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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

AN ETHNOGRAPHY OF EARLY CHILDHOOD TEMPERAMENT
AND GOODNESS OF FIT IN THE CLASSROOM

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

Tiffani Martin

College of Education and Behavioral Sciences
Department of School Psychology

December, 2011

This Dissertation by: Tiffani Martin

Entitled: *An Ethnography of Early Childhood Temperament and Goodness of Fit in the Classroom*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in the College of Education and Behavioral Sciences in the Department of School Psychology

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ABSTRACT

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A number of researchers have examined temperament as it relates to goodness of fit. Limited qualitative research however, has been conducted in this area. This study is a type of qualitative research called an ethnography with prolonged engagement occurring over a full cycle, one school year in a Kindergarten/1st grade combined classroom. The participants included the teacher and 15 of her students. The researcher's role in the classroom was that of a participant observer as she conducted observations in the natural setting and gathered information from a number of sources including researcher field notes, teacher field notes, three teacher interviews, artifacts, and a researcher's journal. Qualitative analysis focused on extracting relevant themes. These themes included creating a learning environment, addressing behavioral challenges, establishing a routine and maintaining organization, and temperament and goodness of fit. An analysis of the themes revealed that the teacher seemed to be able to establish goodness of fit with those students who had a similar temperament to her own by setting up her classroom a certain way and presenting academic information in an exciting format. At various times, the teacher changed the environmental demands to meet those students with temperaments different from her own however, she continued to struggle to achieve goodness of fit with a few students. School psychologists may

consult with teachers in attempts to set up the classroom environment and demands to match a student's temperament. The results from this study may also be useful for educators when determining classroom placements.

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CHAPTER I

INTRODUCTION

Temperament is generally defined as biologically based, individual differences in behavioral tendencies that are present early in life and are relatively stable across various situations and over time (Bates, 1989). Temperament is the “how” of behavior, not the “why” (motivation) or “what” (ability), and is dependent upon individual responses to external stimuli (Thomas & Chess, 1977). That is, it provides an indicator of how an individual will respond to his or her environment. It is believed that the concept of temperament can be traced back to the Greek and Roman era. The concept of individual differences continued with research leaders such as Galen and Kant (Thomas & Chess, 1977). It wasn’t until the early 1950s that Thomas and Chess coined the actual term “temperament”.

There are three different views of temperament: (a) behavioral style, (b) biobehavioral regulation, and (c) typology (Seifer, 2000). The behavioral style approach is dominated by the research of Thomas and Chess. Following their definition of the “how” of behavior, Thomas and Chess outlined nine characteristics of behavioral style: (a) activity level, (b) rhythmicity, (c) approach or withdrawal, (d) adaptability, (e) threshold of responsiveness, (f) intensity of reaction, (g) quality of mood, (h) distractibility, and (i) attention span and persistence (Chess & Thomas, 1996). Using levels from these characteristics, they defined easy, difficult, and slow to warm

temperament categories. Chess and Thomas (1996) believed that these characteristics influenced the interactions between individuals and their environment.

The biobehavioral regulation approach focuses on the behavioral indicators of regulatory processes that are important for daily living (Seifer, 2000). This approach examines environmental constraints that are operative when the behaviors are observed (Seifer, 2000). The specification of situational variables is what separates this approach from the behavioral style. For example, what rules are in place in the environment when certain behaviors occur?

The typology approach is a way of classifying temperament characteristics. Chess and Thomas (1996) classified individual children as difficult, easy, or slow-to-warm-up based on their nine characteristics described in the behavioral approach. Another prominent researcher in the area of temperament, Kagan (1994), added a category for individuals who display a distinct syndrome of extremely shy, inhibited behaviors in response to novel situations and are highly physiologically reactive to the novelty.

Regardless of the specific view of temperament, researchers in this area believe that different types of temperaments can predict social, emotional, and behavioral outcomes. For example, researchers have attempted to link temperament with a number of constructs including achievement, school readiness, school adjustment, and psychopathology (Keogh, 2003; Orth & Martin, 1994). The study of temperament and schooling began with the New York Longitudinal Study (NYLS) (Thomas, et al., 1963). Many researchers have since followed their lead.

Based on NYLS study and subsequent research, it is clear that temperament affects educational adjustment and outcomes. For example, temperament is related to achievement (e.g., Coplan et al., 1999, Keogh, 2003, Martin, 1989) in that students who are persistent and not distractible have better ratings in academic achievement. Within this achievement research, some have considered factors such as instruction, teachers, learning theory principles, developmental concerns, and cultural issues and how these factors relate to student temperament (Horton & Oakland, 1997). The most popular method for studying temperament and achievement has been through the use of a questionnaire of student temperament and an achievement test. Based on this research, academic competence appears to be related to the temperament traits of persistence and approach/withdrawal (e.g., Bramlett, Scott, & Rowell, 2000, Palisin, 1986).

Temperament is also important to school readiness and adjustment, and may actually predict first grade readiness (Schoen, 1994). Older students, who tended to have lower activity levels, were able to regulate their emotions and take initiative in social situations more so than younger students (Mendez, McDermott, & Fantuzzo, 2002). These studies built on the earlier work of Skarpness and Carson (1987) who found that certain temperament characteristics were predictive of children's school adjustment. They narrowed these temperaments down to five characteristics: attention span, distractibility, rhythmicity, general activity level, and mood.

Recently, researchers have examined how temperament relates to risks for psychopathology (Frick, 2004). Overall there appears to be limited research in this area, but may be due to different sub disciplines within psychology that study temperament and psychopathology (Frick, 2004). Those who study temperament tend to be

developmental psychologists, while those who study psychopathology tend to be clinical psychologists. Because of the very different theoretical orientations of these two groups, the majority of research has been conducted separately. Some researchers have examined psychopathology and temperament from a developmental perspective (e.g., Lonigan, Vasey, Phillips, & Hazen, 2004). Others view psychopathology as an extreme along a temperament dimension (Clark, Watson, & Mineka, 1994). Still others have found that psychopathology is the result of a mismatch between student's temperament and the environmental demands (e.g., Keogh, 2003, Martin, 1994a, 1994b). This mismatch is referred to as poor fit (Thomas & Chess, 1977), and can be contrasted with goodness of fit.

Goodness of fit is defined as the interaction that “results when the properties of the environment and its expectations and demands are in accord with the organism's own capacities, characteristics, and style of behaving” (Thomas & Chess, 1977, p. 11). In other words, it is a balance between a child's temperament and the demands of the environment. Seifer (2000) suggested that in order to study goodness of fit, it must be operationalized according to one of the following models: (a) objective behavior matching, (b) objective matching of expectations and behavior, and (c) subjectively reporting stress-appraisal-coping models. Behavior matching occurs when the temperaments of parents and children are compared for level of fit (Seifer, 2000, Wallander, Huber, & Varni, 1988). Matching of expectations is defined by the degree of behavioral match with teacher expectations, then comparing that with some measure of competence or adjustment (Lerner, Lerner, & Zabski, 1985). The stress-appraisal-coping model is defined by the degree to which infants have lived up to the individual and

cultural expectations of their families (Seifer, 2000). Overall, goodness of fit is not an easy construct to study because it is complex and not uniformly defined.

Researchers have examined goodness of fit in the context of families and school. Within family settings, the most common population of interest has been infants. As might be expected, most research has demonstrated a correlation between the degree of “difficultness” indicated by the parent in regards to their infant, and ratings of the infants’ internalizing and problem behaviors (Seifer, 2000). Almost all of the studies on goodness of fit in infants used parent-report measures for determining temperament characteristics.

There is a paucity of research examining goodness of fit in the schools. Lerner (1983) and Keogh (2003) have been the primary researchers on this topic. Lerner (1983) found that temperament, when matched with contextual demands, provides for better adaptation than when not matched. Interestingly, the findings were for both the actual and perceived demands of the classroom. Keogh (2003) examined teachers’ classroom decisions and how they affected goodness of fit with their students and concluded that a teacher’s decision is influenced by a number of things including teacher temperament and personality, beliefs about what students should be like, and individual characteristics of the child or group of children.

Temperament is linked to a number of constructs, including academic achievement, school readiness and adjustment, and psychopathology. The goodness of fit model may help to explain how temperament interacts with these different aspects of child functioning. Because goodness of fit is poorly defined and existing research is

methodologically flawed, it is difficult for professionals to understand how it impacts school behavior. A qualitative, naturalistic study may provide information that professionals can use to develop early interventions.

Statement of Problem

The majority of research on temperament and goodness of fit has methodological limitations. One major limitation is the lack of longitudinal data that restricts generalization across time. A second limitation is the reliance on questionnaires. Questionnaires are useful, but they have their flaws (Mangelsdorf, Shoppe, & Burr, 2000). According to Mangelsdorf et al. (2000), responses on questionnaires can be quite different between informants and are limited by the questions asked. Many seek general or specific contextual information instead of open-ended analysis. This format does not allow for flexibility across different contexts. A third limitation is the use of correlational statistics. Correlational statistics inform researchers that there appears to be some kind of relationship between the variables, but do not account for the many extraneous factors that may be influencing that relationship. Because of these limitations, many questions regarding temperament and goodness of fit in the classroom remain. These questions will be discussed in Chapter 2.

Purpose of the Study

Temperament is an important aspect of children's behavior. Previous research has documented the correlation between temperament patterns and behavioral and educational problems. When temperament characteristics match the demands of the environment, goodness of fit emerges and children thrive. Goodness of fit and temperament constructs fit in an ecological orientation because it is a non-pathological

approach to studying behavior. Previous research on goodness of fit has methodological limitations that leave many unanswered questions. I wanted to explore how goodness of fit unfolds over a typical school year through the use of qualitative methodology.

Qualitative research provides a rich context for understanding complex constructs and provided a different perspective on children's temperament in the classroom.

Ethnographic qualitative research was used to study temperament and goodness of fit in a first grade classroom. An ethnography is typically conducted over at least one full cycle (i.e., school year). This type of study provides information about goodness of fit over time and explores relationships and themes in a broader, more open-ended way in order to provide a full and rich portrait of events, experiences, and perceptions. More specifically, it allowed an examination goodness of fit in a naturalistic environment, by looking at the interaction among children's temperament, the classroom environment, teacher characteristics, and other children's characteristics. An understanding of how these different aspects of the classroom interact with a child's temperament may prove useful and instructive in designing early intervention programs for students who struggle with academic achievement, school readiness and adjustment, and psychosocial problems.

The following research questions guided this study:

- Q1 How does goodness of fit appear in a Kindergarten/1st grade combined classroom?
- Q2 How do children's temperaments affect classroom dynamics?
- Q3 How does the teacher's temperament affect the classroom dynamics?
- Q4 What are the ecological characteristics that make up goodness of fit in a Kindergarten/1st grade combined classroom?

The purpose of this study was to explore how children's temperaments related to the teacher, the environment, and peer demands. Through an academic year of observations, teacher interviews, and child interviews, I made was able to develop a better understanding of temperament and goodness of fit across many different school contexts. This information also allowed me to view the ecological components contributed to goodness of fit.

Assumptions

The assumptions inherent in this study were divided into personal and methodological assumptions.

Primary Researcher's Context as a Student and Child Care Provider. As an instrument in this ethnographic study, my experiences as a family member, a child care provider, and a graduate student relate to the research process. My story is as follows:

My life thus far has been eventful. I grew up as the middle child out of seven in my family. At various times in my life, I was the youngest and oldest at home. If you asked my siblings, they would say I was the quiet one. At an earlier age, I could be identified as having a slow-to-warm temperament. I was very shy and not willing to open up to people until I fully trusted them and felt comfortable around them. People would often tell me that they have forgotten that I was in a room because I was so quiet. I never disliked when people said that, as I enjoyed being reserved. While growing up, I had a small group of friends who shared my temperament.

My educational experiences followed suit. In school, I was considered quiet and studious. I enjoyed my English classes and receiving praise from my

teachers, but I responded more favorably to private praise given to my parents or myself. I did not gain much from public praise. When I received praise, I enjoyed it independently. My favorite teachers were those who taught English or who connected with me in some way. I was intrinsically motivated to read and write. Growing up on a farm near a rural community and in a large family restricted many of the experiences that might be readily available to others. I relied on reading to inform me of life and places and things. I read everywhere I could - at church, fishing, and football games - just about anywhere. To take away a book from me was a punishment. The more I read, the better I became at writing. Reading and writing was my niche and encouraged me through school.

When I was the oldest at home, my parents were divorced and my mother worked two jobs. I quickly became the informal caregiver for my three younger siblings. I started working with children on a more formal basis when I started my undergraduate education in 1999. I worked as a daycare leader and eventually moved on to a job in which I was the supervisor for a before- and after-school program. Working with the same company that served students with special needs, I became a child caseworker. Over the years, I worked with 150 families across the county.

I graduated with my B.A. in 2002, and became the first person in my family with a college degree. I then began a graduate program in school psychology. Through my coursework, I became interested in studying temperament and goodness of fit. After I had completed qualitative courses, I knew that this was the right methodology for me because of my research

questions and general outlook on life. Through my coursework, I also developed ideas regarding learning in classrooms. I believed that children learned best when they had their needs met and felt comfortable. Every child has a different level of comfort in a classroom and as adults; we have a responsibility to try to meet their learning needs. Even today, my attitude is that we must try to build a relationship with our students.

Personal Assumptions. My personal assumptions include temperament develops early and is consistent throughout the lifetime. Some temperament constructs are related to peer popularity, while others are correlated with classroom performance. The temperament of teachers affects their interactions and relationships with students. Temperament characteristics in both teachers and students affect classroom goodness of fit. Goodness of fit is achieved by changing ecological aspects of the classroom.

Methodological Assumptions. I used ethnographic methods including fieldwork, field notes, interviews, journal writing, and artifacts to collect data on the goodness of fit of children in a Kindergarten classroom. Using a variety of data, I was able to build thick description and analyze it relative to my research questions. As I began to gather information, I assumed the teacher had a general knowledge about temperament, but would be able to provide more specific information after learning more about temperament and goodness of fit. Another methodological assumption of this study was that the teacher was forthright and disclosing during the interviews. My participant observation throughout a school year provided me with information regarding students' temperaments, teacher's temperament, my own temperament, and goodness of fit in the classroom.

Definition of Terms

Culture. Culture is defined in ethnography as a form or pattern abstracted from observed behavior (Schwandt, 2001).

Ethnography. Ethnography is a “description and interpretation of a cultural group or system” (Creswell, 1998, p. 58). The ethnographer studies a group in depth to develop understanding based on the day to day events.

Goodness of Fit. Goodness of fit is the interaction that “results when the properties of the environment and its expectations and demands are in accord with the organism’s own capacities, characteristics, and style of behaving” (Thomas & Chess, 1977, p. 11).

Poorness of Fit. Poorness of fit is the interaction that results when there is a dissonance between capacities, characteristics, and the environment (Thomas & Chess, 1977).

Qualitative research. Qualitative research “is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem” (Creswell, 1998, p. 15).

Temperament. Temperament is the biological root of individual differences in general behavioral tendencies (Goldsmith, et al., 1987). Examples of behavioral tendencies include activity level, fearfulness, irritability, and soothability.

CHAPTER II

REVIEW OF LITERATURE

The study of temperament is important to understanding the children's behavior in different contexts, including the school setting. "Temperament may be best viewed as a general term referring to the *how* of behavior" (Thomas & Chess, 1977, p. 9). That is, temperament is an independent psychological attribute, different from motivation (*why*) and ability (*what*), and dependent upon individual responses to external stimuli.

Temperament is a phenomenological term that is influenced by environmental factors in its expression and in its nature as development proceeds (Thomas & Chess, 1977).

Temperament is the biological root of individual differences in general behavioral tendencies (Goldsmith et al., 1987). Examples of behavioral tendencies might include activity level, fearfulness, irritability, and soothability. Temperament affects children's interactions in a variety of social settings, such as school.

Temperament History

In his brief history of temperament, Kagan (1994) noted that this concept began when the Greeks and Romans attempted to describe the nature of different types of individuals. They believed that a balance among the four humors of yellow bile, black bile, blood, and phlegm created an opposition within two pairs of bodily qualities: warm versus cool and dry versus moist. According to the Greeks and Romans, these four qualities were present in all people and were related to the four fundamental substances in the world: fire, air, earth, and water. The Greeks assumed that the balance among these

qualities created an invisible inner state that was responsible for the observed variation in rationality, emotionality, and behavior.

Galen, a second-century physician, expanded these ideas by hypothesizing nine temperament types derived from the four humors (Seifer, 2000). In the ideal personality, the paired characteristics of warm-cool and dry-moist were balanced. When these were not balanced, one of the four qualities was dominant. Galen believed that this imbalance caused four less ideal types. In these less ideal types, one pair of qualities dominated the complementary pair; for example, cool and dry dominated warm and moist. Galen termed these four categories as melancholic, sanguine, choleric, and phlegmatic. According to Galen's theory, the melancholic was cool and dry because of an excess of black bile. The sanguine was warm and moist because of an excess of blood. The choleric was warm and dry because of an excess of yellow bile. The phlegmatic was cool and moist because of an excess of phlegm. These imbalances were associated with certain personalities or temperaments.

Galen's ideas persisted into premodern times (Seifer, 2000). In the postmodern era, Kant accepted Galen's four types with only minor changes. First, he used blood to represent the only important humor and assumed that individual variation in energy was critical. Kant added that the sanguine and the melancholic were emotional types, whereas choleric and phlegmatic were action types. He recognized the inconsistent relationship between invisible internal processes and manifest behavior thereby distinguished between affect and action. Furthermore, Kant suggested that humans possessed a will that could control the behavioral consequences of strong desires and feelings.

Beginning in the 19th century, researchers began to focus on the biology of the brain and search for observable signs in the body (Kagan, 1994). The two prominent researchers during this time were Franz Gall and his student, Joseph Spurzheim. Gall suggested that variations in human intentions and emotions, housed in brain tissue, could be detected by measuring the skull. Gall and Spurzheim developed terms for primary human characteristics like hunger, sex, and greed. They assigned locations in the brain where these characteristics could be found. Gall's overall goal was to discover whether a relationship exists between brain structure and psychological functions.

According to Chess and Thomas (1996), through extensive studies conducted by Freud, Pavlov, and students of child development, the concept of nurture (also called environmentalism) began to intensify and influence society's viewpoint. Beginning in the 1920s, the concept of nurture dominated the field of child development, and any biological (or nature) suggestion was almost universally considered to be antithetical to psychological development. It was during this time that psychiatrists Alexander Thomas and Stella Chess introduced the idea of temperament which they described as an innate characteristic of children. With the re-introduction of biological differences, their research relieved many distraught parents who believed they had sole influence on child outcomes.

Modern Views on Temperament

The dominant approach to temperament research is based on the work of Thomas and Chess (Thomas, Chess, Birch, Herzig, & Korn, 1963). In their extensive New York Longitudinal Study, Thomas and Chess attempted to define characteristics of individuals that were presumed to be important to infant and child development, an approach known

as the *behavioral style* of temperament. They also developed a typology approach based on behavioral style characteristics (Thomas & Chess, 1977). More recently, alternatives such as the *biobehavioral regulation* approach of Rothbart and Goldsmith (Goldsmith & Campos, 1982; Rothbart & Derryberry, 1982) and the *typology* approach of Kagan (Kagan, Resnick, & Gibbons, 1989) have emerged. These three different approaches are discussed in the following section.

Behavioral Style. The behavioral style model emphasizes ongoing, continuing interactions and transactions between the individual and the environment (Keogh, 2003). Three assumptions underlie this model: (a) there are important individual differences in behavior, (b) these behavioral styles are relatively stable over time, and (c) these behavioral styles generalize across situations (Seifer, 2000). Through their work in the behavioral style of temperament, Chess and Thomas (1977) identified nine characteristics that included the following:

1. **Activity Level.** The motor component present in a child's functioning and the diurnal proportion of active and inactive periods.
2. **Rhythmicity (regularity).** The predictability or unpredictability of particular functions within an individual. This characteristic can be analyzed in relation to the sleep-wake cycle, hunger-feeding pattern, and elimination schedule.
3. **Approach or withdrawal.** This characteristic describes the nature of the initial response to a new stimulus, be it a new food, a new toy, or a new person. Approach responses are positive and may be displayed by mood expression (e.g., smiling, verbalizations) or motor activity (e.g., swallowing a new food, reaching for a toy, active play). Withdrawal reactions are negative, whether displayed by

mood expression (e.g., crying, fussing, grimacing, verbalizations) or motor activity (e.g., moving away, spitting new food out, pushing new toy away).

4. *Adaptability.* A child's responses to new or altered situations is considered to be a function of adaptability and describes the ease with which responses are modified in a desired direction.

5. *Threshold of responsiveness.* This characteristic of temperament describes the intensity level of stimulation that is necessary to evoke a discernible response. These are reactions to sensory stimuli, environmental objects, and social contacts.

6. *Intensity of reaction.* Similar to the idea of responsiveness, this characteristic describes the energy level of response, irrespective of its quality or direction.

7. *Quality of mood.* The amount of pleasant, joyful, and friendly behavior, as contrasted with unpleasant crying and unfriendly behavior.

8. *Distractibility.* At older ages, distractibility is an intrusive level of attention to background stimuli. However, in infancy it is described as soothability or ability to be calmed by comforting strategies when distressed.

9. *Attention span and persistence.* These final two categories are related.

Attention span refers to the length of time a particular activity is pursued by the child, while persistence refers to the continuation of an activity in the face of obstacles to the maintenance of the activity direction.

From this perspective, children's temperament could be described according to these different behavioral characteristics. The behavioral expression of temperament was

considered the most important element, whereas the biobehavioral approach emphasizes both internal and external variables such as the environment. The biobehavioral approach includes nonobservable information (Seifer, 2000).

