	6.05 (4.98)	7.03 (3.71)	5.99 (6.06)	.259	
Denial	4.75 (5.02) <sup>a</sup>	1.54 (1.95) <sup>a</sup>	2.18 (2.77)	4.49*	.143
Action	4.22 (3.87) <sup>a</sup>	.91 (1.42) <sup>a</sup>	2.57 (4.46)	4.22*	.135
Elaborative	3.64 (4.08) <sup>b</sup>	9.02 (7.01) <sup>b</sup>	5.76 (6.24)	3.98*	.129
Relational	.42 (1.27)	1.91 (3.74)	.64 (1.38)	2.11	
<i>Observed Teacher Style</i>					
Authoritarian	13.41 (10.50) <sup>a</sup>	5.44 (9.17) <sup>a</sup>	7.07 (8.16)	3.87*	.125
Instrumental	39.46 (16.83)	36.66 (17.91)	42.21 (14.90)	.531	
Empowering	17.82 (15.66)	22.88 (11.76)	22.03 (12.96)	.757	
Dialogic	1.18 (1.83) <sup>b</sup>	6.74 (8.89) <sup>b</sup>	2.96 (3.94)	4.70*	.148

\*p < .05

<sup>a</sup> males > females

<sup>b</sup> females > males

## CHAPTER 5

### CONCLUDING REMARKS

This series of investigations aimed to first, shed light on the metacognitive processes of teachers' thinking: how teachers conceptualize their profession, and how they understand the developmental processes of teaching and learning. Results of this inquiry provide evidence to support a theory for understanding how teachers can adhere to stated mental models for best pedagogic practice. Overall, teachers are more likely to realize aspirational pedagogy if they engage in dialogic connection with mentors and colleagues on a regular basis. This elegant act of reflection in relationship with another encourages intuitive knowledge to become explicit, and thus usable. Most notably, we were able to illuminate this association between reflective and dialogic processes and adherence to mental models of teaching/learning.

This study was unique in that we examined the nuances of teacher-child relationships via narrative processes. Valuable data were gleaned from this vantage point. Teachers are stewards who impart socially constructed ideals for learning, knowing and relating. Much was learned from qualitative analyses about the way in which children are socialized in their development of emotional understanding, their relationship to self and to the larger culture. Most poignantly, narrative data revealed significant gender differences in emotion socialization processes, with important potential sequelae considered.

Narrative data also afforded a unique opportunity to examine the associations among observed teaching engagement style, the quality of the teacher-child relationship, and nuances of emotion engagement dialogue. The relational attunement between teacher and child, integral to the learning process, was reflected in the narratives of teachers and children. The association between teacher engagement style and quality of ensuing emotion dialogues once again revealed

the importance of dialogic praxis. Children afforded the opportunity to engage in this attuned process learn how to construct knowledge; to take part in the reiterative process of bringing forward more complex understandings. As with the teacher, so too the child. Teachers who engage in reflective, discursive praxis are more likely to realize ideals for best pedagogic practice. Reciprocal and parallel processes ensue; actual minds of child and teacher engaged in the same enter into the best of “possible worlds” (Bruner, 1986).

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