Biobehavioral Regulation. Biobehavioral regulation is a “theoretical approach that examines behavioral indicators of regulatory processes important in everyday interactions with one’s environment” (Seifer, 2000, p. 259). This approach includes the regulation of arousal and attention, response to fear-inducing stimuli, adjustment to environmental limitations, and modulation of affect (Seifer, 2000). Followers of the biobehavioral regulation approach interpret temperament behaviors from an ecological viewpoint, examining environmental constraints operative when the behaviors are observed. They held that it entails more situational specificity in the expression of temperament behaviors than the behavioral model (Rothbart & Derryberry, 1982; Seifer, 2000). This active approach includes individual differences in approach, withdrawal, and self-regulation (Rothbart & Derryberry, 1982). They also believed that the behavioral indicators of regulatory processes were critical in understanding descriptive information about temperament.

Typology. The third approach to understanding and describing temperament is called typology and refers to overall presentation rather than behavioral characteristics. Seifer (2000) held that there are many potential typologies that could be applied to the theory of temperament. For example, there is a typology based on the work of Thomas and Chess and one based on the work of Kagan. Temperament researchers Thomas and Chess classified individual children as difficult versus easy, based on five of their nine dimensions or characteristics (Thomas et al., 1963). They later expanded this to three

temperament constellations based on the nine dimensions (Chess & Thomas, 1977).

Two-thirds of the children in their longitudinal study belonged to one of the three groups described below (Chess & Thomas, 1996; Keogh, 2003). The other third did not fall into any of these three categories. Thomas and Chess (1977) stated that this was because of the varying and different combinations of temperament traits in the children.

1. ***Easy.*** “Easy” children were characterized by regularity, adaptability to change, positive response to newness, mild to moderate intensity, and positive mood. They were friendly, social, and outgoing children who were responsive to others and who were not easily frustrated or angry. They were well liked by teachers and peers. Approximately 40% of the children in Thomas and Chess’s New York Longitudinal Study were considered “easy.”
2. ***Difficult.*** “Difficult” children were characterized by biological irregularity, negative mood, low adaptability to change, intensity of reactions, and negative response to newness. These children tended to overreact, to be unpredictable, and to be quickly frustrated. Teachers experienced them as irritable and irritating. They may not have adapted readily to classroom rules and routines and may have had problems getting along with classmates. Approximately 10% of the children in the Thomas and Chess study were in that cluster.
3. ***Slow-to-Warm-Up.*** “Slow-to-warm-up” children had the predominant characteristics of mild negative response to newness, coupled with slow adaptability to change. These slow starters often needed special support and

patience because they tended to stand back rather than get involved. In the Thomas and Chess study, 15% of the children fell into this category (Chess & Thomas, 1996; Keogh, 2003).

Kagan added to the temperament typology with his theory of behavioral inhibition (Kagan, 1998; Kagan et al., 1989) in which he studied adolescent and children's limbic excitability, muscle tension, and cortisol levels. According to Kagan, about 10-20% of children displayed a distinct syndrome of extremely shy, inhibited behaviors in response to novel situations and were highly physiologically reactive to such novelty (Kagan, 1994). He found that this behavioral pattern is strongly linked to underlying nervous system properties. It is likely that there would be some overlap between the children that Thomas and Chess found "slow to warm up" and those who Kagan described as behaviorally inhibited.

Investigators from a variety of disciplines including infant, family, and child development, physiology, developmental psychology, behavioral genetics, psychiatry, and education have researched temperament (Orth & Martin, 1994). Applied temperament research has linked various dimensions of temperament to many different outcomes. According to Orth and Martin (1994), student temperament has been linked to academic performance, classroom behavior, adjustment in school, and relationships with teachers. Many of these studies have built upon the research of Thomas and Chess because of their attention to children in classrooms and the effects of temperament on learning and environment.

New York Longitudinal Study (NYLS)

Thomas and Chess began their extensive research with the 20-year New York Longitudinal Study (NYLS; Thomas et al., 1963). This study became the prototype for many other studies of child temperament (Esnard, 1994). The NYLS had a sample of 141 children who belonged to middle class or upper-middle class families (Thomas & Chess, 1977; Esnard, 1994). The parents were highly educated with fewer than 10% having less than a college education (Thomas & Chess, 1977; Esnard, 1994). The children in this study were followed from infancy into adulthood. Thomas and Chess (1977) used a variety of data collection techniques including interviews, questionnaires, and observations. Based on their findings, they were able to identify the nine temperament characteristics and three temperament typologies.

The NYLS was comprehensive in both the number of participants and the research methods. It was also extensive in the information it provided to researchers interested in child temperament. Of particular interest was the important role temperament played in shaping the course of school functioning (Thomas & Chess, 1977). They took an ecological approach by addressing the ways in which temperamental characteristics helped to shape a student's learning and cognition, their social emotional patterns, curriculum, and teacher characteristics. Their analysis of students with an easy temperament, difficult temperament, and slow-to-warm temperament was one of their greatest contributions. The research of Thomas and Chess was groundbreaking and continues to influence researchers. Unfortunately, their

classifications of difficult vs. easy vs. slow to warm provided more of a summary of a large set of behavioral styles. As a result, these temperament types are not well-defined, nor do they fit for all children.

Temperament and Achievement

One way that temperament affects child development is through its link with academic achievement (Coplan, et al., 1999; Keogh, 2003; Martin, 1989). The strength of this relationship differs based on the research group, the achievement domains, and how achievement is assessed (Keogh, 2003). Keogh (2003), who based her research on the Thomas and Chess model, proposed that there was strong evidence for a relationship between children's temperament, particularly the characteristics of persistence and not being distracted and their achievement in school. She provided illustrations of how children's temperament may affect their success in school by describing differences in the degree to which children approach, become involved in, and persist in learning tasks. Further, temperament affects child behaviors in the classroom and how teachers respond to them. The research of Keogh (2003), like that of Thomas and Chess was extensive and provided new and important information to the field of education and psychology.

Coplan, Barber, and Lagace-Seguin (1999) studied the role of temperament as a predictor of early literacy and numeracy skills in preschoolers. Their sample included 94 children enrolled in a half-day junior Kindergarten. Data were collected via parent report on the Colorado Child Temperament Inventory (CCTI), child interviews, and measures of vocabulary (i.e. PPVT-R), concepts about print, counting, and numeracy skills. Coplan et al. (1999) used hierarchical regression analyses and found that temperament (specifically impulsivity) contributed uniquely to the explanation of literacy and numeracy skills over

and above well-established indicators of a child's academic achievement (i.e., parental education, gender, vocabulary). They proposed that the relation between child temperament and student-teacher interaction might also play a role in academic achievement (Coplan, et al., 1999). However, this study only provided evidence for a temporary correlation of temperament and skill development, not an overall trend. Further, the authors did not take into account class structure, instructional style, and the nature of the class environment.

Others have explored the relationship between temperament, instruction, and achievement. For example, Orth and Martin (1994) conducted an aptitude-treatment interaction study to examine the effects of student temperament, instructional method (computer vs. teacher), and the interaction between the two on observed off-task behavior, and problem-solving performance. They measured student temperament using teacher ratings on the Temperament Assessment Battery for Children (TABC). They controlled for variables known to be associated with temperament and/or achievement including age, gender, socioeconomic status, and cognitive ability. The sample of 78 public school Kindergarten students was randomly assigned to treatment groups. The experiment was conducted during 3 weeks with five problem-solving tasks introduced and subsequently practiced with computers or manipulative materials. Orth and Martin (1994) found that children with low Task Orientation (high distractibility, high activity, and low persistence) exhibited significantly more off-task behavior. They also discovered a significant interaction effect between temperament and instructional method. Students with the highest Task Orientation exhibited almost no off-task

behaviors with either method whereas students with lowest Task Orientation showed significantly more off-task behavior with teacher-directed instruction than with computer-directed instruction.

Based on these findings, it appeared that there was a strong relationship between student temperament and method of instruction (teacher vs. computer) and the subsequent influence on classroom behavior. This interaction hinted at the concept known as “goodness of fit.” Orth and Martin (1994) concluded that these findings indicated that teachers’ ratings of temperament may be a useful tool for guiding instructional decisions to meet individual student needs. Because this study focused only on a 3-week period, it provided only a snapshot, rather than a long-term perspective, of where the students were at academically.

When examining achievement, it is also important to consider other factors such as those associated with the teacher (e.g., instructional decisions, personality), the child (e.g., developmental concerns), and the culture (Horton & Oakland, 1997). For the teacher factor, Keogh (2003) described how temperament could influence teachers’ instructional decisions throughout each school day. Teacher decisions were based on their temperaments and personalities, as well as their beliefs about students and individual and group characteristics. Keogh (2003) noted that these interactions could be considered either positive or negative. A positive interaction was likely when there was a good fit between teachers’ expectations and children’s attributes. A negative interaction was possible with a poor fit, or a mismatch, between teacher and student.

The concept of temperament appears to apply across cultures as well. For example, Barclay (1987) compared temperament and skill level across Kindergarten

children in Ohio and Taipei, Taiwan. She found similar results across the two cultures, with both groups showing close relationships between skill deficits and certain temperament characteristics. Specifically, children with high skill deficits were more distractible, less social, and more emotional.

More recently, temperament and achievement research has focused on the relationship between academic competence and the temperament traits of persistence and approach/withdrawal (Bramlett, Scott, & Rowell, 2000; Palisin, 1986). Earlier work by Palisin (1986) found the temperament traits of attention span and soothability to be correlated with achievement. In fact, she concluded that a children's ability to attend to tasks and adjust their behavior might be the best predictor of performance on achievement tests. Bramlett et al. (2000) found that teacher's ratings of persistence and approach/withdrawal and parent ratings of activity best predicted academic outcomes.

Overall, the temperament and achievement research has laid the foundation for future researchers by introducing a variety of methods and initial findings in this area. Unfortunately, many of the studies have been correlational which restricts what professionals can infer. Further, many of the studies lacked longitudinal data. Longitudinal studies are helpful in that they typically provide stronger evidence of the underlying mechanisms that may link temperament and achievement. For example, in one study, Zhou, Main, and Wang (2010) examined the temperament characteristics of effortful control and anger-frustration of 425 Chinese children, aged six to nine. Among participants, effortful control positively predicted GPA and social competence. Because of the nature of the longitudinal study (3.8 years apart), the researchers were able to conclude that low effortful control in early elementary school predicted Chinese

children's low academic achievement in late elementary school. They also found that children with low academic achievement displayed greater externalizing problems over time.

When longitudinal research is not possible, qualitative methodology may help to address understand aspects of development. Orth and Martin (1994) acknowledged that future research should utilize qualitative methods to study children's behavior in their regular classrooms over a variety of different learning situations. They recognized that there was information to be gathered by studying temperament in this way.

Temperament and School Readiness and Adjustment

As mentioned earlier, some temperament research has been dedicated to the analysis of school readiness and adjustment. For example, Schoen and Nagle (1994) examined the relationship between temperament and school readiness scores for 152 Kindergarten students. They used the Temperament Assessment Battery for Children (TABC), the Peabody Picture Vocabulary Test-Revised (PPVT-R), and the Metropolitan Readiness Test (MRT) to measure temperament, ability, and readiness indicators. Using multivariate analysis of variance, they found that temperament may be an important psychometric component in predicting first grade readiness. In particular, they discovered that task oriented temperaments predicted stronger school readiness.

More recently, Mendez, McDermott, and Fantuzzo (2002) studied readiness, defined as social competence, as it related to temperament. The sample consisted of 139 low-income African American preschoolers. Mendez et al. (2002) incorporated a number of measurements including a temperament scale, vocabulary assessments, a peer play scale, and an observational tool. They found that younger children demonstrated greater

activity on the temperament scale, and that older children showed stronger skills in approaching social interactions, suggesting that there are age-appropriate capacities for engaging in classroom socialization. Older children demonstrated skills at regulating their emotions and taking initiative in order to approach ongoing social events in the classroom. Mendez et al. (2002) suggested that the heightened activity level on the temperament scale may have been a determining factor in why the results did not hold true in younger children.

Other research has indicated a strong relationship between temperament and school adjustment. Skarpness and Carson (1987) studied the Kindergarten adjustment of 217 children as related to their temperament and communicative competence. Participants' mothers completed the Dimensions of Temperament Survey and the Communication Developmental Scale of the Developmental Profile II. The authors found that communicative competence and various dimensions of temperament accounted for a significant proportion of the variance in Kindergarten adjustment. Children who were identified as normal-to-advanced in their level of capability reflected significantly better adjustment to Kindergarten than were those who were found to be delayed. Age, gender, and the temperament dimensions of attention span-distractibility, rhythmicity, general activity level, and mood were significant predictors of children's adjustment. Specifically, pragmatic language for shy students can have buffering effects. Understanding these factors may help parents and professionals promote a successful initial experience with the educational system by providing intervention ideas and reducing rates of retention in Kindergarten. Further, Skarpness and Carson (1987) hypothesized that students' adjustment to Kindergarten may be a function of goodness or

poorness of fit. That is, the degree to which children adjust to the school environment may be determined by how well a child's characteristics fit with the classroom environment.

Another early study of temperament and school adjustment used a longitudinal methodology to examine the first year of Kindergarten (Slee, 1986). In this study, the individual temperament characteristics and other social and demographic factors of 127 girls and 133 boys were measured. Slee (1986) discovered that 13.3% of the sample was judged by teachers to be experiencing some or considerable difficulty adjusting to Kindergarten in Term 1 and 5.7% were experiencing problems in Term 3. Children defined as *difficult* were perceived by teachers to be significantly more poorly adjusted than children of *easy* temperament in Term 1 but not Term 3. The authors concluded that the temperament characteristic of low adaptability was most closely linked to poor Kindergarten adjustment. Further, these findings supported that indicators of temperament can be helpful in identifying children at-risk for adjustment problems upon Kindergarten entry. Slee (1986) emphasized that further research was needed to understand the process by which children adjusted during the course of the first year of formal education.

Another longitudinal study by Nelson, Martin, Hodge, Havill, and Kamphaus (1999) examined how preschool temperament related to elementary school adjustment. They found that parent-rated negative emotionality from the TABC scale was a substantial predictor of externalizing behavior problems and a modest predictor of

positive social behaviors (negative direction). The researchers also found that self-regulation of motor behavior and attention was predictive of school performance and positive social behavior.

As noted, qualitative research may be helpful in providing a deeper understanding of how child temperament unfolds over the course of a school year. In her work, Jackson (2009) conducted a qualitative study of how students in a Kindergarten classroom responded to stress. She used naturalistic observation, open-ended interviews with the teacher, a stress behavior checklist, and student work artifacts. She found that nine out of the sixteen students she observed experienced stress at some point during the study. Her research raised the questions of the types of classroom environments and teacher characteristics that eased or contributed to the children's stress, and emphasized the need for appropriate developmental environments.

When children have disabilities, the question of the relationship and school adjustment becomes more complex. Wallander et al. (1988) examined temperament, goodness of fit, and adjustment with a sample of children who had physical disabilities. Wallander et al. (1988) asked the mothers of 50 9- to 11-year-olds with spina bifida or cerebral palsy to complete questionnaires designed to separately assess their children's and their own temperament along five dimensions (activity, distractibility, adaptability/approach, rhythmicity, and reactivity) and their children's adjustment in three areas (internalizing behavior problems, externalizing behavior problems, and social competence). Wallander and her colleagues (1988) found disabled children's adjustment to be significantly lower than those of a normative comparison group. They also found significant multivariate relationships between child temperament and child adjustment.

Although they did not find significant relationships between mother and child temperament, they did discover that knowledge of maternal rhythmicity enhanced predictions of some child adjustment dimensions beyond that offered by significant child temperament dimensions. Although previous work has suggested the importance of goodness of fit, this study did not support the goodness of fit model.

Reed-Victor (2004) also studied temperament in children with disabilities. In her study, she used teacher rated temperament and school adjustment of 176 children aged three to nine that either were eligible for special education or Title I services. Reed-Victor (2004) found that individual difference assessments are useful in intervention planning for students with school adjustment problems. It provides information that can be used to provide differential instruction.

As the studies demonstrated, children's temperament characteristics play a role in the readiness and adjustment of school. These characteristics can contribute to whether a student has a positive or negative school experience (Keogh, 2003). Students with special needs present another level of differentiation that is needed in school.

Temperament and Psychopathology

Recently, temperament researchers have become interested in how various temperamental dimensions may relate to a child's risk for psychopathology (Frick, 2004). This line of research has been more difficult because it requires blending two distinct fields of psychology. Typically, researchers studying temperament are developmental psychologists while those who study psychopathology tend to be clinical psychologists. As a result, the research tends to be conducted independently using very different theoretical contexts as a foundation. Another difficulty is the lack of consistent

conceptualizations of the two constructs. One body of research views temperament and psychopathology as separate constructs. However, within this work, it is noted that some temperament characteristics may make some children more vulnerable or resilient to psychopathology. Another body of research identifies psychopathology as an extreme on a continuum of temperament. A better understanding of the relationship between temperament and psychopathology could have important benefits, including development of early prevention programs and advancing the understanding of the etiologies of various childhood disorders.

Early work by Martin (1994b) found that the environment's effect on a person's behavior depended on the predispositions (temperament) of the individual who was experiencing the altered environment. Using these observations, Martin was able to provide descriptions of common problems associated with a child's temperament. Martin (1994a) stressed the need to understand temperament as a predisposition and that depending on the interaction between temperament and environment, it could pose a risk to the child's development.

Keogh (2003) furthered this position by hypothesizing a link between certain temperament variables and behavior problems. According to Keogh (2003), temperament and behavior problems are best understood within an interactional model that takes into account characteristics of the child, the teacher, and the classroom. Another popular explanation is that certain categories of temperament; predominantly those describing "difficultness" may predispose a child to problems, but that temperament and behavior are not one and the same. Furthermore, temperament affects children's behaviors in the classroom and how teachers respond to them (Keogh, 2003).

Because young children are unlikely to have identified pathology, most studies that have looked at the relationship between temperament and mental health problems have tended to focus on indications of behavior problems such as reactivity and inattention. For example, in their analysis of existing research, Lonigan, Vasey, Phillips, and Hazen (2004) examined the overlap between affect, temperament, and attentional processes associated with pathological anxiety. The researchers compared correlations and regression weights for relations between temperament factors and indices of anxiety and depression. They proposed an integrative method to help explain the developmental sequence and operative mechanisms in the dysregulation of negative affect and the development of symptoms of anxiety pathology. Their model combined evidence from developmental, clinical, and cognitive psychology. Based on their analysis, they hypothesized that low effortful, self-regulatory aspects of temperament as well as negative reactivity were both necessary for the development of anxiety pathology.

This reactivity may begin very early in a child's development and have a long-term impact on later outcomes. Hill-Soderlund and Braungart-Rieker (2008) discovered that temperamental reactivity in infancy may lead to less optimal regulatory abilities in childhood, a possible mechanism for the development of psychopathology. They studied 53 children both at infancy and early childhood. The researchers linked a stranger-approach paradigm and later, a battery of effortful control tasks. Extremely fearful children may perceive more threats in their environment and avoid social interaction. This can, in effect, stifle their practice of optimal regulation skills (Hill-Soderlund, et. al, 2008). This finding builds on the work of Kagan (1998) who found that a small group of

children presented with extremely shy, inhibited behaviors when they were in novel situations. These children were highly psychologically reactive to the novelty and this was strongly linked to underlying nervous system properties.

Lohr, Teglasi, and French (2004) studied the relationship between temperament and psychopathology in a sample of 25 families with biologically related brothers: one brother with an emotional disability (ED) and the other without. All of the children were school-aged and the researchers used the structured temperament interview, Behavior Assessment System for Children (BASC), and the Thematic Apperception Test (TAT). They found that temperament correlated with thought processes (assessed with the TAT) and with classification with an emotional disability (ED). However, temperament did not make a unique contribution to the prediction of ED when schema related variance was removed. Given the small sample size and correlational nature of the data, the results should be considered with caution.

More recently, Foley, McClowry, and Castellanos (2008) studied the similarities and differences between temperament characteristics and Attention Deficit Hyperactivity Disorder (ADHD) in 32 children with ADHD. They used standardized parent reports and interviews. They found that children with ADHD had higher scores on negative reactivity, activity, and impulsivity. Foley et al. also found that these students had lower scores on task persistence, attentional focusing, and inhibitory control. The researchers stressed the importance of addressing goodness of fit as an early intervention.

Just as temperament can serve as a risk factor, it can also be associated with positive outcomes. Copeland, Landry, Stanger, and Hudziak (2004) studied multi-informant assessment of temperament in externalizing behavior problems in a group of

412 children. They examined the criterion validity of parent and self-report versions of the Junior Temperament and Character Inventory (JTCI). Copeland et al. (2004) found strong convergent and discriminant validity among the JTCI components. The components, reward dependence, persistence, cooperativeness, and self-directedness had a negative relationship to emotional and behavioral scales. These same components displayed positive relations to intelligence, achievement, and competence. This study did not explore the behaviors within context, but did support the association between positive aspects of temperament and lower levels of emotional and behavioral problems.

A child's temperament appears to have an impact on school readiness and adjustment outcomes. The exact model for how this relationship develops is unknown because much of the research measures one point at time rather than using a longitudinal perspective. The relationship between temperament and psychopathology is even less clear because of the correlational nature of the research. Other considerations, such as environmental fit may be important to understanding the relationship between temperament and child outcomes.

Goodness of Fit

“Goodness of fit” is defined as the interaction that “results when the properties of the environment and its expectations and demands are in accord with the organism's own capacities, characteristics, and style of behaving” (Thomas & Chess, 1977, p. 11). When there is equality between the organism and the environment, positive development can occur (Thomas & Chess, 1977). Conversely, when there is dissonance between capacities, characteristics, and the environment, there is a poorness of fit, which can lead to maladaptive functioning and distorted development (Thomas & Chess, 1977). Thomas

and Chess were the first to propose the idea of the goodness of fit model (Seifer, 2000). Goodness of fit aligns with an ecological approach, which conceptualizes human behavior as a function of ongoing interactions between the characteristics of individuals and the multiple environments within which they function (Sheridan & Gutkin, 2000). The goodness of fit model is not limited to parent and child; it can be related to any two people who share time together, no matter the duration.

The goodness of fit model suggests that children thrive when their temperament characteristics match environmental demands (Keogh, 2003). For example, a child with a difficult temperament may have goodness of fit in a structured classroom in which the teacher provides attention to each individual student and demands appropriate behaviors from students. In contrast, this child may have poorness of fit if the classroom environment is chaotic, the teacher has no time for individual attention, and the demands are not straightforward (Keogh, 2003). It is important to note that the goodness of fit construct is not static, but dynamic and changes for a number of reasons.

Goodness of Fit Views

Thomas and Chess developed the concept of goodness of fit model based on their studies of infant temperament and the variability of temperament in relation to later behavioral problems (Thomas, Chess, et al., 1963). Their work outlined two important features of goodness of fit: (a) the parent-child system is characterized by dynamic interactions, where neither the parent or the child has a stable developmental course independent of the other; and (b) a fundamental characteristic of the health of the interaction system is the degree of fit between the child's temperament and the parent's expectations or cultural boundaries (Thomas et al., 1963). Others have added to this

model by suggesting children's temperaments and behaviors impact their parents' behavior as well (Bell & Harper, 1977). Further, Bronfenbrenner (1986) argued that goodness of fit must be examined at the familial level of organization, and that parenting experience, beliefs, and values are important determinants of the level of fit. Although the idea of goodness of fit is appealing there is no operational definition and the multiple features are complex (Seifer, 2000).

Because of the high level of complexity, goodness of fit is difficult to study. Seifer (2000) identified three main problems in researching goodness of fit. First, goodness of fit has many components that are affected by at least two individuals. Second, much of what is included in the goodness of fit construct is inherently subjective. For example, parent ratings of child behavior may have little in common with the child's observed behavior (Seifer et al., 1994). Furthermore, the ratings between parents and between parents and teachers may vary considerably. Third, because of the multidimensional and multidetermined nature of goodness of fit, research design and analysis are inherently complex. Because of this, measurements must be precise and free from error if the analyses are to be meaningful. In addition to specific behavioral manifestations, goodness of fit has a cognitive component (i.e., how is the behavior interpreted) and an affective component (i.e., how these observations and appraisals make one feel). According to Seifer (2000), in order to be studied, goodness of fit should be operationalized as the following: (a) objective behavior matching, (b) objective matching of expectations and behavior, and (c) subjectively reporting stress-appraisal-coping models (Seifer, 2000).

Behavior Matching. The most basic approach to goodness of fit is behavioral matching, where temperaments of parents and children are compared for level of fit (e.g., Wallander et al., 1988; Seifer, 2000). Bates (1989) suggested that these matching paradigms were typically presented in terms of statistical interactions between child temperament and some contextual factor used in the prediction of a specific child outcome. Using the approach of matching child and parent temperament, Wallander et al. (1988) found no evidence that goodness of fit was predictive of behavior problems in a sample of children with disabilities. Sprunger, Boyce, and Gaines (1985) also did not find any significant effects between degree of match on infant and family rhythmicity in relation to family adjustment and infant behavior problems. This general approach of matching an infant behavior with a different parent characteristic does not fully capture the intent of the Thomas and Chess construct because it is more concerned with exact comparability rather than the developmental implications of degree of match (Seifer, 2000).

Matching Expectations and Behavior. A second way of researching goodness of fit is through Lerner and Lerner's (1985) matching of expectations and behavior approach. This approach is unique in that it is straightforward and easy to interpret (Lerner, Lerner, & Zabski, 1985). The research design involves measuring the degree of behavioral match with teacher or peer expectation (Seifer, 2000). The degree of behavioral match is then compared with measures of competence or adjustment. This approach is similar to the methodology used in many temperament and school studies discussed earlier. The negative aspect of this approach is that the processes that mediate how mismatches are experienced, or how they impact social systems are not considered

(Seifer, 2000). Unfortunately, the ability to predict outcomes from these goodness of fit measures has been modest (Lerner, 1983, Lerner, et al., 1985). One of the main reasons this model does not have strong predictive power is that teacher expectations generally reflect on the whole class and may not be specific to individuals (Seifer, 2000).

Stress-Appraisal-Coping Model. A third way of approaching goodness of fit is by examining the degree to which infants have met the individual and cultural expectations of their families (Seifer, 2000). One model under this approach is the stress-appraisal-coping model that considers three components: the number of objective stressors, the cognitive and affective appraisal of those stressors, and the social supports available to aid in adaptively coping with the stress (Cobb, 1976; Cutrona & Troutman, 1986; Hammen, 1992; Schaefer, Coyne, & Lazarus, 1981). Appraisal is typically represented by parent reports of child behavior and the degree of match with expectations. The coping aspect of this model is generally defined as how families deal with these mismatches. Power, Gershenhorn, and Stafford (1990) asserted that sometimes the impact of child temperamental qualities is viewed as a life stressor in the model (e.g., parenting a child with a difficult temperament). In those cases, Power and his colleagues (1990) suggested that the most reasonable approach to studying goodness of fit was to conduct reports of child behavior matching with expectations and adaptation strategies for dealing with mismatches.

Goodness of Fit and Adjustment to Day Care and School Environments

The majority of early temperament and goodness of fit research has focused on infants (e.g., Cutrona & Troutman, 1986; Mangelsdorf, Gunner, Kestenbaum, Lang, & Andreas, 1990; Seifer, Sameroff, Barrett, & Krafchuk, 1994; Sprunger et al., 1985).

Recently, De Schipper, Tavecchio, Van IJzendoorn, and Van Zeiji (2004) completed a study in The Netherlands that attempted to measure the goodness of fit in day care centers by examining the relationship among temperament, stability, and quality of care with the child's adjustment. Their random sample included mothers and primary profession caregivers of 186 children, aged 6-30 months. The measures used included the Temperament Infant Characteristics Questionnaire, the Leiden Inventory for the Child's Well-being in Day Care, Child Behavior Checklist, and Leiden Inventory for Daily Stability in Center Care. They also included child-professional caregiver ratio and background variables in their statistical analyses. Using a behavior matching perspective, the researchers found that children perceived by their mothers as being more difficult showed more internalizing and total problem behavior, as well as less satisfaction and happiness within the day care setting. They also found that difficult children exhibited more internalizing and total problem behavior, a finding consistent with previous studies (e.g., Rothbart & Bates, 1998). The researchers also found that children with a more difficult temperament showed less comfort in the day care setting as perceived by professional caregivers. Another finding was that the temperamental characteristics a child brought to a situation either facilitated or hampered the adjustment to the day care setting. It is difficult to determine how these behavior patterns might change over time without longitudinal evidence.

Although goodness of fit has been examined theoretically, there is a paucity of research examining it in practice, especially as related to school environments. Lerner (1985) has been a leading researcher in the goodness of fit model, although most of her work was conducted in the 1980s. She and her colleagues examined the temperaments of

194 fourth-grade students as well as their actual and rated academic performance. Lerner and her colleagues predicted that children whose temperament fit or exceeded demands or expectations of their teachers would show more positive functioning than children whose temperaments fell below expectations. The researchers asked children to respond to the Dimensions of Temperament Survey (DOTS), which assessed five temperamental attributes. Teachers specified demands/expectations for their students for each of the DOTS attributes and rated students' academic ability and adjustment. Objective measures of academic achievement were also obtained.

Results indicated support for some temperament attributes for which directional predictions were made. Lerner (1983) also examined a goodness of fit model related to early adolescents' temperament in psychosocial adaptation to school social and academic contexts. Another facet of the study was whether temperament, when matched with contextual demands, provided better adaptation than when not matched. She found that students whose temperament attributes best fit (were least discrepant) with the demands of the contexts were more likely to have better adaptation scores than students whose attributes fit less well. She also found that fit scores for the perceived contexts were better predictors than fit scores for the actual contexts.

Lerner studied students from fourth grade to early adulthood, whereas Keogh (2003) reviewed research on preschoolers and elementary-aged children. Keogh (2003) believed both children temperament and teacher temperament influenced teachers' instructional decisions throughout each day. The teachers' decisions were also influenced by their beliefs about what students should be like as well as by individual

characteristics of children or groups of children. When discussing interactions, a positive interaction is likely when there is a good fit between teachers' expectations and children's attributes whereas a negative interaction is possible with a poor fit.

A qualitative study conducted by Gloeckler and Niemeyer (2010) examined how teachers spoke to children, how they positioned themselves physically in relation to the children, and how they acted when faced with behavioral issues. They found that the teacher's daily practices influenced the social-emotional well being of the classroom. Although the researchers did not term this goodness of fit, the information from this study provides evidence for it. The researchers focused on child outcomes, in particular emotion regulation. They used observational data, a parent and teacher report temperament inventory, as well as review of archival data.

As with the temperament research, there are flaws in the goodness of fit research as well. One of the major weaknesses is the use of questionnaire to assess goodness of fit. Questionnaires assess a similar set of expectations and are not sensitive to the specific expectations or demands for any one student. Importantly, survey studies are limited in the information they provide regarding specific contexts. The teacher does not always know what the exact demands are and oftentimes his or her personal characteristics are reflected in reporting goodness of fit with students. Although previous studies have highlighted important features of goodness of fit, they cannot be generalized across time. A longitudinal study would provide stronger evidence of the effects of temperament on the social context, the feedback the child receives as a consequence of the influence of his/her temperamental individuality, and resulting child development.

When examining actual classrooms, Keogh and Speece (1996) proposed three aspects that are important to the fit between students and their classroom environments: (a) the content and nature of the curriculum and modes of instruction; (b) the organization and management of space, time, and resources; and (c) the nature of the interactions between students, peers, and teachers. According to Keogh and Speece (1996), these three components of the classroom interact with students' temperaments as well as with students' interests and abilities. Sometimes these interactions lead to a match (goodness of fit) and sometimes they lead to problems (poorness of fit). Furthermore, it is important to also consider how a child's cultural and ethnic background interacts with his or her temperament in the goodness of fit equation. Parents' views of temperamental characteristics differ relative to their ethnic/cultural backgrounds (Keogh, 2003). In particular, differences were found in how mothers rated their children on dimensions of approach, adaptability, and distractibility. These differences can lead to misunderstandings and disagreements when parents and teachers interact, thus potentially disrupting communication and relationships.

Summary

Temperament is considered to be an important aspect of child development. Children's temperaments can be described using characteristics or types to qualify different aspects of behavior. A variety of professionals from different disciplines have studied temperament with the majority of the research having been conducted with infants. The applied school-based studies, for the most part, have used correlational statistics and typically focused on one or two outcomes. The explanations for how and why there are relationships remain speculative and somewhat narrow.

Other studies have focused on school adjustment, readiness, and achievement, but most lack the longitudinal data needed to generalize across time. Additionally, current research has relied on questionnaires which may be subject to bias, have limited psychometric properties, and lack context specific information. Although questionnaires can be useful, temperament and goodness of fit are typically more accurate when conducted using observational methods. Further, the research on goodness of fit in relation to temperament is limited, possibly because of the complexity of operationally defining it.

Because of the limitations in methodology, many questions regarding temperament and goodness of fit remain. For example, what does goodness of fit between a teacher and her students look like in the classroom? How does goodness of fit develop and what ecological features present as goodness of fit? Are there particular features of the environment that help determine goodness of fit, such as reasonable demands, degree of comfort with classmates, and the broader social environment? Does goodness of fit and/or temperament change within different contexts within the school day? By observing children in their first year of school, we may be able to begin to answer some of these important questions.

Goodness of fit is an important concept to school psychologists as they attempt to move away from the medical model and embrace a more ecological model. However, the question as to the best way to study this construct remains elusive. Can researchers tap into these areas using traditional quantitative measures? Orth and Martin (1994) recommended the application of qualitative methods to assess temperament and student behavior. Qualitative research allows for a deeper level of analysis and may help to

address some of the unanswered questions. Through observation and interview, a greater understanding of the contextual variables, the relationships as well as and the broader themes can be explored in a more open-ended way in order to provide a full and rich portrait of events, experiences, and perceptions of children and their teacher. By examining goodness of fit in a naturalistic environment, we may begin to learn the importance of interactions between a child's temperament and the environment, the teacher's characteristics, and the characteristics of other children. This type of knowledge would provide new insight into temperament and goodness of fit and could be effective in designing early intervention programs for students who struggle with academic achievement, school readiness and adjustment, and psychosocial problems.

CHAPTER III

METHODOLOGY

As the researcher, I used a qualitative methodology to examine the ecological aspects of early childhood temperament and goodness of fit in a Kindergarten/1st grade combined classroom. Specifically, I used ethnographic methods to focus on the dynamic interaction between children and their teacher, children and their peers, and children and their classroom environment. I observed how goodness of fit was manifested in a Kindergarten/1st grade combined classroom from the beginning of the school year to the end and gained understanding of how children's temperaments interacted with the teacher's temperament, the researcher's temperament, the environment, and peer demands across different school contexts. The following framework was used to guide this study.

Participants

Marsha was my ideal teacher and primary participant as she has many years of experience and appeared to be interested and open to reflecting on herself and her classroom. She was insightful as well as informed about the school at which she worked. Marsha displayed a passion for teaching, which was another important characteristic that was desired in a primary participant. She is a white female who was in her 40s and had been teaching approximately 14 years. She also initially presented a willingness to write

field notes and journal entries, but we quickly discovered that it would be too time consuming. Instead, we developed a structured form in order for Marsha to record her field notes. The form is presented in the Appendix A.

Marsha's classroom included 24 students. I was able to get permission for participation in the study from the parents of 15 of these students. Of those students, eight were in Kindergarten and seven were in first grade. The first grade students had been enrolled in Marsha's Kindergarten class the previous year so they started the school year knowing one another more so than the eight Kindergarten students. Six of the 15 students were male and nine were female. As far as ethnicity, a little over half were Hispanic and the rest were white, non-Hispanic.

At the participating elementary school, there were two Kindergarten classrooms and one Kindergarten/1st grade combined classroom. Each Kindergarten teacher had a teacher assistant but the first grade classrooms did not. Even though Marsha's classroom was combined Kindergarten/1st grade, she did have a teacher assistant assigned to her room. The teacher assistant worked with Marsha all day every day. She was an experienced teacher assistant and had worked with Marsha before. A complete description of the teacher assistant is included in Chapter 4, but she was not asked to be a participant in this study because although was a presence in the classroom, she did not have responsibility for educational decision-making. During the spring semester, a student teacher joined the classroom. She, like the teacher assistant, had many years of experience as a teacher assistant. She had decided to further her education by pursuing a teaching degree. When she began her assignment, she worked nearly full time. A

complete description of the student teacher is included in Chapter 4 and she also was not asked to be a participant in this study because she had not been present the entire school year.

This study took place in Bradley Elementary School. There were 34 full time teachers, 13 paraprofessionals, two administrators, 11 school support staff, and six other professionals employed at this school. Of note, I was employed as the school psychology intern during the year of the study. The school population averages about 600 enrolled students. Seventy-two percent of the students were Hispanic while 26% were white, and the other 2% included African American, American Indian, and Asian students. Sixty percent of the students were eligible for free and reduced lunch. The school had a very low rate of suspensions and the attendance rate was 93.7%.

The school district is located in a small residential, industrial and agricultural center (approximately 4 square miles in size) located in a north central region of a Western state. According to the school website, the community has experienced moderate to slow growth over the past ten years with new residential and commercial developments just recently starting to emerge. The town has a population of 6,787 people and there are 2,099 households with 48.2% of them having children under the age of 18. Around 13% of the residents are below the poverty line. The school district employs 300 staff members and teaches 2,300 students. It has two elementary schools, one middle school, and one high school.

Procedure

Prior to beginning this study, permission was granted by the University of Northern Colorado's Internal Review Board for the Study of Human Subjects, the district

research board, and the school's administrative officers. As noted, I conducted my research in the same school where I served as a school psychology intern. Consistent with an ethnographic design, this dual position as researcher and intern allowed me to gain a greater understanding of the contextual variables in the greater school system that might impact my observations in the classroom. To begin, I spoke with my supervisor who supported the idea. He agreed to speak with the superintendent confirmed the superintendent's permission to carry out this research. His letter accompanied my application for this research to the Institutional Review Board (IRB) at the University of Northern Colorado. The application is included in Appendix B.

Once permission was granted, my first step was to recruit a teacher participant. I asked the principal for recommendations and she suggested that Marsha, the teacher for the Kindergarten/1st grade combined classroom would be a good participant because of her experience and her willingness. Marsha appeared flattered and pleased that the principal thought of her first, so I discussed the study with her the next day. Additionally, she fit my preference of an experienced teacher as she was in her fifteenth year of teaching.

Participants were notified of their voluntary participation in the study through teacher consent, parent consent, student assent, and parent and teacher debriefing forms (see Appendix C). To confirm participation, these documents were signed and kept in files on the university campus. After three years, the records will be destroyed. The researcher did not intentionally observe or include those students for whom she had not received consent. If they entered a scene in which the researcher was observing, the researcher documented the student as "another student." Precautions were made to

protect the participants in this study by reducing any distractions to the learning environment. Participants were anonymous, as pseudonyms were assigned to the teacher and all of the student participants.

Qualitative Inquiry

Qualitative research is defined in many different ways. Creswell (1998) defined qualitative research as:

An inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting. (p. 15)

Creswell identified five methodological traditions that follow his definition: ethnography, phenomenology, grounded theory, biography, and case study. The goals of qualitative research are understanding, description, discovery, meaning, and hypothesis generating.

Merriam (1998) outlined five characteristics of all qualitative research. The first characteristic is that qualitative research promotes “understanding the phenomenon of interest from the participants’ perspectives, not the researcher’s” (Merriam, 1998, p. 6). This approach is called emic and refers to the insider’s perspective. The second characteristic is that qualitative researchers are the primary instruments for data collection and analysis. The researcher brings a level of sensitivity to the data that cannot be achieved with inventories, questionnaires, or computers. The third characteristic is that qualitative research is characterized by fieldwork. This typically means that the researcher physically observes behavior in its natural setting. The fourth characteristic is that qualitative research is an inductive research strategy. Qualitative researchers do not

hypothesize; instead they build toward theory from fieldwork. The fifth characteristic describes the product as being descriptive through words and pictures rather than numbers. Other characteristics that are found in qualitative research are small, nonrandom, purposeful sampling, emergent and flexible design, and a substantial amount of time in the natural research setting (Merriam, 1998).

For this study, I used a qualitative research design for several reasons. First, my guiding research questions were likely to be best answered through qualitative analysis. I wanted to study Kindergarten children's temperament and goodness of fit in the classroom. Creswell (1998) stated that qualitative inquiries typically start with *what* or *how*. I planned to learn how goodness of fit appeared in a Kindergarten classroom setting. I also planned to learn how children's temperaments and the teacher's temperament affected classroom dynamics. I also wondered what ecological characteristics made up goodness of fit in a Kindergarten classroom setting.

My second reason for conducting a qualitative study was derived from the information learned through the review of literature. Temperament, especially goodness of fit, is difficult to study through quantitative research. Researchers have struggled with how to quantify goodness of fit. They have typically collected information regarding temperament from child, parent, and teacher reports. These reports serve a purpose, but they are not comprehensive. Overall, the current temperament and goodness of fit research lacks theory building evidence and is characterized by correlational studies based on questionnaires. This qualitative research study provided a detailed view of temperament and goodness of fit in a natural classroom setting.

Finally, I espouse the role of an active learner. In this particular study, I wanted to learn about the culture of a Kindergarten classroom. I planned to describe and interpret the culture of the classroom which is the essence of ethnography (Schwandt, 2001).

The Framework for Qualitative Research Design

Using Creswell's (2003) framework for qualitative research, I addressed the following four questions related to epistemology, theoretical perspective, and methods. Specifically, the following questions were addressed: (a) What epistemology notified my research?; (b) What was the theoretical perspective behind the methodology?; (c) What was the methodology that controlled the choice and use of methods?; and (d) What methods did I chose to use?

Epistemology: Constructionism. Qualitative researchers begin thinking about their study with a paradigm or worldview, a basic set of beliefs or assumptions that guide their investigations (Creswell, 1998). Creswell identified five assumptions for qualitative paradigms: ontological, epistemological, axiological, rhetorical, and methodological. According to Creswell (1998), each of these assumptions has a different question. For example, when researchers use the ontological approach, they ask, "What is the nature of reality" (p. 75)? For this study which is using an epistemological approach I have asked, "What is the relationship between the researcher and that being researched" (p. 75)?

Ethnographers typically follow the epistemological assumption. Crotty (1998) described the epistemology as "the theory of knowledge embedded in the theoretical perspective and thereby in the methodology" (p. 3). When researchers operate under the

epistemological assumption, they interact with those they study in an attempt to move from outsider to an insider (Creswell, 1998). The epistemology used for this study was the constructionism view.

Proponents of the constructionism view maintain that reality is relative to individuals (Cunningham & Fitzgerald, 1996). From this perspective, children are seen as active agents and eager learners (Corsaro, 1997). Children actively construct their social world and their place in it. This way of thinking is consistent with developmental views of children, especially the theories of Piaget and Vygotsky.

Theoretical Perspective: Social Constructionism. Merriam (1998) discussed the importance of the theoretical perspective. She maintained that the perspective determines the questions, the way to generate the problem of the study, the data collection and analysis techniques, and how to interpret findings. As researchers operate from a social constructionism theoretical perspective, they emphasize the informant's definition of the situation (Schwandt, 2001). The social constructionism view is appropriate for researchers who want to examine a particular construct (e.g., temperament) in social contexts (e.g., a classroom). In this study, I sought to understand how the informant (or actor) recognizes, produces, and reproduces social actions.

When a researcher works from a social constructionism view, she attempts to understand the participant's world according to that person's view by taking into consideration sociocultural factors. Often a person's perception is as important as what actually occurs. The researcher attempts to gain the participant's views about all aspects

of the classroom environment: children's temperaments, teacher's temperament, size of class and classroom, location of school, and other factors as they develop. I spent a school year watching a classroom from this perspective.

Ethnography, like other kinds of qualitative inquiry, has an emphasis on firsthand field study. I followed the ethnographic tradition in that I was a participant observer. Participant observation requires the researcher to commit to some relatively prolonged period of engagement (e.g., school year) in a setting (e.g., classroom). The researcher takes part in the daily activities of the people among whom she is studying and reconstructs their activities through the processes of inscription, transcription, and description in field notes made on the spot or soon thereafter. Participant observation is a methodology that includes activities of direct observation, interviewing, reflection, analysis, and interpretation. It encompasses logistical, ethical, and political concerns involved in entering the world of those who are being studied. Researchers attempt to gain their participants' trust, develop empathy, and understand their ways of talking about and behaving in their world. In this study, I observed the teacher and student participants in the classrooms, in the hallways, in the cafeteria, and outside during recess. I did not observe any participants off school grounds.

There are limitations to participant observation. One limitation is the change in the environment due to the presence of the researcher and the interactions the researcher has with the participants. Throughout my study, my goal in this study was to observe and participate in what was going on, but not change it or lead it into a different direction.

Another limitation to participant observation is the different roles the researcher plays. In order to gain entry into the children's ecology, I tried not to be viewed as a

disciplinarian. I set the boundaries of my role with the teacher at the beginning of the study. However, as an adult, the students may have associated me with the role of an authority figure that would ensure that school rules were followed, even though I did not actively adopt a disciplinarian role. This neutrality was crucial in gaining information and developing trust with the student participants. However, at times danger presented itself and I had to take a disciplinarian role.

Ethnographic Procedures. As the researcher, I participated in the classroom as a participant observer one day a week, on Thursdays. Throughout the day, I mostly limited my role to an observer. The times I directly participated were during the following activities: center time (I facilitated a center), getting students ready to go outside (i.e., helping to zip coats, put on gloves, etc.), and getting students ready to go home. Through my participation and observation, I was able to start developing ideas about temperament and goodness of fit in this particular classroom. Marsha and I had four formal conversations about temperament and goodness of fit and several casual conversations throughout the school year. The formal conversations included the introduction to the study and then three additional interviews (discussed in more detail in Chapter 4). The interviews were set up to coincide with natural breaks in the school year, one in the beginning of the school year, one in the middle, and then one at the end. Part of the second interview and the entire third interview were focused on temperament and goodness of fit. I also structured a teacher field note sheet around the broad ideas of temperament and goodness of fit. Through these procedures, I believed that Marsha had

a good understanding of the constructs. It was important to establish that both Marsha and I were discussing similar constructs and that there was not a fundamental difference in our interpretation of temperament and goodness of fit.

Sources of Data. Several methods were used for data collection. Participant observation was the foundation of this study as approximately 240 hours were spent observing this particular class and teacher. I spent approximately eight hours a week in the classroom for one academic year (nine months) during which time I took notes of my observations. The observations were used to gather themes, describe occurrences in the classroom, and for subsequent data analysis. By observing the children in their natural school environment, I learned different ecological attributes of the different classroom (e.g., specials, general) and playground settings.

Field notes. Ethnographic field notes were the main source of data for this study and included writings about what I learned and observed through activities, my own actions, as well as questions and reflections. These notes were written for each day that I observed. Ethnographic field notes support and deepen the incorporation of researcher experience with classroom knowledge (Emerson, Fretz, & Shaw, 1995). These field notes are written descriptions from observations and interviews, including personal thoughts and questions.

Although the intention of this study was that the teacher would also keep field notes throughout the school year on various days of the week, Marsha began writing field notes at the middle of the school year and only on the days that I was present. Although I encouraged her to complete field notes when I was not present, she declined. We both attempted to include information regarding student temperament, but not make that the

focus of every field note. We attempted to do this by member checking and asking ourselves the following questions after writing a field note: (a) What is really going on here?; (b) Does this relate to temperament?; (c) Am I too focused on temperament?; and (d) What is missing?. I developed these questions after consulting with an instructor in ethnography as well as after a discussion with Marsha. This structure allowed us focus on similar aspects while I was conducting the study. A template for researcher field notes is provided in Appendix D. The original intent was to have indepth field notes from the teacher several times per week. However, this proved to be too time intensive and instead Marsha and I settled on a form that could be filled out quickly by providing a summary and checking off. The form was not the in depth field notes that I had hoped for, but more of a summary and/or a list. As mentioned earlier, a template for teacher field note form is provided in Appendix A. I wrote 32 researcher field notes and Marsha wrote 14 field notes starting in the spring of the school year.

Interviews. I conducted and recorded three interviews with Marsha during the course of this study. The first interview occurred at the beginning of the school year, the second interview in the middle of the school year, and the third interview at the end of the school year. Topics of discussion included the teacher's background, her perceived temperament, the temperament of her students, and her beliefs regarding goodness of fit between the children's temperament and her own and the classroom environment. The interviews were designed to gain an ecological view of goodness of fit and temperament based on the current research. The interview templates are included in Appendix E. Each interview was transcribed after it occurred. The first interview focused on her background, training, and her theories of learning and personality. During this first

interview, which lasted about an hour, Marsha and I discussed temperament in an informal manner to establish her knowledge level related to this construct. The second and third interviews focused mostly on temperament and each lasted about an hour and a half. All of the interviews were held in my office as Marsha thought this was the best place to have some quiet time to be able to talk and for me to record the interviews on my tape recorder. The questions were developed after consulting with my advisor and determining what information would be most valuable. It seemed as if it would be good time during the second and third interview to discuss temperament and goodness of fit more in depth because both Marsha and I had had time to observe and think about the characteristics. The questions were also based on temperament and goodness of fit research.

Researcher's Journal. I recorded my reflections, notes about classroom ecology, and decisions regarding the research process in my research journal on a weekly basis. For example, I reflected on my dual roles within the school and some of the struggles and complexities associated with fulfilling each of the responsibilities associated with these roles. An example of a journal template (labeled Weekly Reflections) is provided in Appendix F. I wrote 38 researcher journal entries.

Artifacts. Another data source included artifacts. Studying culture involves an analysis of what people make and use (Spradley, 1980). Artifacts are physical evidence of the actions in which people are engaged. Common artifacts in classrooms include stories, pictures, drawings, and emails. Throughout the study, I attempted to collect artifacts that related to temperament characteristics or goodness of fit. I was able to obtain a significant artifact, a self-portrait drawing of almost every student participant.

These self-portraits offered a glimpse of the student perceptions of themselves. I was also able to collect an informational sign-up sheet for the Kindergarten/1st grade combined classroom. An additional artifact was a letter of recommendation that Marsha wanted to write for me. The data collection phase concluded at the end of the school year, with data analysis following.

Data Analysis

A computer program, Non-numerical Unstructured Data Indexing Searching and Theorizing (NUD*IST), version 6 (QSR International, 2004), aided in the organization of the data. NUD*IST helped the researcher by providing a system for storing and organizing files, searching for themes, crossing themes, diagramming, and creating a template (Creswell, 1998). The template was typically a visual display, such as a tree diagram. NUD*IST connected the data analysis element and writing objective with a specific computer procedure.

After collecting data from the different sources and organizing it into the NUD*IST program, I used Wolcott's (1994) three-step process of data transformation: description, analysis, and interpretation of the culture-sharing group. These steps were not mutually exclusive, nor did they have distinct boundaries from each other. For a pictorial view of the transformation, see Appendix G.

In the description step, I asked the question, "What is going on here?" consistent with the procedure outlined by Wolcott (1994). I answered this question by focusing the chronicling a "day in the life" of the group. During the description phase, I allowed the data to have a voice. In keeping with this model, I drew large sections of writing directly from notes, journals, or interviews.

One way a writer can present description and organize material is to act as though writing a mystery novel (Wolcott, 1994). The researcher is the detective, and the focus is on solving the problem. In this method, data are introduced through accumulating evidence to be sifted, sorted, and evaluated according to their contribution to solving the mystery. Keeping in mind the focus of this study was to examine temperament and goodness of fit in the classroom, the mystery description built this idea by seeking clues through ongoing observation. For example, I focused on those students who appeared to have goodness of fit with the teacher and classroom environment and those students who appeared to have a poorness of fit, exploring those interactions that seemed to provide the best support for the direction of the level of fit.

For the analysis step, Wolcott (1994) described a sorting procedure that may be conducted in different ways. Two ways of analyzing the data involve highlighting findings and displaying them through tables, charts, diagrams, and figures. Wolcott (1994) explained that through the act of taking field notes, the researcher is highlighting certain aspects and not others. In the transformation phase, the researcher must become even more selective. Typically, the analysis step is informed by the information provided in the description step. By reviewing the description step, the researcher can focus on how to sort during the analysis step. The sorting involves breaking down information into small parts that can be coded for themes. The codes and themes are not imposed, but rather emerge from the data.

The NUD*IST program aided me in the analysis of the data. It permitted the development of emergent coding categories (called nodes) that were not yet assigned to a location in the taxonomy (LeCompte & Schensul, 1999). This process allowed me to

identify and assign new codes while continuing to refine the definition of the coding category. The NUD*IST program also aided in designing graphic representations of the data.

In accordance with Wolcott's third step, interpretation, I went beyond the database and probed into what could be created from the data (Wolcott, 1994). I considered extreme, comparative interpretations that raised doubts or questions for the reader (Creswell, 1998). This type of interpretation can "convey a caution against accepting overly simplistic explanations of complex social phenomena or always looking at issues from the same perspective" (Wolcott, 1994, p. 40). For example, is it realistic, in today's economy and the state of public education, to match individual children's temperaments with teacher temperament and the demands of the classroom? This type of interpretation aligns well with examining temperament and goodness of fit, as they are both complex social phenomena.

In Wolcott's model, the researcher can also personalize the interpretation. This process can be completed in two different ways. One way is to describe how the researcher interpreted the data. Another way is to describe how the research affected the investigator personally. During this study, I wrote about how the research affected me personally. This type of interpretation was deemed appropriate as I am just becoming a practitioner in the field of education and research.

The finished product of this study included a variety of components: (a) the narrative description; (b) the written and visual displays of the themes that emerged as a result of data codes; (c) comparative interpretations; and (d) a written narrative of how

the research affected me personally. These components provide the reader with a range of information about early childhood temperament and goodness of fit in the classroom.

Trustworthiness Criteria

The trustworthiness criteria is a way to judge the quality of qualitative studies (Schwandt, 2001). Trustworthiness not only addresses the quality of the data collection and findings, but it is also noteworthy to audiences. Strategies that enhanced the trustworthiness criteria included prolonged and substantial engagement, progressive subjectivity and member checks. Progressive subjectivity requires that the researcher monitor her developing constructions and document the process of change from the beginning to the end of the study. I was attentive to my own biases throughout the study and discussed them in my weekly journal reflections.

As noted, prolonged and substantial engagement is another method for establishing trustworthiness. There is no rule about how long a researcher must stay at a site, but some ethnographers insist researchers stay for a full cycle. When conducting research in a school, an entire school year reflects a full cycle and that was the length of time during which I carried out my observations. Overall, it is believed that a researcher should stay long enough to have confidence that the themes and examples are repeating and no new themes will emerge over time. This level of saturation was reached by the end of the school year.

A member check may also be completed through informant feedback or respondent (primary participant) validation. The researcher must confirm with the respondent groups that the developing themes and structures are consistent with the collected data. Member checks were conducted with Marsha between the interviews and

transcriptions as well as the researcher and teacher field notes. Member checks also occurred verbally with the teacher and helped build the strength of the study.

Another way to build trustworthiness is by triangulation, which involves “checking information that has been collected from different sources or methods for consistency of evidence across sources of data” (Martens & McLaughlin, 2004, p. 106). This research used triangulation by having two people writing field notes as well as collecting researcher journal entries, conducting interviews with the teacher, and collecting artifacts. By coding in the NUD*IST program, I was able to gather information in an organized way where the data originated.

Transferability is the degree to which the researcher can generalize the results to other situations (Martens & McLaughlin, 2004). Thick description, which is extensive and careful description of the time, place, context, and culture, is important in transferability. I provided thick description to build transferability in hopes that others studying this topic may find similar results by studying a public school classroom in this qualitative way. Dependability means that “change is expected, but it should be tracked and be publicly inspectable” (Martens & McLaughlin, 2004, p. 107). I kept a journal in which I created an audit trail. An audit trail is a documentary record of the steps I undertook and the decisions I made in moving from the raw data to my final interpretation of the data.

Confirmability means that the data and their interpretation are authentically derived. I conducted a confirmability audit to make sure that the data could be traced to original sources and that the data analysis could be confirmed. I did this by checking and rechecking the data throughout the study.

The final element of trustworthiness involves the degree of authenticity of the study. “Authenticity refers to the presentation of a balanced view of all perspectives, values, and beliefs” (Martens & McLaughlin, 2004, p. 108). To achieve authenticity, the research must be able to identify the respondents and how information about their constructions was obtained. I welcomed feedback and documented conflicts and value differences. “Ontological authenticity is the degree to which the individual’s or group’s conscious experience of the world became more informed or sophisticated” (Martens & McLaughlin, 2004, p. 108). To determine the answer, I asked the question, “How has this study changed the researcher’s and teacher’s knowledge of temperament and goodness of fit?” The results are reported in the interpretation section. “Catalytic authenticity is the extent to which action is stimulated by the inquiry process” (Martens & McLaughlin, 2004, p. 108). In order to examine catalytic authenticity, I followed the advice of Martens and McLaughlin (2004), I had planned to conduct a follow-up with Marsha at the end of the school year. Unfortunately, I was not able to conduct a follow-up check in with her as she had quit the school district and joined a different one.

CHAPTER IV

ANALYSIS

Description

I used Wolcott's (1994) transformation process to guide my analysis. In it, are three parts: description, analysis, and interpretation. To begin this analysis, I have written a description of the participants as if I were introducing each of the main characters in a mystery. The characters included the teacher, me, and the 15 student participants. Each of the characters (people involved) in this ethnography as presented using pseudonyms, except for me. My description of the settings in which this ethnography took place allows readers to get a sense of the setting dynamics. Thick description is used to establish the classroom context and the characters, settings, and activities so that readers can begin to draw their own conclusions regarding temperament.

Primary participant: Marsha. Marsha is of average height and weight for a woman in her early 40s. She has long brownish blond hair and blue eyes. Her smile lights up her entire face and she often wears her hair up. Marsha described her background in my first interview with her. She is in her fifteenth year of teaching, 10 of which have been in Kindergarten. She has also taught second and third grade. She has taught every year except for one that she took off to have her triplets. At the time of the study, it was her third year at this particular elementary school. Marsha had been assigned to teach a combined kindergarten/1st grade class in which her own children (the

triplets) are enrolled. Marsha has a BA in Elementary Education and Language Arts and an MA in Elementary Education with emphasis in Literature and Gifted and Talented.

During the first teacher interview, Marsha explained her experience of becoming a teacher. Although she initially thought she wanted to be a banker, she spent one summer as a camp counselor and it changed her life. She described a story of her experience at camp and how it led her to believe she had a special calling to become a teacher. At the camp, she had worked with a rebellious young girl who would often break the rules. At the end of the summer, the young girl asked Marsha why she doesn't become a teacher since she had made such an impact on her in just those 6 weeks. Marsha described that as the turning point in her deciding to go into the teaching field.

Marsha was definitely a dramatic woman. She has a lot of energy that could really change the dynamics of a classroom. She was passionate about working with young children and often reflected on all that was going on in their lives in her journal entries. In some ways she was very planful and had numerous strategies for organizing her classroom, but in other ways appeared to be spontaneous in her classroom decision-making.

While getting to know Marsha in the first interview, I asked her what she thought an ideal teacher training program would include. She had strong opinions on this topic. She believed that teacher preparation programs should require more experience in the field. From her perspective, books were nice to provide philosophies, but when a teacher walked into a classroom, that person needed to have some hands-on experience and good classroom management. As an example, Marsha described how she had taped the floor

of her classroom with arrows to point to how students should move about the centers. Marsha believed it was the little things that can made a big difference in the stress level of a new teacher entering the field.

Researcher: Mrs. Martin. The students called me Mrs. Martin because of my other role at the school as the school psychology intern. It was decided early on that Mrs. Martin would be the least confusing for the students. Occasionally, I worked with the teacher and/or the students in my role as the school psychology intern, but most often I was in the room in my participant observer role. I have blond hair and blue eyes, am short in stature, and have a young looking appearance. As I was just finishing my graduate program in school psychology, I was a novice to school-based practice. My goal for this ethnographic study was to be a participant observer and view the classroom environment from a naturalistic perspective and participate in it as well. I was motivated by my goal to understand children's temperaments and to use this knowledge to help develop healthy school environments.

As a researcher, I brought personal and methodological assumptions to this study. For example, I believe that temperament develops early and is consistent throughout one's lifetime. Teacher temperament can affect both the teacher's instructional style and his or her interactions with students. Ultimately, they affect the goodness of fit of students within a classroom. I wondered if a teacher began to understand temperament and its constructs, and in turn, changed some of her behaviors and aspects of classroom functioning (e.g., organization, tempo, activities), whether goodness of fit might be achieved.

These assumptions were represented through one of my first journal entries in which I considered my own goodness of fit with Marsha:

Today was the second day of school and my first day in the kindergarten/1st grade classroom. It went well. I really think Marsha and I will get along well. She has a lot of energy and so do I. She knew about temperament somewhat but I think with time, she will understand it a bit better.

Possibly because I held different roles within the school, acting as both a researcher and a school psychology intern (meaning I was still technically a student), Marsha was unsure of how to view me. In some ways, it seemed as if she viewed me as one of her student teachers as she referred to herself as a field advisor in a letter she wrote at the end of the school year (see Appendix H).

My role in the classroom was as a participant observer. One day per week, I observed, but also participated by running a center, getting students ready to go outside (i.e., helping to zip coats, put on gloves, etc.), and helping students prepare to go home. There were a few instances throughout the school year in which Marsha had asked me to help out, such as helping with snack, reading a book, taking the students to breakfast, or watching the students at recess. During these times, my role was more of a participant than an observer.

The students. There were fifteen student participants in the study, seven of whom were in first grade and eight who were in kindergarten. All of the first grade students had been in Marsha's class during the previous year as kindergarten students meaning that she was familiar with and had worked with nearly half of her class before the beginning of this academic year. This was the first year that this elementary school was offering a kindergarten/1st grade combined class. Parents who wanted their kindergarten students to attend this full day option were required to pay to have their

child at a cost of \$2,000 per school year. The parents of the first grade students could chose to have their child remain with the same teacher (Marsha) but did not have to pay since all first grade classrooms are all day.

The following section provides a self-portrait drawn by each of the student participants as well as excerpts from a brief interview with each of them. These self portraits were drawn toward the end of the school year. Marsha had thought it would be something fun for the students to do and when I asked if I could have them as artifacts, she agreed. The students completed them during their center time before recess. They were given approximately 20 minutes to work on them. Additionally, observations from throughout the year and from interviews with Marsha have been added as appropriate to provide a quick “snapshot” of each of the children.



Figure 1. Andrew's self-portrait.

Andrew. Andrew is in kindergarten and is a little on the short side for his age as his self-portrait displays. He has brown hair and big brown eyes. Andrew draws quite a bit and usually draws himself somewhere on his pictures. In this self-portrait, he told me that he was drawing himself playing. Andrew is outgoing and outspoken. He tends to perform better in class if an adult works with him one on one. Andrew really enjoys attention from anyone, especially the teacher and toward the end of the school year; he began to receive more attention from Marsha as a student teacher joined the class and began to assist with instruction and management. Andrew began the school year attending the whole day but was later changed to a 2:00 ending time to accommodate his needs.



Figure 2. Brandon's self-portrait.

Brandon. Brandon is in kindergarten and is on the shorter side for his age. He has blond hair and blue eyes. I asked Brandon to describe his picture to me, and he said that it was a picture of him playing by a tree and a house. Brandon seems to be a very bright and playful boy. Toward the end of the school year, Brandon was successfully completing first grade work. Brandon is very popular with the other boys in the classroom.



Figure 3. Heather's self-portrait.

Heather. Heather is in kindergarten and has long, wavy brownish blond hair and blue eyes. She is about average height for her age. Heather's self-portrait shows the length of her hair and she is wearing a dress which she often wore to school. She also used her pink crayon a lot, which she identified as her favorite color. She is also very bright and toward the end of the school year, Marsha moved Heather up to a first grade reading group. Marsha was proud of Heather's progress this school year and mentioned how she had observed Heather being willing to take risks and accomplish difficult tasks in class. Heather is also quite popular among her peers in the class.



Figure 4. Joseph's self-portrait.

Joseph. Joseph is in kindergarten and is on the petite side for his age. He has brown hair and brown eyes. Joseph began his self-portrait in a much focused manner. When I asked him to tell me about his drawing, he told me that he didn't have enough time to finish it. Joseph appeared to really enjoy one-on-one time with adults. I observed him to be very playful outside for recess, but somewhat reserved in the classroom.

Lincoln. Lincoln is in kindergarten. He is average in height and build for his age. He has brownish blond hair and brown eyes. Lincoln was not at school the day Marsha had the students draw their self-portraits. Lincoln is a sweet, soft-spoken boy who enjoys talking about insects. Almost every day, he could talk about a different kind of insect. He also liked kittens and cats. One day, he asked me if I liked cats. When I

responded, “Yes”, he said, “Ok, you can have one of ours.” Unfortunately, I didn’t actually want a cat and had to explain that to him. Lincoln is another student that was changed to leaving at 2:00 instead of 3:20 because of his needs.

Maria. Maria is in kindergarten. She has short brown hair and brown eyes. She is small for her age in height and build. Maria was not in school the day that Marsha had the students draw their self-portraits so she did not have a picture to share. Maria presented as very soft spoken and is an English Language Learner (ELL) student. She is polite to adults but according to Marsha, she can be kind of sneaky, when it comes to misbehaving with friends.



Figure 5. Samantha’s self-portrait.

Samantha. Samantha is a kindergarten student of average height and build for her age with long brown hair and brown eyes. In her self-portrait above, you can see her long hair and her eyes. Like her picture, Samantha is often smiling and she featured her favorite color, purple. As she drew her self-portrait, she described to me that she wanted her clothes to be in purple but that the cloud had to be blue. Throughout my observations, Samantha often appeared quiet and shy. Samantha appeared to be more comfortable discussing things with her friends than the adults in the classroom, and she did not actively seek out teacher assistance. For example, one day she was working on a worksheet and instead of raising her hand for some extra help, she started to cry because she did not understand the work. Samantha's mother was very actively involved in the classroom. Unfortunately, her father frequently traveled for his work and from my observations, she was not as upbeat and seemed to miss him when he was gone. Samantha tended to blend into the background if she wasn't challenged to come forward and participate in class.



Figure 6. Scott's self-portrait.

Scott. Scott is in kindergarten. He is tall for his age and has sandy blond hair and blue eyes. According to both Marsha's and my observations, Scott is very detail oriented and a sensitive young boy. His self-portrait is neatly drawn with a lot of straight lines. When I asked him about his picture, he described that he was just leaving his house to take his dog for a walk. Scott seems to try to do his best at all times. He also appreciates having the time to finish a task and does not like to be rushed.



Figure 7. Alyssa's self-portrait.

Alyssa. Alyssa is a first grade student. She is on the short side for her age and has brown eyes. Alyssa drew herself with blonde hair even though she actually has brown hair. When I asked her about her drawing, she told me that she wanted to draw herself outside. In my observations, Alyssa was quiet in class, but seemed to enjoy good peer relationships. According to Marsha, Alyssa had made a lot of growth both academically and socially, as compared to her kindergarten year.



Figure 8. Angie's self-portrait.

Angie. Angie is in first grade. Like her self-portrait displayed above, she has brown hair and brown eyes. She is of average height and build for her age. Angie told me that she wanted her self-portrait to look “really good.” She also told me that she hoped she had enough time to finish. According to Marsha, Angie is very well adjusted, is friendly, but also knows appropriate boundaries. She appeared very bright for her age. Angie enjoyed talking with both the teachers and the other students. It seems like she was able to fit in easily with her surroundings.



Figure 9. Beth's self-portrait.

Beth. Beth is a first grade student. She has reddish brown hair and blue eyes. She is of average height for her age. Beth told me that she drew herself in braids and with butterflies. According to my own observations and those of Marsha's, Beth is extremely bright and well-adjusted. She is able to get along well with both other students and adults.



Figure 10. Charlotte's self-portrait.

Charlotte. Charlotte is a first grade student. She is tall for her age and has short brown hair and brown eyes. Charlotte is also an ELL student. When I asked Charlotte about her self-portrait, she told me that she had become tired of coloring. She drew herself smiling and with long hair. From my observations, it appeared Charlotte enjoys interactions with others, particularly adults. When she was encouraged by Marsha, Charlotte displayed leadership abilities.



Figure 11. Emily's self-portrait.

Emily. Emily is in the first grade. She is average height for her age with medium length brown hair and brown eyes. When I asked Emily about her drawing, she told me that she wanted to draw a picture of herself outside with the butterflies. Marsha's reports and my observations led me to believe that Emily is very shy but friendly. Marsha was also proud of Emily this year as she noticed that she has done so well considering her poor performance in Kindergarten. Apparently, last year she came in writing her name upside down. Emily does not seek out attention in class. Marsha was able to help her gain confidence by calling on her to answer questions.



Figure 12. Katelyn's self-portrait.

Katelyn. Katelyn is in first grade and is on the taller side for her age. She has long brownish blond hair that she often wears up in a ponytail. She has blue eyes.

Katelyn's self-portrait reflects her blue eyes, her happy demeanor, and her typical hairstyle (i.e., a ponytail). She told me that she wanted to draw herself by some flowers. Marsha was very proud of Katelyn's progress this school year because she was apparently much more shy and reserved last year. According to Marsha, Katelyn has really blossomed this year.



Figure 13. Ricky's self-portrait.

Ricky. Ricky is a first grade student. Ricky has brown hair and brown eyes. Ricky is average height and weight for his age. In his self-portrait, he colored his hair blue. He often colors with red and blue, which I think is meant to represent his love of Spiderman and Superman. Ricky drew himself skateboarding which is another interest of

his. In fact, when I asked him about his self-portrait, Ricky talked about how he wanted to draw himself doing something fun. From what I observed, he was a very active, confident boy.

Other Individuals. Marsha had one full time teacher assistant dedicated to the classroom because of the combined grades and the young age of her students. The teacher assistant had an easy temperament and personality. She was patient with the students and seemed to take a “hands-on” approach within the class setting. Many times it appeared that there were actually two teachers instead of a teacher and a teacher assistant. Another individual in the classroom was the student teacher. She helped out during the spring semester as a full time student teacher. The student teacher appeared to have a slow-to-warm temperament. She seemed to enjoy reading to the students.

Setting. The setting for this study was a kindergarten/1st grade combined classroom in one of two public elementary schools in a small community. The median household income in this community is \$40,917. There is a rural feel about the town and many of the citizens commute to the nearby large cities for work. As noted, the school has about 600 students and 34 teachers. The school provides education from preschool through fifth grade. Marsha’s classroom was the only full day kindergarten in the building. The figure in Appendix I displays the information letter and signup sheet for the Kindergarten/1st grade combined classroom. It informs parents what the setting of the classroom will be like and general guidelines and expectations for the class.

Although a pilot program, there was a cost associated with the full day kindergarten as

mentioned earlier. Marsha's classroom is located in a corner of the school, next to the other kindergarten and preschool classrooms. The layout of the classroom is described below and a drawing is provided in Appendix J.

On the left hand side of the entry door is a chart of student jobs. This chart is very helpful, especially in determining who the line leader is when the class lines up to leave the classroom. To the right of the door is a bulletin board. Marsha also kept a table in front of the bulletin board, a reading chair, and an art easel. Underneath the bulletin board is a number line for the students to use as needed. There is another door in the classroom that leads to the restrooms. The restroom has two sets of doors; one door connects to the other Kindergarten classroom. The room containing the bathrooms also has a door that leads to the outside where the playground is located. The playground is specifically designated for the kindergarten students.

To the left of the entry door was a storage closet, a sink, a clock, and the American flag. The counter space held various items including a microwave. This area was always quite crowded, especially during lunch time when Marsha warmed up her children's lunch. This area also functioned as the table where I facilitated a center on my observation day. When I was not there, this was a place for independent student work.

The area extending past the counter space was called the "word wall". Under each of the letters of the alphabet were words that started with a specific letter. In this area, bookshelves were arranged to form a quiet reading area. In this space, Marsha kept a rocking chair for her to sit in as she read stories or listened to students participate in show and share. To the left of this area was where Marsha supervised a table during center time.

The back wall of the classroom was rarely seen as the desks of both Marsha and the teacher assistant were placed against it as were various file cabinets and a table for centers. Several little bulletin boards and white boards hung on the wall with important information for the teacher. Near her desk is a large rug printed with the ABCs. Children began their days on this rug and during center time, there was a table placed on it. This table was typically where the teacher assistant led a center. To the right of the teacher assistant's table was another table for centers supervised by the student teacher (at mid-year).

The wall with the chalkboard and attached bulletin board contained a table for centers, an art easel, and an additional rocking chair for reading to the students. Of all the areas in the classroom, Marsha used this area the least. The student teacher used this area often to read to the students. In this area there contained a table for centers was not supervised by an adult, instead it was a listening and reading center that held a CD player, headphones, and books for students to listen to and follow along.

The students sat in tables in the middle of the room. Students were assigned a specific animal and a corresponding animal picture hung from the ceiling above each table so that students could determine their assigned table. Not only were students assigned a specific table, they were also assigned a specific seat at the table. At various times throughout the school year, Marsha placed a student at a small desk next to her desk, typically if that child needed more help or had challenging behavior. Students who were placed at the special desk also received a behavior plan that outlined the specific

types of behaviors that were needed to work their way back to the tables with the other students. Throughout the room, a train track was laid out on the floor indicating how students should move along the centers.

Activities. At the beginning of the school year, Marsha struggled to tell me what a typical day was like in her classroom. She said that it was difficult to describe because it is different every day. Marsha mentioned this variability as one of the reasons that she really liked to teach. In fact, she even reported that she'd never had a day when she had woken up and said that she didn't want to go to school. Although Marsha's overall routine was fairly consistent, she seemed to experience the most pleasure from the unexpected moments that occurred on any given day. This structure sometimes seemed incongruent with her reported love of the unexpected. She also described how she had a lot of laughter in her days, although at times her reported joy was overshadowed by sympathy for her students and their experiences in life outside of school. Overall, Marsha believes that she has created a comfortable environment for children.

Marsha started the day with her students at a rug that displayed the ABC's. She sang a morning song, went over student chores, outlined the schedule for the day, and reviewed the weather. In the morning, Marsha sang a song called the Grumpy Brush song. It goes like this: "Grumpies, grumpies, go away. Grumpies, grumpies, not today. Grumpies, grumpies, go away. We are going to have a good day!" While Marsha is singing this song, she is using a fluffy wand brush to brush the heads and faces of each student.

There were usually five centers each day. The activities for the centers varied from day to day, although the general focus of the centers tended to remain the same. For

example, one center included headphones for students to listen to a book on tape while following along with the printed text, one center was usually focused on art, and the rest of the centers hosted academic activities, such as working on writing the alphabet or counting and sorting items.

During the first recess, the students played on the smaller equipment off to one side of the large playground. Although the other first grade classrooms are out at the same time, Marsha's class tended to play together as a class. The students ate lunch in the school cafeteria and then went out for lunch recess at 11:30. During that recess, many of the students still played with each other as a class, but they tended to venture out to other parts of the playground as well. Table 1 outlines the typical schedule for Thursdays, the day that I was in her classroom. The only major change from week to week was in the activities at the centers. Marsha or the teacher assistant planed the centers and provided the materials. From my observations, they did this in the morning before school started. Typically, I was told right before centers what I would be doing at the center for the day.

Table 1

Class Schedule

Time	Activity
8:05	Students arrive in the classroom. Welcome, attendance, and Grumpy Brush song.
8:15	Kindergarten students go to breakfast with the teacher assistant. First grade students take spelling test with teacher.
8:35	Daily Oral Language.
8:45	Handwriting Books.
9:15	Teacher or teacher assistant reads book to students while other prepares centers.
9:30	Centers.
10:05	Morning recess.
10:15	Resume centers.
11:00	Lunch.
11:30	Lunch recess.
11:55	Teacher or teacher assistant picks up students from outside.
12:15	Specials. Thursdays: Music.
1:00	Calendar. Show and Tell. Math.
2:00	Snack. Andrew and Lincoln leave for the day.
2:30	Math or science. Review book.
3:00	Get ready to go home. Get backpacks and coats.
3:20	Bell rings. Students leave the classroom.

Interaction of characters, setting, and activities. Marsha's classroom might be characterized as both interesting and intense. There was always a lot of activity and the room was constantly full of students, sounds, and furniture. In fact, many times the room seemed too full. At times, it was like the room had too much stuff, too much noise, too much stimulation, and was too full of students. For some of the students, this seemed to work and they thrived in this setting. Other students appeared to become over stimulated and had a difficult time self-regulating with all of the excitement. For example, Andrew began the school year attending full days. He was switched toward the middle of the school year as he was a student who struggled with regulating his emotions. A few students appeared intimidated and at times, withdrew when things became too loud or chaotic. For example, Lincoln was another student that needed a shortened schedule.

When the students came together for play time, it provided a clear opportunity to observe the interaction between characters, setting, and events. There was always a lot of make believe play and most of it tended to be along traditional gender roles. The girls tended to make believe that they were sisters and moms, while the boys tended to be cops and robbers. This type of gender type role playing is very typical for this age group (Berk, 1999). Toward the middle of the school year, the girls and boys began playing more with each other, including games of chase and hide and seek, which tended to occur out on the playground.

Generally, during these play times the entire class seemed to get along. The students did not seem to draw distinctions between who was in Kindergarten and who was in first grade and all tended to play together. At times the students engaged in play that became a little too rough and I helped out by bringing them into the room and

providing a Band-Aid©. The majority of fights throughout the school year happened on the playground. There were fights among the girls that involved verbal and covert aggression (e.g., being bossy, rolling of eyes). There were minor physical fights with both the boys and the girls.

Marsha had only a few rules for her class. She stressed taking turns, raising your hand, lining up quietly, and being kind to one another. Obviously, a component of that final rule was no fighting. Another rule that seemed to be stressed quite often was using only crayons and colored pencils rather than markers. There could have been various explanations for this marker vs. non-markers rule. For example, markers are messier than crayons or colored pencils and more permanent. Students seemed to question this rule almost every day that I observed. Even toward the end of the school year, students asked if they could use markers in hopes that Marsha would change her mind. When students broke the rules, Marsha almost always handled the discipline herself. I rarely saw a student get sent to the principal's office. However, she readily used the counseling services the school had to offer for students.

Toward the middle of the school year, the boys got into trouble for piling up on each other during both recesses. The boys thought it was great fun, but almost every time a student was hurt and a teacher was called to intervene. As a result, Marsha took away their morning recess privilege for a week. This punishment actually turned out to be even longer and it included the whole class. Marsha believed the longer this consequence, the more likely it would change the behavior. It appeared her punishment was effective because when they were finally able to have morning recess back, the boys no longer piled up on each other.

Another issue that came up during the school year was tattling which is a common problem among this age group. In some ways, the setting may have contributed as there were 24 students who represented two grade levels within the classroom. During center time, there was unsupervised group time and these groups were spread throughout the classroom. It is during this time that tattling occurred most often. There were also certain activities that brought about more of the tattling, besides the unsupervised centers. Unstructured times such as recess or walking in the hall also brought forth more tattling. Marsha had a sign posted in her classroom that outlined the difference between telling and tattling. She still had to repeat it many times to the students. In addition, she taught several lessons on the differences between tattling and telling.

Analysis

As part of the analysis, I highlighted the findings based on field notes, journal notes, and interview transcriptions that were entered into the qualitative data analysis program, NUD*IST. I placed references to text units of documents using nodes in NUD*IST. “Nodes are the containers for ideas, ways of abstracting from data (Richards, 2002, p. 35). I examined each sentence and determined what was to be made of it, what category or categories or theme or themes was it saying. After coding all of the data and building themes (nodes) along the way, I went through all of the data again and re-coded in case I missed evidence for themes created after the initial coding. After developing a large number of nodes, I narrowed down which themes to discuss based on the ones with the most evidence (i.e., greatest number of references). A summary of these themes are presented in Table 2, and a more descriptive narrative with supporting quotes for each theme are presented below.

Table 2

Themes from the Ethnography

Theme	Definition
Touching a life: Creating a classroom environment	I defined classroom environment as the ways a person can affect and be affected by the environment.
Bumps in the road: Behavior issues	I defined behavior issues as problems that arose in the classroom as a result of children's behavior.
The Devil is in the details: Routines and Organization	I defined routines as the schedule and consistency of activities and organization as the arrangement and structure of the environment and its activities.
Bringing it all together: Temperament and goodness of fit	I defined temperament as the particular traits that a student possesses and goodness of fit as the match between temperament and demands of the environment.

Touching a life: Creating a classroom environment. One of the themes that emerged from this ethnography was Marsha's beliefs in what constitutes an effective classroom learning environment. Marsha explained her philosophy to creating the optimal learning environment was to build relationships with her students. She viewed relationships focused on trust as essential. Once that trust had been established, it was then time to build confidence in the students so they could be academically successful:

"I would say the number one [factor in a child's learning environment] is trusting the people in it. Trusting your instincts, trusting the way your child feels. When a child comes into your classroom and they sit with their hands crossed the whole time, you're not going to accomplish anything with that child. Because for whatever reason, that comfort level is not there so to me you get the comfort level, the trust level, you believe in that child, you have expectations for that child. And the learning will be easy. Because they will meet you at your level."

Marsha used many different types of strategies to create her desired learning environment. Her efforts were consistent with the finding of Ahn (2005) who found

through her ethnographic research that teachers' efforts to structure positive emotional climates lead to better outcomes for children. Teachers who responded to a child's negative emotion using appropriate reaction enhanced the child's emotional development. Marsha had a variety of interventions that she used to address her student's negative emotions. For example, if a student was upset, he or she would be allowed to listen to a tape of Marsha talking gently to them, encouraging them to calm down and get back to the class.

Classroom climate is also determined by a teacher's mood and attitude. Raver, Garner, and Smith-Donald (2007) described teachers' emotions as a support or an obstacle to learning. Much like Marsha had noted, these authors concluded that teachers can have a significant role in better outcomes for at-risk students (Raver, et al., 2007). One entry noted in my journal detailed a particularly good week Marsha had had and the impact on the classroom:

Marsha was in a really good mood this week. She told me that she knows that the students today are going through so much more drama in their lives than when she was growing up. I agreed with her. So she seemed really empathetic with the students this week. For example, during one of the centers, she decided to have a fun center and let them do shaving cream art. She brought cans of shaving cream in and let the students spray some on their desks and draw designs in it. It smelled heavily of aftershave. Of course, the kids loved it and we all had a good time. I realized that this is a rare occurrence for Marsha. Usually she keeps the students doing mostly academic activities to keep up with the demands of the curriculum. I think the students were very happy to have a change in their routine.

Marsha's views on the importance of creating a learning environment that supports positive outcomes was also present in her home life. In the following passage, she shared this observation of her son, Brandon, and her efforts to start each day in a positive way:

"He's never had a bad day. If you ask him . . . because in the morning, when we get to school, or in the car, we sing. I wake up in the morning and open the curtains and say, "Wake up sunshine!" So it's always a positive mood, I think a lot of that is environmental."

Marsha also started each school day with the students in a positive manner. As noted earlier, she started each day with the "Grumpy Brush" song. During this time, she walked around with a powder puff brush and brushed each of the children's noses. It is her way of recognizing each student and helping each of them to start their day with a clean slate.

It seemed that in both her personal and professional life, she held the deep belief that creating supportive, positive interactions would allow children to grow. Because of this belief, she also worked very hard to provide this support for students who did not come from a positive home environment. Researchers Curby, Grimm, and Pianta (2010) emphasized teacher interactions as being crucial to children's learning in early education. They categorized the type and quality of interactions into three domains: instructional, organizational, and emotional. Instructional interactions are those in which the teacher informs the students on a topic. An example of an organizational interaction is the teacher's transitioning of students to another activity. Emotional interactions describe the relationship between the teacher and students. Curby et al. (2010) found that emotional support and classroom organization are positively related over time. Those classrooms with a higher quality emotional interaction had higher quality organizational interactions

during their next observation (Curby et al., 2010). Marsha's beliefs about setting up her classroom to support student emotion were consistent with this perspective and the majority of my observations revealed Marsha's efforts to achieve this goal. Over time, it was clear that most of the students seemed to trust Marsha as she reported to me:

“If you ask each child in that classroom and they say who is your best friend and they say, ‘Ms. Marsha.’ Because you believe in them, they want to do whatever they can for you.”

I observed Marsha's attempts to build a relationship with all of the students in her class. The majority of students really seemed to see Marsha as their “friend” although there was one student, Andrew, who did not seem to feel this way. During most of my observations, Andrew appeared uneasy and angry in the classroom. He particularly lashed out at the adults in the classroom. I would overhear him saying comments like, “I hate Ms. Marsha” or “I hope the spider gets Ms. Marsha.” Both Marsha and I viewed Andrew as a student with a difficult temperament. It is possible that because Marsha appeared to work better with those students who had easy or slow to warm temperaments, that there was a mismatch between teacher and student. I observed Marsha at times responding differently to Andrew in order to build a goodness of fit. For example, one day he seemed to crave one-on-one attention and so she played his favorite song and danced with him in the middle of a lesson.

Marsha was confident in the environment that she had created; however, she also recognized when a student needed more support. During those times, she consulted with

me, not as an ethnographer, but in my other role as a school psychology intern. Marsha described her view of my presence in the classroom and how it might have affected the learning environment:

“Oh, I think it has been tremendous. Because number one, when you walk in and you can automatically see, oh this child is going to have a rough day, or, you can kind of focus on that. And it allows the children to talk to you, to express themselves. Because sometimes, you know, I’m Ms. Marsha and they want to be perfect in my eyes. And so, to have you come in and you have your techniques of when you’re running a small group. “You know, ‘how do you feel’ and the questions that you ask can make them feel comfortable and so that they can respond. So if there is something going on at home, which you have found out a couple of times, you know that there are things behind the scenes that I didn’t know. And I think that has really helped.”

To Marsha, my role as the school psychology intern was another way she was able to meet her goals of making the students comfortable. This quote also emphasized the way Marsha viewed herself in the classroom and her understanding of her importance. Once Marsha felt that she had created a trusting relationship with students, she focused on building their confidence and academic achievement. Marsha described her belief that confidence was the most important part of a child’s learning. “I believe that if you can instill confidence in a child, they’ll think they can do anything. And that goes to academics to social things. Letting a child know that they are important.” She went on to say: “So when you work with a child, you make that child feel that [he or she] is the only child in that classroom.”

When it comes to the environment of the classroom, Marsha believed that the best environment was something relaxing and homey. She described her classroom as such because it was bright with light and color. Marsha particularly liked the color red as she believed it represented accomplishment. In keeping with her belief on building

confidence, Marsha described to me her visual aid that is on the floor for the students to look at while they transition to different centers: “Where we go [for centers], we have the train. On the train, the puffs of smoke say ‘I can. I know I can, I know I can.’” When asked more about the best environment in which to learn, Marsha described an environment that is conducive to all children in some way. She again mentioned the importance of colors in the room and how she uses her lamps to turn down the light for the children who need fewer stimuli to remain calm. I had never actually observed her using the lamps on any of the Thursdays that I was there; although, the reds and bold colors were always part of the environment. These bold colors and bright lights appeared to be handled well by the majority of students. I sometimes wondered whether some of the students with slow to warm or difficult temperaments might have appreciated if Marsha used her lamps more often to reduce the visual stimulation more instead of relying on the overhead lights.

Marsha described a hands-on classroom with opportunities to learn through auditory, visual, and kinesthetic methods. Marsha, who is a believer in Howard Gardner’s theory of multiple intelligences, also discussed building toward each child’s strengths. Although there is no research on this connection, it would seem that this type of philosophy would fit well for children of all temperaments. For example, she used centers on a daily basis that featured different ways of presenting the lessons (e.g., a listening center, an art center, a teacher-directed center, an independent work center).

Part of the routine of the classroom was to monitor student’s reading progress using a test called the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). Marsha’s desire to see every student grow academically was reflected in the emphasis she

placed on how students were performing according to their DIBELS data. Marsha emphasized in her field notes whether a student had a good DIBELS practice day. I observed Marsha to be very data driven when it came to DIBELS testing. Marsha often noted which students had made progress and/or if they had moved up to a higher reading group. She really wanted each and every student to grow academically and seemed to take great pride in those accomplishments. For example, she journaled about how Emily had written her name upside down in Kindergarten, but was now writing it the correct way. Marsha attributed this change to how Emily had grown comfortable with the classroom environment. This example highlights how a quality emotional interaction can lead to a quality instructional interaction. Even students who had additional learning needs performed well academically and made gains. For example, Marsha noted a few times how well her English Language Learners (ELL) students were performing academically. One specific comment was, “If all ELL kids could gain that much knowledge as mine have our CSAP [Colorado Student Assessment Program] would be out of this world”.

While I observed these accomplishments, I also observed the difficulties a few of the Kindergarten students had with a full day of school. Because Marsha believed so strongly in the importance of creating the right kind of learning environment, she also recognized when it wasn’t working for certain students. In particular, she thought she had failed at teaching kindergarten students who were slightly behind because she could not provide enough developmentally appropriate learning opportunities for them. She described this in detail to me:

“The K-1 split was extremely difficult. After I received him (Joseph), and then I have another little boy and then Lincoln. At that point, besides the other special

needs kids I have, who are already in my class, I think that they do better at half day. I think they have been cheated out of, more hands on, more one on one things. And so leaving me between two different classes was just too hard. Because when this whole thing came about, it was, I was going to teach the first graders and the high kindergartners so they were going to be but the bottom line was whoever was willing to pay. And I didn't know that until I came back in August. I probably wouldn't have agreed to it. And my teaching style for kindergarten is so different because of my hands on and different types of centers. That we did some of that in the beginning but then really we just separated because 1st grade took off and most of my kindergartners took off. But then a handful of little ones, they just weren't ready. And I'm very concerned about them for next year. Because they really didn't have that little opportunity to explore and to find out who they were in Kindergarten like normal, excuse me, before they go on to first grade. Now they are going to be thrown into first grade. [Whispers] What are they going to look like?"

When describing the students that she most worried about in the coming year, Marsha seemed to focus on those students in Kindergarten that we had identified as having difficult temperaments.

Overall Marsha was pleased with the way the Kindergarten students had moved up academically; however, she expressed disappointment in her behavior management. From our conversations, this is an area in which she usually prides herself. However, this past year, Marsha reported that she thought there were so many factors she could not control that she had not been as effective this year. She attributed a lot of the classroom problems to some of the Kindergarten students not being mature enough for all day school. She reflected on how she wished the whole year would have run as smooth as one particularly good day.

On that day, Marsha wrote that the class worked very well and didn't have any interruptions in the centers. She noted what a difference that made and how surprised she was that the class had been 'wonderful.' As a reward, she gave the class an extra-long

recess because she felt that they had earned it. This extra-long recess seemed to be appreciated by the students with both the easy and difficult temperaments, but may have been too long for the students with slow to warm temperaments. Toward the middle of the recess, a few of these students just stood by the wall waiting to line up and looking nervous. This example highlighted some of the efforts Marsha made to accommodate developmental needs and reinforce students for appropriate behaviors. It also provides an example of how difficult it can be to create an environment that works for children with different temperaments.

From Marsha's perspective, one of her most important roles as a teacher was to create the right kind of learning environment. Specifically, she saw it as critical that she develop a close relationship with each child. She wanted this relationship to be supportive and positive, but also communicate her belief in the child's ability to succeed. She integrated these beliefs into her interactions as well as the physical environment. Unfortunately, she also became aware as the year progressed that the environment was not enough to meet the needs of the different children.

Bumps in the road: Behavior issues. As with most classrooms in today's schools, behavioral concerns arose as a theme in this ethnography. According to Keogh (2003), temperament and behavior problems are best understood within an interactional model that takes into account characteristics of the child, the teacher, and the classroom. The first theme, (Touching a life: Creating a classroom environment), provided a glimpse into the classroom context and to some degree, elements of Marsha's style as a teacher.

This theme provides a deeper look into Marsha's beliefs about the behavioral issues in the classroom, her efforts to address them, and the role of student temperament in their behavior.

As noted, temperament affects behaviors in the classroom as well as how teachers respond to them (Keogh, 2003). Certain categories of temperament, predominantly those defined as "difficultness" may predispose a child to problems, but temperament and behavior are not one in the same. Marsha described her difficulty in knowing how to respond to one particular student. This student struggled with negative behaviors and also had been identified by Marsha as having a difficult temperament:

"Joseph is a very difficult child. I have not figured him out. I think there are other components to his life that we're not aware of. Mom's very secretive about some of the things. I mean, we just do not have smooth days. Never, I have not had one. He was at another school and he was transferred in October to me. I think he was getting into a lot of mischief and so they moved him [here]. I think he has a good heart. But I don't think he knows where he belongs. He interrupts all the time. He wants attention. He is very angry. I have seen him in the classroom and out at recess, [he] just does not have problem solving skills. His reaction is to punch you, kick you, and do whatever. He has been in in-school suspension due to the teacher that caught him outside at lunch recess. [She] said he was brawling; that it was a brawl."

This particular brawl was a topic that Marsha and I discussed in depth over several weeks as it appeared to really bother her. She was very surprised and disappointed that one of her students had been involved. Marsha discussed student behavior and the kinds of resulting rewards and consequences. For example, if a student completed all of the activities at centers without any misbehavior, he would receive a sticker. She also supported the use of behavior plans and explained why she believed they were so useful: "I can give them a behavior plan that they focus on. What I tell all my classes is we are all great people. It's the choices that we make that sometimes get us

into mischief.” Marsha tended to use the word “mischief” to describe behavioral difficulties. She didn’t elaborate on why she preferred this word. It is possible she found it to be a “softer” way of communicating that a student had challenging behaviors, or worse, behavioral problems.

Marsha often wrote behavior plans for those students who she believed got into “mischief.” She was very effective at writing behavior plans and appeared to follow them closely. Her plans always included the input of both parent and student and contained a visual on the student’s desk so that they can begin to self- monitor. Oftentimes, Marsha causally pointed to their behavior chart on their desk in order to redirect them. All of the students who received behavior plans during the school year were boys. It is not unusual for boys to have higher levels of activity and behavioral struggles. In fact, in their research on gender differences in temperament, behavioral problems, and social development, Sterry et al. (2010) found that regardless of gender, when students are first introduced to school they struggle with attentional focus and inhibiting activity. In particular, boys tended to be more active and struggle with school expectations for inhibiting activity in order to focus on school activities. This attentional focus impacted social behaviors differently for girls than boys. Girls’ attentional focus was linked to peer perceptions of isolation and sensitivity while boys’ attentional focus was correlated with leadership and prosocial behaviors. Marsha described a situation in which she noticed a difference between the boys and girls in the class:

The other thing is students that have silly behaviors, I notice little boys tend to want to be silly, even if [they are] going to get into trouble. They still want to [act silly] because [other] people are laughing [at them] and [they are] having fun.

She continued, and expanded her reflection to more broadly describe differences in students' abilities to be on task. She believed that students on task tended to have better social relationships in the class. Marsha described how she wanted to help those students that were not on task so that they too, can benefit from positive peer relationships.

Sterry et al. (2010) found similar results, concluding that a child's temperament first affects social behavior with peers, which in turn, affects acceptance or rejection of friendship. In particular, greater overall activity was related to peer reports of more aggressive behavior and less attentional focus and flexibility were reported with peer reports of sensitivity and isolation (Sterry et al., 2010). Beardan, Keane, and Calkins (2008) examined this phenomenon of social preference and temperament in pre-Kindergarten and Kindergarten children. They found that children who were more aggressive were less liked by their peers. Marsha's belief was that Joseph's behavior explained his lack of friends. I observed various times when Marsha tried to get the other students to play with Joseph and then other times I observed Marsha somewhat encouraging the others to avoid Joseph when he was acting up. During these latter times, it sometimes was a safety issue for the other students.

Marsha recognized that there were many reasons why the students in her class might struggle with behavior. On one hand, she knew that some came from difficult backgrounds and also lacked maturity. However, she also believed a major component to behavior problems was lack of respect. Throughout the school year, I observed Marsha

talking to students about respecting their elders. Most of the time, the students in the classroom were very respectful to any adult who entered the classroom. Marsha was very passionate about respect as she discussed her beliefs about its importance:

Maybe we don't know [why a student acts the way they do], but we're going to respect them. It's one of my classroom rules, is the respect. You respect me, you respect you, and you respect others. And we talk about the word respect. And we talk everyday about how to treat people. Because I think the number one problem we have in the United States is that people do not respect other people. For whatever reason. And some people would say, you've got to earn my respect. And you know what, I believe everyone has their levels of respect [and they] might be different. But you respect them.

Shwalb and Shwalb (2006) studied the cognitive, behavioral, and affective aspects involved as children learn the word respect. They concluded that a child cannot meaningfully interact with a word without sufficient information processing capabilities and those ideas tend to be introduced by a caregiver or mass media. Marsha attempted to teach her students about respect by first introducing the word and its definition; she then examples throughout the school year. I often observed her saying things like, "we need to respect our friends" and "I need your respect right now." Shwalb and Shwalb (2006) believed that examples are a good starting point, such as redirecting a child after he or she has interrupted a conversation. The behavioral piece of learning respect relates to the generalizability of the term (Shwalb & Shwalb, 2006). The child actively directs him or herself to find similar examples as well as opposites. Shwalb and Shwalb (2006) concluded that respect is related to behavioral regulation, which is an important concept in temperament. They believed that because of the affective significance caregivers place on respect, it is learned quickly. For example, the tone that is used to correct a child

when he or she has been disrespectful is typically memorable for the child. From my observations, Marsha typically did use a sharper tone when she needed to correct a student because she saw the behavior as disrespectful.

As discussed in this theme, Marsha's classroom was typical in that she was challenged by behavioral issues. From Marsha's perspective, the concerns were more significant than in any other year she had taught. She believed the significant difficulties were a result of the first year of the combined Kindergarten and first grade. When the students acted up, it was difficult for me to not step in and correct them. In fact, a few times Marsha asked that I speak to a student individually in my role as a school psychology intern. Overall, Marsha appeared displeased with the way the behavior issues continued throughout the entire school year.

The Devil is in the details: Routines and organization. The arrangement and structure of the environment and its activities are important to goodness of fit theory. The routines and organization of the school day allows some students to thrive because of the predictability and familiarity. Webster's universal English dictionary (2004, p. 246) defines routines as "procedures that are regular and unvarying". Marsha provided an honest perspective on the routine of her classroom during our first interview. She described how she liked that a typical day in the classroom changed from day to day and was never dull.

Marsha's view on classroom routine seemed to portray two perspectives. On one hand, she adhered to a rigid classroom schedule that was very routine in that each general class activity followed a set order and was predictable from day to day. For example,

reading, specials, lunch, and recess followed a set routine. Within this structure, Marsha recognized that there was still an unpredictable nature to the classroom because there were different things that came from the students each day.

As far as teacher directed changes, I only observed a few throughout the school year. One change that Marsha made fairly often was moving students to different seats within the classroom. Marsha believed a new seating arrangement gave students the opportunity to interact with different students. Toward the end of the year, her student teacher and teacher's assistant introduced two new elements to the classroom that seemed to be welcomed by the students. On one day, Marsha had taken time out of the routine for the students to make a cardboard castle. After it was built, students were able to play in it during free time. I journaled about these changes:

The castle that the students built a few weeks ago has added an interesting dynamic to the classroom. It was the student teacher's and teacher assistant's idea. Marsha seemed fine with the idea as well. The students love the castle. Anytime they get a free moment, they are attracted to it like magnets. I think in the beginning of the school year, Marsha changed things up more and made things a little more exciting when she could. I am happy that they built the castle because the students seemed to need a new change of scenery (outside of the constant desk arrangement changes, of course).

The second new element was a gumball machine. Students were able to earn a gumball as a reward for doing their homework. I recognized that I placed a lot of value on these types of changes because it seemed to motivate students.

Another nice addition to the last part of the school year has been the teacher assistant's gum ball machine that disperses Runts©. The teacher assistant said it is for the students that turn in their homework. The students love it and they are bringing more homework back because of it. I like how the teacher assistant tries to change things up and make it more interesting for the students. The

environment needs changes like that every once in a while, especially if the students get stuck in a routine where they are not motivated to turn their homework in and/or complete it.

Although the schedule of the day was set according to a time table, there was some flexibility when transitioning between activities within the classroom. Certain aspects of the day such as specials (e.g., art, music) and lunch were established according to the overall school schedule and the timing of these had to be followed more strictly in order to accommodate the other classrooms. Unfortunately, being late to these school activities was a common occurrence for Marsha's classroom. I often noted the days we were running late in my field notes as there were a variety of different reasons for the classroom's tardiness. Sometimes a student's behavior might delay the class, other times we were late for lunch because Marsha and the teacher assistant were gathering students' lunch bags or microwaving meals. Sometimes we were late transitioning because we were still cleaning up from the last activity. In general, it seemed like transitions required more time than what was allocated for them.

Marsha's level of organization seemed to change as the year progressed. Initially, she worked very hard with the students to help them learn the routine. It also seemed as if lessons were planned well in advance. Cameron, McDonald-Connor, Morrison, and Jewkes (2008) examined first grade classroom organization as it related to letter-word reading. They defined organization as "the amount of time teachers spend providing their students information about classroom events and instructional activities, including explaining purposes of the activities, procedures for their successful completion, and how to transition between and plan subsequent tasks" (Cameron et al., 2008, p.174). When teachers spent more time at the beginning of the school year on organization and then

sharply decrease this emphasis as the school year progresses, students performed higher on word reading skills than teachers who spent less time on organization initially and did not decrease throughout the school year (Cameron et al., 2008). In general, classroom organization predicted word reading growth. In many ways, Marsha followed this model in that she set up more organization at the beginning of the school year and then decreased her focus on organization as the school year went on.

Sometimes it appeared that organization was a bit of a struggle for Marsha herself. Although the routine was set, the organization within the activities and centers was sometimes lacking. After about the middle of the school year until the end, it seemed that Marsha just thought of things to do as the day progressed. As a result, sometimes we would not have supplies for a particular center or enough materials to go around for the activity. For example, one day I was facilitating a center and we were completing a worksheet. I had only been provided enough copies for 1/3 of the class. I journaled about this toward the middle of the school year:

The dynamics of the classroom are hard to explain. Sometimes there are not enough materials for all the students for all of the projects. Sometimes the centers are not timed correctly. Sometimes there are large periods of down time where there is nothing going on, but Marsha and the teacher assistant talking to each other, to the student teacher, or to me. The students get frustrated with this down time. They get bored. Sometimes it seems like activities are not planned out ahead of time. The groups are always decided (not randomly) by Marsha. Oftentimes the groups stayed the same. Sometimes the centers will stay the same for days at a time.

It seemed to me that the students with difficult temperaments got bored easily and did not like the same thing over and over again. The students with the slow-to-warm temperaments handled it a little better but did not seem to be as engaged. It is possible that some of the behavioral concerns noted in the previous theme were impacting the

classroom routine. Although not an everyday occurrence, on many days, behavioral issues interfered with the flow of instruction. Marsha may have started to “give up” on maintaining her ideal structure and routine. In turn, these “glitches” during the day (e.g., not enough materials, down time) contributed to the cycle of students becoming bored and misbehaving. Marsha’s organization appeared to decrease as the demands of the students behaviors increased.

Li (2006) researched the organization of Kindergarten classrooms in Hong Kong using qualitative methods. She found that teacher’s maintained discipline through routines and that students were given limited choices as teachers typically initiated the activities (Li, 2006). In fact, Li referred to the teachers as technical managers inside their classrooms. Similarly, Golden (2006) conducted an ethnography examining structure in an Israeli kindergarten. She discussed “structured looseness” in that there is flexibility in the structure to meet the needs of students. Golden held that the loose texture of daily life in Kindergarten as well as the family-like ethos are linked and together, lead to social order.

Marsha’s classroom organization demonstrated a family-like ethos in many ways. As noted in the first theme, she attempted to create a warm, homey environment. She also followed a model of “structured looseness” in that within her structure, she built in flexibility. Sometimes this looseness resulted from lack of planning, but other times it reflected her desire for change (e.g., moving students’ seats, incorporating new activities into the daily routine).

Marsha established a classroom routine that stayed consistent from day to day. Broadly speaking, the students in her classroom knew what to expect, how to move

through the centers, and which types of activities occurred in the morning and in the afternoon. Marsha noted that she enjoyed the day to day changes that came up within this routine and at times, seemed to follow the time schedule loosely. The routine and organization of the classroom became more relaxed as the year progressed. For some students who continued to need the structure or who were easily bored, this increasing “looseness” may have been difficult to manage.

Bringing it all together: Temperament and goodness of fit. Many factors are involved in the goodness of fit in classrooms. First, individual differences in temperament play a role (Keogh, 2003). During our conversations, I described the different temperament types and provided Marsha with a list of temperament characteristics. We assigned our perceived temperament type to each of the students in the class and the results of these discussions are presented in Table 3. In summary, among the 15 student participants all three temperament categories were represented. Marsha viewed approximately 60% of her students as having an easy temperament, a figure that is slightly higher than the estimate of 40% provided by Thomas and Chess (1977). She viewed about 20% of the students as slow to warm up and the other 20% as difficult. We did not always agree on a child’s temperament type. We discussed the differences that Marsha observed on a daily basis in the classroom versus what I saw just being there one day a week. Marsha reported struggling to achieve goodness of fit with Joseph, Andrew, and Lincoln, two of whom were viewed as having difficult temperaments. She believed that these students were not succeeding socially or emotionally in her classroom. However, academically, they appeared to be making gains. My observations supported these reports of goodness of fit from Marsha. A fourth

student, Charlotte, was also viewed as having a difficult temperament but she appeared more comfortable in the classroom being that she had had Marsha as a teacher in Kindergarten the previous year.

Table 3

Student Temperament Categories

Student	Grade	Teacher's view of Temperament Category	Researcher's view of Temperament Category
Andrew	Kindergarten	Difficult	Difficult
Brandon	Kindergarten	Easy	Easy
Heather	Kindergarten	Easy	Easy
Joseph	Kindergarten	Difficult	Difficult
Lincoln	Kindergarten	Slow to Warm Up	Easy
Maria	Kindergarten	Easy	Easy
Samantha	Kindergarten	Easy	Slow to Warm Up
Scott	Kindergarten	Easy	Slow to Warm Up
Alyssa	First Grade	Easy	Slow to Warm Up
Angie	First Grade	Easy	Easy
Beth	First Grade	Easy	Easy
Charlotte	First Grade	Difficult	Slow to Warm Up
Emily	First Grade	Easy	Easy
Katelyn	First Grade	Slow to Warm Up	Easy
Ricky	First Grade	Slow to Warm Up	Easy

In order to have goodness of fit, one must also look at the contextual factors for each student. These factors include the demands of the classroom, context of the

classroom, and teacher characteristics (Keogh, 2003). A poorness of fit can arise when any one of these factors does not connect for the child. Marsha reflected on both her temperament and her expectations of herself as a teacher in relation to two of the students mentioned above.

I'm very excited. I like what I do. I enjoy being there. I noticed this year, toward the end of the year, I have become more irritable with the same children I'm feeling that I've not really gotten them to the point that I want them to be, as far as socially or behaviorally. When you look at my DIBELS, academically, they're doing extremely well. But I haven't seen a few of them grow socially and emotionally. One of my big positives is the behavior modification. And there are two of them that I'm just not as patient with because I have not seen the response that I wanted. So that makes me look at myself, what do I need to do? To look at, redefine techniques, what am I going to do next year? Why didn't these work? Those types of things. I am a very easy-going type of person, but I feel bad for not fixing. I always, I don't look at myself as a teacher, I look at myself as a, I'm going to fix them, I'm going to fix their problems. And they're going to be better. This year, I haven't seen that like I wanted to.

Marsha placed a great deal of responsibility on herself to help students make positive growth. She wanted to see them grow academically, socially, behaviorally, and emotionally. If a student was lacking in one of these areas, she saw it as her role to "fix" that issue. Toward the end of the school year, it seemed that Marsha was starting to let go of the thought that it was totally up to her to change the students' behaviors. Instead, she seemed to recognize that there were multiple factors impacting these students and her efforts in the classroom were only part of the picture. She seemed to focus on those parts that were working (e.g., academic growth), and to have somewhat "given up" on the

social emotional aspects. When asked whether the difficulties she had with the two students (i.e., Joseph and Andrew) was a personality clash or difference in temperaments, Marsha responded:

Honestly, I believe there are circumstances outside of my control. Both parents have not been up and up. It's almost like they are embarrassed or if you tell me what's up and up I can figure out, then we can go down this avenue but with the information that they've given me, I've done those types of techniques. And it worked for a small amount of times, and then it doesn't work. So I think every time things change at home and I'm not aware of it, I think it's a huge issue for me in how I approach them. So if I'm still approaching them in the same manner and something changes, it's probably just setting them off in different ways. Because if we have a good day, I mean they're really pleasing, they want to come to school. One of my students who we had such a difficult time with they actually told the administration I don't want to pull him out because academically he's doing a great job. He's learning more than I ever thought he would learn. So, I don't know.

It seemed that Marsha's own temperament and her classroom organization and routines were best suited to reaching students who either had easy or slow to warm temperaments. As might be expected, students with easy temperaments tend to thrive regardless of the setting. She made special efforts to reach out to those students who were more withdrawn and the "homey" nature of her classroom helped to draw them out. As an example of her efforts, she described how she helped a student with a slow-to-warm up temperament:

One thing that I do is ask what their likes are. For example, I had a child like that at the beginning of the year and so I called Mom at home and I said we need to make this transition easy. I wasn't able to test her because she would not let go of Grandma and she was crying. Mom said she really likes teddy bears and she likes books, things like that. So when she came to school the first day on everybody's desk I had different types of books and things. And I had pillows and hers had a teddy bear on it. That type of thing. So you really try to find out what, and you have to get the parents involved so you can find out what is it that they are interested in. And you want their feedback so you can better teach their kids.

Like many teachers, Marsha seemed to focus on the students with whom she had not been successful, rather than her accomplishments with other students. A major challenge was teaching to both grade levels at the same time. I could tell in several different ways that this was difficult for Marsha. She really took it upon herself to provide for both grades and to make sure they were developing in the way they should. At the end of the study, during the last interview, Marsha described how she worried for the Kindergarten students moving on to first grade. She felt that of the two grades, she had struggled with the most with them. Marsha was much more confident about the first grade students moving on to second grade. She mentioned how she believed these students were actually further along academically than the first grade students in the other classes. She might have felt this way because she was able to teach them for two years instead of just one. As Marsha reflected on returning to teach the Kindergarten/1st grade classroom in the next school year, she replied, "In a way I feel like I've failed. I would like to do it again just to prove that I can do it." As evident from the quote above, Marsha felt like the school year had been a failure. In fact, Marsha did not return the following year and left the district to teach in another school.

Aspects of Marsha's temperament played a role in how students displayed goodness or poorness of fit in her classroom. In general, Marsha set up her classroom environment to match her easy going and cheery nature. The routine and organization of her classroom also seemed to parallel her easy temperament. This type of environment seemed to match well with those students who had easy temperaments. For students with slow to warm temperaments, Marsha was able to make adjustments in the environment to try to develop goodness of fit. She contacted their parents for ideas, incorporated their

interests into her classroom routine, and created spaces that were considered soothing or comforting. As the year progressed, many of these “slow to warm up” students seemed to open up in the classroom. I observed these students raising their hands more often to answer questions and ask for help. From the middle of the school year on, they also became more outgoing in their play, independently seeking others to be their partners, and taking more risks on the playground. In addition to these observations, Marsha reported that these students were progressing academically.

The behavioral issues that arose came mainly from those students with difficult temperaments and in general, may have reflected a poorness of fit between Marsha’s temperament and the students. For example, when Marsha’s structure was loose, these students were more likely to engage in misbehavior. Teglasi (2006) discussed how temperament can have direct outcomes and that responses by teachers to a child’s emotions may have a significant influence on how students go about regulating their emotions in the future. She recommended interventions such as removing the stressor, normalizing the emotions, and giving the student an “out” such as a time out. Marsha utilized these strategies occasionally but was not always consistent (i.e., sometimes she gave a time out and other times she ignored the same misbehavior). I believe Marsha noticed the poorness of fit she had with some of the students before the middle of the school year. She tried to adjust to them by building a relationship with them by spending more one-on-one time with them. She also referred them to the counselor for support.

The students in the classroom with a difficult temperament also seemed to affect other students in class, particularly those students with slow to warm temperaments. For example, one day when Andrew was acting up I observed Alyssa looking anxious and

she appeared to want to leave the classroom. Another example was when we lined up to go somewhere. I could see the students with slow to warm temperaments subtly move themselves away from a student with a difficult temperament. When a student with a difficult temperament was at my center, I observed the students at the center who had easy temperaments seemed to be able to ignore any misbehavior that occurred while the students with slow to warm temperaments seemed to be distracted by the behavior.

Developing peer relationships is very important in early childhood education. In their review of the literature, Raver et al. (2007) noted that children who handle emotions in an antisocial way struggle when building positive relationships with peers. During my observations at the center, I watched this dynamic play out as other students either ignored or became anxious around a student who had a difficult temperament.

Marsha's goodness of fit with the majority of students in her classroom remained steady throughout the school year. On the other hand, her goodness of fit with students identified as having difficult temperaments had a more cyclical reaction. As Marsha wasn't able to reach certain students, she seemed to become discouraged and in some ways, gave up. In turn, as she felt less successful, she became a bit more impatient and this may have then contributed to more behavioral issues. As the misbehavior increased, Marsha pulled away even more and at the end of the school year, reported feeling as if she had failed. This demonstrates the reciprocal reaction of temperament as it affected Marsha and changed her behavior as well.

Interpretation: A Day in the Life

The findings from the description and analysis suggested overarching themes related to the classroom setting, organizations and routine, behavioral issues, and the fit

between a teacher and her students. These different themes create a general picture, but how can we apply this information to classrooms? A goal in qualitative research is to focus on the particulars in order to understand and gain insight about a topic, in this case, temperament and goodness of fit. The next section includes an interpretation of the data through an example of a typical day in the Kindergarten/1st grade combined classroom based on my field notes and journal.

When I arrived to the classroom at 8:00, I was greeted by Marsha and the teacher assistant. We made some small talk before the students arrived at 8:05. They hung up their bags and took their seats. I noticed that the seating arrangement was the same today. Currently, there are behavior charts posted at the assigned seats for Andrew, Joseph, Lincoln, and another student. It was loud with the bustle of students as they were getting situated for the day. I smiled at the students as they found their way to the rug. Andrew greeted me with a loud, “Hi Mrs. Martin!” As noted, Andrew was considered to have a “difficult” temperament. However, he seemed to be in a good mood this morning. Marsha’s classroom organization and emphasis on structure appears to be paying off as students were able to get their things put away with a minimal amount of fuss.

Ms. Marsha took attendance and began singing the Grumpy Brush song, “Grumpies, Grumpies, go away, Grumpies, Grumpies, not today; we’re going to have a good day!” During this time, she walked around with a powder puff brush and brushed each of the children’s noses. The children giggled when she got to them. The teacher assistant (TA) came over to me and whispered that Andrew had had a difficult morning lining up. I was surprised to hear this given his happy greeting to

me. The TA noted that she was going to keep an eye on him during breakfast to “make sure” that his attitude didn’t continue. She noted that yesterday he had been rude to Ms. Marsha, but didn’t have time to elaborate as she got the Kindergartners lined up at the door to go to breakfast.

Today, I went with her to breakfast with the students as I was curious to see how Andrew was going to act. We quietly walked down the hall to the cafeteria. Things started to get more interesting as each child went through the line to get their breakfast. There were a lot of conversations going on among the students. I could hear Joseph saying that he didn’t like the French toast that the cafeteria staff was trying to serve him. There were a lot of near spills as the children tried to coordinate talking and moving with a filled tray at the same time. Once we were all seated at the tables, the majority of the students began eating, except for Andrew. He began talking loudly to another student and did not get started on his breakfast. The teacher assistant was there in an instant, “Andrew, get started eating. We only have a few minutes before we need to be back in class.” Andrew responded, “I am! I am!” and began eating his orange. Once the teacher assistant seemed satisfied with his behavior, she began a conversation with me about a motorcycle ride she had taken last night. We talked for a few minutes, until we both noticed that the volume level of the class was getting too loud. She said in a very loud voice, “Keep it down Kindergartners! It is almost time to go back to the classroom.” A few of the girls were already finished and looking at her in a questioning way. She said, “Are you girls sure you ate enough?” When they nodded, she told them they could be excused to empty their trays and to line up.

As soon as the girls started lining up, I noticed that some of the boys seemed to be rushing to eat their breakfast with the exception of Andrew. He still had quite a bit of food to eat and even though he was aware of that, he seemed intent on watching his peers. The teacher assistant said, "Hurry it up, Andrew." Andrew said, "I'm trying!" in a shrill voice. Then he started laughing. The teacher assistant said, "It's not funny, Andrew. We need to go. Go dump your tray and line up." Andrew eventually did but by the time he joined the class he was last student in the line. He yelled, "I don't want to be last!" The teacher assistant explained to him that it was his behavior at breakfast that caused him to be last. Andrew stared at her blankly. I could tell he did not understand the connection. While we walked down the hall, he hummed loudly and ran his hands along the walls. For Andrew, it already appeared that it was going to be a tough day. His pacing appears to be "out of sync" with the expectations for a quick breakfast and return to class.

Later in the day, we began centers. The centers for the day included a book and listen along, a writing letters worksheet, a story book worksheet, matching opposites worksheet, and puzzles. I assumed my location in the classroom at the center table near the door. My center was the opposites worksheets in which students were to draw lines from the pictures that were opposites, such as up and down arrows. My first group of students went pretty smoothly. Marsha set the timer for 10 minutes. When it rang, my first group of students went over to Marsha's center, which was a worksheet on writing the letters of the alphabet. My second group went well until the timer rang. One of the students in my group, Scott, did not want to leave my center as he was still working on his worksheet. I told him to just go ahead and hand in

what he had completed to the Scooby box on top of the bookshelf. (The Scooby box is a wire file box with a picture of Scooby taped to it.) Marsha had established this box as a place where students could put their worksheets before they moved to the next center. Scott looked close to tears and told me “No.” I said, “Scott, it’s okay. Ms. Marsha knows that you tried your best. Perhaps you will have time later to finish.” He crossed his arms and again refused to leave the center. I glanced over at Marsha hoping for some help. She had already started with her new group (the remaining members of my previous group). My new group sat themselves around Scott. As I was thinking over my next steps, Scott continued working on his worksheet. I decided to let him. With one more glance at Marsha, I began the instructions for the new group.

In no time at all, I heard Marsha state in a loud voice, “Scott, you are missing this entire worksheet over here. It is important. It is working on your letters.” Scott burst into tears, took his opposites worksheet and plopped into the seat at his desk in the middle of the classroom. Marsha shrugged at me and continued with her group. I took her lead and continued with my group. When I glanced back over at Scott, he had his head on the table. Scott’s struggled with transitions and moving from center to center before he was finished with a task was difficult for him. He tended to over react to everyday changes in the classroom. As shown on this day, Marsha usually chose to ignore his behavior.

When the timer beeped, Marsha announced that the students needed to line up for recess. All of the students moved around in different directions. Some went to turn in their worksheets while others ran to get their coats. I noticed Samantha trying to

hurry and finish a puzzle before leaving that center. I watched as Scott jumped out of his chair and walked to his cubby. He put his opposite's worksheet into his cubby. Then he walked to get his coat. By the time he lined up, he was smiling and talking with some of the other boys.

The above "day in the life" was based on an actual part of a day described in my field notes and journal. Overall, this was a very typical day and showcased some of the students' temperaments. The students with difficult and slow to warm temperaments tended to stand out in terms of their behaviors during my observations. In this sample day, I described an interaction between Andrew and the student teacher in which he had frequent reminders about his behavior and his compliance was a bit sporadic. This type of interaction was quite typical of his interactions with Marsha as well. When Andrew was struggling behaviorally, one negative event would lead to another, and another, and effect his entire day. Another important thing to note is how Andrew greeted me in the morning. He was a student who really seemed to crave attention from the people in his environment.

This brief example also highlights how children with different temperaments shape the behaviors of adults. For example, the teacher's aide was "ready" for Andrew's misbehavior and often reprimanded him. Both Marsha and I learned to ignore Scott's strong reactions or attempt to soothe him in an effort to prevent one of his "meltdowns." The example also showed that, the majority of the class functioned well even during transitioning among the centers in the class. Once students learned their routine, they moved from one activity to another, which is characteristic of students with easy temperaments.

Self as Researcher

My transition to becoming a classroom ethnographer required a lot of growing and learning. Throughout the process, there were many ups and downs. At the beginning of this study, I felt like somewhat of an outsider in the classroom. I was someone who was not there daily, so at first, my presence seemed a little unnatural and somewhat forced. By the middle of the school year, I was more of a member of the class and viewed by other staff as a part of the classroom in some capacity.

I reflected on my own temperament and how it might have affected the dynamics of the classroom. Being a slow to warm person, I noticed subtle differences in how I approached the students versus the other adults in the room (i.e., the teacher, teacher's aide, or teacher in training). For example, as a slow to warm person; I believed I was able to relate more to the students who were also slow to warm. There were times we began new tasks in centers and if the instructions were not clear, I emphasized with the students who struggled. I think being slow to warm, I was also more comfortable in the beginning observing than participating. A researcher with an easy temperament may have been more outgoing in their participation efforts.

One of the most difficult tasks was when I needed to ask for additional data sources from Marsha. For example, I frequently found myself asking Marsha if she had any field notes for me. I was torn between empathizing with her lack of time and my desire to complete this study. I knew that she was overloaded, but as the researcher I had to figure out a way to make it work. Ultimately, we were able to compromise and agree on a structured field note.

Conclusion

For an entire school year, I observed a Kindergarten/1st grade combination classroom one day per week to develop a better understanding of the interaction between classroom environment, teacher characteristics, and student temperament. My goal was to use description, analysis, and interpretation to understand how “goodness of fit” developed within a classroom setting. The ecological characteristics that seemed to contribute to goodness of fit for the majority of the students included a bright, positive classroom, demands within a student’s ability, and an established relationship with the teacher. The teacher’s temperament also seemed to affect the classroom dynamics. Just as I felt more empathy for those students who were viewed as slow to warm up, Marsha seemed to relate to those students with a similar temperament to her own (i.e., easy). Her style of teaching was outgoing and interesting.

An unexpected finding was the degree to which the temperament of certain students seemed to affect the classroom dynamics, adult behavior, and the other students. In particular, students with slow to warm temperaments seemed most affected by misbehavior of students with difficult temperaments. Goodness of fit was observed in the classroom for the students with easy temperaments who seemed to match with Marsha’s own temperament and teaching style. Marsha’s efforts at creating a welcoming environment also tended to help the students with slow to warm temperaments to find their fit within the classroom. Unfortunately, for the students identified as having difficult temperaments, their behaviors and mismatch with teacher expectations created a kind of reciprocal relationship which resulted in a growing tension between themselves and others.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Temperament and goodness of fit are important in describing children's behavior. Previous research has documented the correlation between difficult temperament patterns and behavioral educational problems (Keogh, 2003). Conversely, when temperament characteristics match the demands of the environment, goodness of fit emerges and children thrive. The purpose of this study was to document through ethnographic research what temperament and goodness of fit look like in a natural environment. A full and rich portrait of events, experiences, and perceptions was produced when relationships and themes were explored in a broader, more open-ended way. Through this research, four broad questions were addressed.

My overarching question was, "How does goodness of fit appear in a Kindergarten/1st grade combined classroom?" How do we know when there is a good fit? A bad fit? What does that look like in the day to day functioning of a classroom? Despite the simplicity of this question, it turned out to be especially difficult to answer because there are so many factors other than temperament that play a role in how a teacher and a student find a "fit" with one another. In many ways, it appears relatively easy for a teacher to establish "goodness of fit" with students whose temperaments are considered to be "easy." Many of the elements of good teaching, such as setting up a good structure from the first day, making expectations clear, and establishing a relationship with students seem to create a good match for the majority of students. As

Wong and Wong (2004) noted, teacher expectations will greatly influence the students' achievement not only in class, but also in life. In this classroom, the teacher's high expectations for academic achievement were met, although this was not true for her behavioral expectations. She had felt that in previous years she had met her high behavioral expectations.

For students whose temperaments appear to be more difficult or slow to warm, the process is more difficult. For the students who are slower to warm up, more effort is required of the teacher. Reaching out to the parents, taking the extra effort to create a comfortable environment, and incorporating "homey" touches to the classroom can help these students to emerge and find their place in the classroom. Unfortunately, for that small number of students who would be described as having a difficult temperament, the challenge is great. In fact, "poorness of fit" would be the best way to describe Marsha's relationship with two of the three students identified as having difficult temperaments. In fact, Marsha reflected on her dilemma quite well when she noted that the very strategies she used to connect with her "easy" students and to engage her slow to warm up students, caused her "difficult" students to get very excited and energized. They then had a hard time calming themselves enough to participate and follow classroom rules.

There are a number of minor accommodations that a teacher can integrate into classroom routine to help meet the needs of students with different types of temperaments. For example, Marsha helped students calm down by allowing them to listen to a soothing tape instead of doing the class activity. Other times, Marsha allowed slow-to-warm students additional time to complete tasks. When Marsha intervened in this way, there was a balance between each child's temperament and the demands of the

environment. Sometimes these strategies worked and students were able to find their place in the classroom. Unfortunately, this was not always possible due to the broader demands of the system or the learning needs of the other students. When this mismatch occurred, the misbehaviors increased and the goodness of fit deteriorated even more, leaving both teacher and student somewhat defeated.

Just as the teacher's temperament affects the classroom, so do the temperaments of the other children. Even though there were a small percentage of students with difficult temperaments, their impact was phenomenal. Marsha mentioned at various times how other students became uncomfortable and/or upset when another student was having difficulties. Children appeared to have a strong reaction to other children's temperaments. One of the most notable ways this was observed was through their avoidance or lack of interactions with more difficult students. The slow to warm students in Marsha's class seemed most affected, and seemed to become visibly stressed or upset by some of the behavioral outbursts. Jackson (2009) found similar results in her qualitative study and noted that a source of students stress arises from situations where a teacher needs to tend to a student having a difficult time behaviorally. Students who are considered more aggressive struggle to achieve social relationships (Beardan et al., 2008). Similarly, Sterry et al. (2010) reviewed friendships based on a child's temperament. In particular, the temperament characteristics of general activity, flexibility-rigidity, and attentional focus were found to be of utmost importance in social behaviors. The characteristics of attentional focus and flexibility aided in developing relationships while over activity and rigidity hindered developing the relationships. The students in Marsha's class who were identified as having difficult temperaments tended

to be more rigid rather than flexible and struggled with attention and focus. In terms of activity level, it is possible that there are gender differences. For example, although Charlotte was considered to have a difficult temperament, she did not seem to be more active than other students. On the other hand, both Andrew and Joseph definitely appeared to have a higher activity level than others.

There are many factors that affect the goodness of fit in the classroom. In this study, teacher temperament was especially important because Marsha had such an outgoing, dynamic temperament. She believed that her positive approach to each day, the color of her classroom, and the degree to which she believed in each student could change them to be successful, confident students. Keogh (2003) concluded that a teacher decisions are influenced by a number of things, including their temperament, personality, and beliefs about what students should be like, as well as individual characteristics of the child or group of children. In the end, teachers must make decisions based on the needs of the entire group. As Seifer (2000) concluded, teacher expectations are for the general class and not individuals. With such a large class, Marsha often made her decisions based on what would be best for the whole group. As noted, Marsha's easy temperament and outgoing personality often made instruction upbeat and exciting, but may have been over stimulating for those with slow to warm up and easy temperaments. Misbehavior in the classroom may have reflected a poorness of fit between Marsha's temperament and the students. It also appeared that the poorness of fit became more pronounced as the school year progressed.

Finally, I wondered at the degree to which the ecological characteristics of a school or classroom contributed to goodness of fit Kindergarten. The themes that

emerged from this ethnography captured some of the ecological characteristics that are important to goodness of fit. They included setting up a positive learning environment that had a specific routine with opportunities for individual or small group interactions. Marsha's classroom was bright, colorful, and stimulating. She began every day with a positive song and had visual reminders in the classroom for students to stay focused on trying their best. The learning environment provided a good fit for those students with easy temperaments, a somewhat good fit for those with slow-to-warm temperaments, but may have been stressful or overstimulating for those students with more difficult temperaments.

Researchers Curby et al. (2010) emphasized the relationship between quality emotional interactions and organizational interactions that teachers have with their students. Emotional support and classroom organization are positively related over time. In Marsha's classroom, it appeared that a relaxed organization of the classroom worked well for those students with easy temperaments but not with students identified as slow-to-warm and difficult. The routines seemed to help all of the students achieve goodness of fit. On those days that the routine was changed, the majority of students were able to adjust. There were a few exceptions and those mostly included the students with difficult temperaments.

Limitations and Recommendations

As with any study, there were a number of limitations. For me, the greatest limitation was my ability to observe only one day a week. This restricted my opportunity to observe the students and teacher in different settings as well as to observe how a difficulty on one day might be resolved the next. Furthermore, I did not have a chance to

become a full member of the classroom; instead there was always a “special” quality to my presence because I did not become part of the classroom routine. Future researchers may choose to observe in the classroom more days per week in order to build a more rich and comprehensive description.

Although there were some definite advantages to studying a classroom in a school in which I was working such as understanding the overall context and the general ease in joining a classroom, there were also drawbacks. One of the greatest was the dual role in which I found myself. For example, there were times when the teacher wanted me to meet with a student who had challenging behaviors or to discuss issues with his or her parent. When this occurred, I realized that it affected my more neutral position as a researcher.

From a researcher’s stance, operating from one position would allow for a truer participant observer role. Although journaling helped me to focus on what I needed to as related to my research, I also sometimes felt like I was working two very different jobs in one day. At the end of my observation days, I sometimes felt confused, rushed, and somewhat overwhelmed. Not only did I need to take time to reflect on what I had observed, I also had to consider what I needed to carry out the next day as related to my school psychology intern position. At times, aspects of these two roles overlapped. For example, for the students who were struggling behaviorally in Marsha’s class, I might have to think about how I was going to provide consultation to her or how I might help set up a behavioral plan as part of my other role. I also had to think about how I would help provide special education services.

Journaling was an important tool for helping me to separate the two roles and focus on what was going on in Marsha's classroom. It allowed me to reflect on each day and move forward with what I was planning on observing next. Unfortunately, it was a challenge for me to remain in Marsha's classroom for an entire day. Office staff and other teachers knew where I was and sometimes interrupted so that I could address an issue (e.g., classroom problem), a crisis (e.g., difficult student), or simply answer a question. I was able to navigate this dual role when it came to other teachers and colleagues (e.g., speech language pathologists, school counselor), however it was difficult to turn down the principal when she made a request for my time on Thursdays.

A strength of this study was the completion of a full cycle; that is, I studied a classroom over the course of an entire academic year. This is important as the children grow so much and in so many ways from the beginning to the end. It was wonderful and informative to watch as their confidence, their skill, and personhood unfolded. Specifically, it was informative to watch the Kindergarten students with their first experience in formal schooling. In many ways, I believe the most information can be learned from this first year of school.

Furthermore, observing in a public school setting was especially beneficial. In this setting, teachers are asked to educate children with special learning needs, behavioral problems, gifted children, and those with emotional disabilities. In other words, public education challenges a teacher to address all aspects of a student's experience. As a result, it provides an excellent choice for studying temperament and classroom dynamics early on in the learning lifespan. Although generalizability is not typically an aspect of

qualitative research, it is likely that these findings would transfer to another public school more so than if this study had been carried out in a private school where children would be more similar to one another in terms of ability and background.

Implications

One of the most interesting aspects of this study was the degree to which a classroom focused on academic achievement helped all students to progress, no matter their temperament. Even those students who appeared to have a poorness of fit with the demands of the classroom, made academic progress in their respective grade (Kindergarten or 1st). In fact, for the most part the teacher was satisfied with the students' academic growth and tended to worry more about the continued behavioral challenges. The first grade students with a year of schooling succeeded well in moving ahead academically. The majority of Kindergarten students in the classroom also appeared to be ready for 1st grade and the full day that is a part of that experience. However, there were three Kindergarten students who did not appear to have the readiness for whole school days. Halfway through the school year, two of them were allowed to leave earlier in the day. Although it is unknown, it was expected that in the following year and with more maturation, they would be able to tolerate a full day of 1st grade.

Previous research has found that students with difficult temperaments or slow to warm up temperaments may be at greater risk for aggression and anxiety disorder, respectively. It is difficult to speculate based on the findings from this study on relationship between temperament and future psychopathology. The children are so young and have many more years of schooling in front of them. However, there are early

indicators of poorness of fit that may or may not continue as the students enter new grades with different teachers. Further, other students had started to avoid them and peer rejection is also associated with poorer outcomes.

As mentioned in the literature review, matching expectations and behavior can be helpful in establishing a goodness of fit in the classroom. Age, gender, and the temperament dimensions of attention span-distractibility, rhythmicity, general activity level, and mood were important and relevant predictors of children's adjustment. Understanding these factors can help professionals promote a successful initial experience for students within the educational system. Many factors can affect goodness of fit, some of which are not within the teacher's control. For example, teachers are typically powerless over the district's reading curriculum, the number of students the classroom, or the overall scheduling of day (Keogh, 2003).

However, there are some elements that are within the teacher's control. Keogh (2003) suggested three general strategies for anticipating and intervening with students with various temperaments: (a) know thyself; (b) anticipate problems; and (c) intervene when necessary. In order to try to understand goodness of fit with students, teachers can do some delving into what they know about themselves. A good way to handle the day to day differences is to anticipate problems. As Marsha had mentioned, every day is different in a Kindergarten or first grade classroom. It is important to use observations to identify trouble spots and times (Keogh, 2003). Lastly, teachers should intervene when necessary. By establishing consistencies in routines and expectations, teachers can set up mechanisms within the classroom to help students succeed. However, even with great planning, there will be times in which the teacher will need to intervene before problems

escalate (Keogh, 2003). Keeping the student's temperament type in mind, teachers can approach students in an appropriate manner. For example, when working with a slow-to-warm-up student, it may be necessary to just lightly encourage the student to take risks or to join other students.

The findings of this study may be useful for future teacher pre-service and in-service trainings. For example, teachers could explore their own temperament category (e.g., difficult, easy, slow to warm) and their beliefs about how this might affect their classroom structure, relationships with students, and tolerance for students who have temperaments that differ from their own. Further, they might explicitly consider the temperaments of their current students. Once they have identified these elements, they could focus on goodness of fit and brainstorm ways to change the environment to create a better match. Questions they could ask themselves are: "Am I teaching to the group as a whole as if all the students have the same temperament?" "Am I modifying the way I communicate to students of different temperaments than my own?" "What changes could I make to my instruction style that would build goodness of fit with all of my students?"

Goodness of fit extends beyond the classroom teacher to other adults within the school. School staff might also explore the best ways for children of different temperaments to get along in other settings including specials, lunchroom, and cafeteria. Within the classroom, students might benefit from learning about themselves and others and/or mixing up groups of students during center time. Another idea might be for new teachers to participate in temperament training to prepare them for the upcoming school year. A greater level of preparation may help to mediate the temperament characteristics of their students.

Another way school staff could use this information from this study is to develop ways that teachers discuss temperament with parents. Sometimes a parent may see his or her child as having a different temperament than what the teacher thinks. In these cases, it is helpful to communicate with parents about their child's temperament and goodness of fit at home. By having this discussion with parents, teachers and families can work together to brainstorm ideas about how to help students feel comfortable at school.

Occasionally, teachers may have poorness of fit issues in the form of teacher-student or student-student difficulties that cannot be resolved alone. In these cases, a school staff member outside of the classroom may be able to provide insight. For example, a school psychologist who has training in temperament and personality may be able to provide insight and suggestions on the source of the conflict and strategies for addressing, before the teacher begins to feel "burned out" and defeated by a particular student. The school psychologist can provide specific environmental changes that could be implemented to increase goodness of fit. The school psychologist may also be able to help the teacher reflect on ways to modify the instruction delivery or intervention strategies for children who have difficult and slow to warm temperaments. For example, the school psychologist would consult with the teacher in writing an individualized behavior plan. The school psychologist could also work with the student to self-regulate his or her own behavior. Increasing student's awareness of their temperament may help them manage their behavior.

At the broadest levels, school psychologists could utilize this information in consulting with administration. For example, working with the principal and other teachers, the school psychologist might help with classroom assignments for the

following year. Information from this study might help school psychologists and teachers predict which students will do better based on their temperament than that of the teacher.

Conclusion

This study focused on temperament characteristics and the environment of a Kindergarten/1st grade combined classroom. Some of the expected findings were the degree to which aspects of “good” teaching contributed to a classroom environment that supported the majority of learner needs. An unexpected finding was the degree to which students with difficult temperaments could impact a teacher’s perceptions of herself and her skill as a teacher. It is difficult to determine whether it was the students themselves, or the combination of having a combined classroom that contributed to the teacher’s sense of frustration. Future research should continue to study these areas. According to Martin (1994a), environments can be designed that are consistent with a child’s needs. By understanding goodness of fit, school psychologists are better able to consult with teachers to help develop accommodations and modify practices to adapt their strategies to meet the needs of students, regardless of their temperament.

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APPENDIX A
TEACHER FIELD NOTE STRUCTURED FORM

Teacher Field Note

Date:

1. List the activities that the class did today:
2. What students stood out for you today and why?
3. What two students do you think worked really well together:
4. What two students do you think had a hard time working together:
5. What surprised you most and why:
6. Personal thoughts on the week:

APPENDIX B**IRB**

June 3, 2005

TO: Nancy White
Nursing

FROM: Maria Lahman, Co-Chair *ML*
UNC Institutional Review Board

RE: Expedited Review of Proposal, *An Ethnography of Kindergarten Temperament and Goodness of Fit in the Classroom*, submitted by Tiffani S. Martin (Research Advisor: Michelle Athanasiou)

First Consultant: The above proposal is being submitted to you for an expedited review. Please review the proposal in light of the Committee's charge and direct requests for changes directly to the researcher or researcher's advisor. If you have any unresolved concerns, please contact Maria Lahman, ASRM (x1603). When you are ready to recommend approval, sign this form and return to me.

I recommend approval as is.

Nancy White
Signature of First Consultant

8/3/05
Date

The above referenced prospectus has been reviewed for compliance with HHS guidelines for ethical principles in human subjects research. The decision of the Institutional Review Board is that the project is approved as proposed for a period of one year: *MD* to *8/17/05*

8/17/05 to *8/17/06*

ML
Maria Lahman, Co-Chair

8/17/05
Date

Comments:

UNIVERSITY of
NORTHERN COLORADO



APPENDIX C
CONSENT FORMS

Informed Consent for Participation in Research

University of Northern Colorado

Project Title: Early Childhood Temperament and Goodness-of-Fit in the Classroom

Researcher: Tiffani Martin, B.A., Department of School Psychology

Phone Number: (970) 339-5543

Research Advisor: Michelle Athanasiou, Ph.D., Department of School Psychology

Phone Number: (970) 351-2356

With the help of my advisor, Dr. Michelle Athanasiou, I am researching young children's temperament and the classroom environment. If you grant permission, I will begin the process of including you and your classroom in my study. Your role in the study will be that of primary participant. A large piece of the study will include observations in the classroom. I will participate and observe in the classroom for about eight hours a week for a full school year. These observations will be in an attempt to study classroom environment and children's temperament characteristics. You will be asked to write field notes on the days I am there. You are welcome to write field notes on other days as well. You will also be asked to journal each week about the study. Your total time spent writing field notes and journaling should be about two hours a week. I will provide an overview to you of the constructs temperament and goodness of fit. One more commitment to the research from you will be three one-hour interviews, one at the beginning of the school year, one in the middle, and one at the end.

I will be collecting artifacts (drawings, stories, artwork) from the students that specifically relate to temperament and/or goodness of fit. It is my hope that developing the artifacts will not be an organized activity but rather a spontaneous one as certain work is done. These artifacts will include a pseudonym rather than the student's name.

There are minimal risks involved in this study. During observations, your students will not be asked to do anything. In fact, I am hoping to just be able to observe a typical classroom day. One potential risk is the obtrusion of an observer in the classroom. This may cause discomfort for you and your students. Another potential risk is feeling uncomfortable describing your relationships with your students during the interviews. Confirmation that everything in the study will be held confidential will help alleviate some of these risks. As the teacher, you will be participating in data collection. This may be demanding of your time. In order to thank you for participating, a \$100 gift certificate for books will be given to you at the completion of the study. You and your school will also be provided with useful information gained from the study.

To help maintain confidentiality, computer files of children's temperament characteristics will be created and children's names will be replaced by pseudonyms. The same is true for the information I receive from you. The names of participants will not appear in any professional report of this research.

Please feel free to phone me if you have any questions or concerns about this research and please retain one copy of this letter for your records. Thank you for assisting me with my research.

Sincerely,

Participation is voluntary. You may decide not to participate in this study and if you do begin participation you may still decide to withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please sign below if you would like to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Sponsored Programs and Academic Research Center, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1907.

Teacher's Signature

Date

Researcher's Signature

Date

Informed Consent for Participation in Research

University of Northern Colorado

Project Title: Kindergarten Temperament and Goodness of Fit in the Classroom

Researcher: Tiffani Martin, B.A., Department of School Psychology

Phone Number: (970) 339-5543

Research Advisor: Michelle Athanasiou, Ph.D., Department of School Psychology

Phone Number: (970) 351-2356

With the help of my advisor, Dr. Michelle Athanasiou, I am researching kindergarten children's temperament and goodness of fit in the classroom. Temperament is generally defined as biologically rooted, individual differences in behavioral tendencies that are present early in life and are relatively stable across various situations and over time. Goodness of fit is the interaction that results when the properties of the environment and its expectations and demands are in accord with the child's own capacities, characteristics, and style of behaving. In order to study these concepts, I will be observing student behavior and how students interact in the classroom environment.

If you grant permission and if your child indicates to me a willingness to participate, I will begin the process of including your child in my study. The study will last the school year. During this time, I will be conducting observations one day a week. From these observations, I hope to collect information regarding temperament and the classroom environment. I may also participate in classroom activities, such as assisting the teacher and helping run small activity groups. I will also be collecting artifacts (drawings, stories, artwork) from the students that specifically relate to temperament and/or goodness of fit. These artifacts will include a pseudonym rather than the child's name.

There are minimal risks involved in this study. During observations, your child will not be asked to do anything. In fact, I am hoping to just be able to observe a typical classroom day. One potential risk is the obtrusion of an observer in the classroom. This may cause discomfort for the teacher and students. Confirmation that everything in the study will be held confidential may help alleviate this risk.

To help maintain confidentiality, computer files will be created and children's names will be replaced by pseudonyms. The names of participants will not appear in any professional report of this research.

Please feel free to phone me if you have any questions or concerns about this research and please retain one copy of this letter for your records.

Thank you for assisting me with my research.

Sincerely,

Participation is voluntary. You may decide not to allow your child to participate in this study and if (s)he begins participation you may still decide to withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please sign below if you would like to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Sponsored Programs and Academic Research Center, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1907.

Child's Full Name (please print)

Child's Birth Date (month/day/year)

Parent/Guardian's Signature

Date

Researcher's Signature

Date

APPENDIX D

RESEARCHER FIELD NOTE TEMPLATE

Field Note Template

Field Notes: Kindergarten/1st Grade Classroom

(Researcher’s Name)

(Date)

Field Note	Note To Self and Personal Thoughts

APPENDIX E
INTERVIEW TEMPLATES

Teacher Interview #1 Protocol

Project Title: An Ethnography of Early Childhood Temperament and Goodness of Fit in the Classroom

Time of interview:

Date:

Place:

Interviewer:

Interviewee:

Position of the interviewee:

1. How long have you been a kindergarten teacher?
2. How long have you been teaching at _____?
3. Tell me about your experience in becoming a teacher.
4. Tell me about your teacher training program.
5. Tell me what a typical day is like in your classroom.
6. What factors do you believe affect a child's learning environment?
7. How does a child's personality dictate his or her learning experience?
8. What types of personalities of children do you get along with best?
9. Worst?
10. Explain how a child's personality can affect their social relationships.
11. What do you believe is the most important part of a child's learning?
12. What do you believe is the best environment to learn?
13. How do students' behaviors affect other students?

Teacher Interview #2 Protocol

Project Title: An Ethnography of Early Childhood Temperament and Goodness of Fit in the Classroom

Time of interview:

Date:

Place:

Interviewer:

Interviewee:

Position of the interviewee:

1. I'm starting to see differences in friendships within the classroom. What students do you think have begun to form a friendship?
2. I'm noticing a lot of differences in temperament characteristics. Looking at three broad categories of temperament: easy, difficult, and slow to warm up, where do you think each student fits?
3. Do you think the children's different temperaments affect their social interactions?
4. How do you view your own temperament?
5. What temperament type do you think is easiest to work with and why?
6. What temperament type do you think is the most difficult to work with and why?
7. Where should the students be academically and socially at this point in the school year?

Teacher Interview #3 Protocol

Project Title: An Ethnography of Early Childhood Temperament and Goodness of Fit in the Classroom

Time of interview:

Date:

Place:

Interviewer:

Interviewee:

Position of the interviewee:

1. What students would you consider as leaders?
2. What students seem to adjust the fastest, the slowest?
3. Who do you think are the brave students in the classroom?
4. What do you believe is the best environment to learn?
5. What can a teacher do to help a child who is slow-to -warm up become more comfortable in the school setting?
6. How has my being in the classroom affected the class environment?

APPENDIX F
JOURNAL TEMPLATE

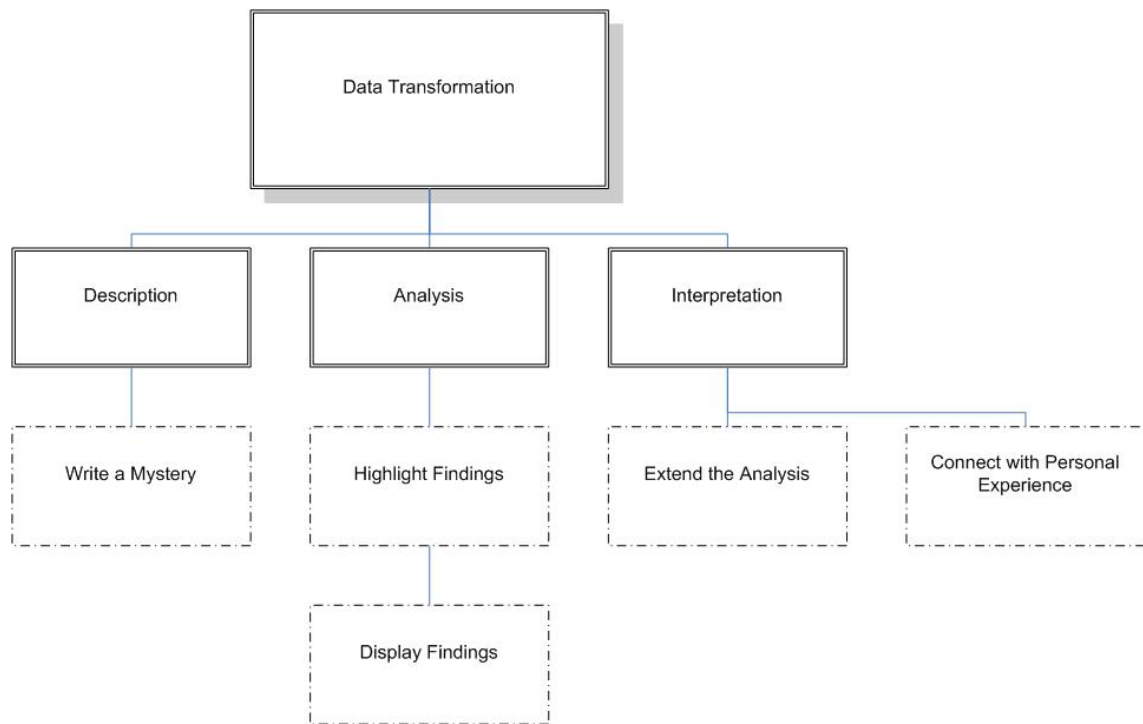
Journal Template

Weekly Reflections: Kindergarten/1st Grade Classroom

(Researcher's Name)

(Date)

APPENDIX G
DATA TRANSFORMATION



APPENDIX H
LETTER FROM MARSHA

To Whom It May Concern:

It has been a pleasure to have Mrs. Martin in my classroom. Her knowledge and guidance with young children was impressive. I believe Mrs. Martin will go on and benefit all children that she will work with.

I had a tough classroom of youngsters with social emotional situations out of their control. Mrs. Martin was always willing to lend an ear to help those students and myself at times, through the day. My classroom and our district were fortunate to have such a dedicated professional work with us.

The title Dr. Martin will be well deserved.

Sincerely,

Field advisor

APPENDIX I
INFORMATION LETTER AND SIGN UP
FOR KINDERGARTEN/1ST COMBINED CLASSROOM

All Day Kindergarten Pilot Program Information and Application

is offering all-day kindergarten on a tuition basis for the upcoming 2005-06 school year. This is a pilot program and tuition is being charged to pay for the additional half-day expenses of offering an all-day kindergarten program. The school calendar and starting and ending times will be identical to those for students in grades 1 to 5. Currently the State of Colorado only pays for half-day kindergarten so tuition will be used to cover the expenses of this all-day pilot program. The traditional half-day kindergarten will be continued, but parents may wish to apply for the all-day kindergarten program beginning this fall. District busing guidelines will apply.

Applications for this program are available at the elementary buildings and at the district office. Applications must be turned into the district office by April 29, 2005 and must include the one-time application fee of \$40. This fee will be refunded if there is not enough interest in the program or if the family moves out of the district prior to the start of classes in the fall.

Students will be placed on the accepted list of students once the application and fee are returned. The list will be on a first-come, first-served basis as there are a limited amount of spaces for this pilot program.

The fees for the program will be eight (8) payments of \$250 each payable over the school year. If a student qualifies for the reduced lunch program the fee will be eight (8) payments of \$175 each and if the student qualifies for a free lunch there will be eight (8) payments of \$125 each. The \$40 application fee applies to all students interested in the program. This fee will be refunded only if there is insufficient enrollment. For further information, please call the district office at

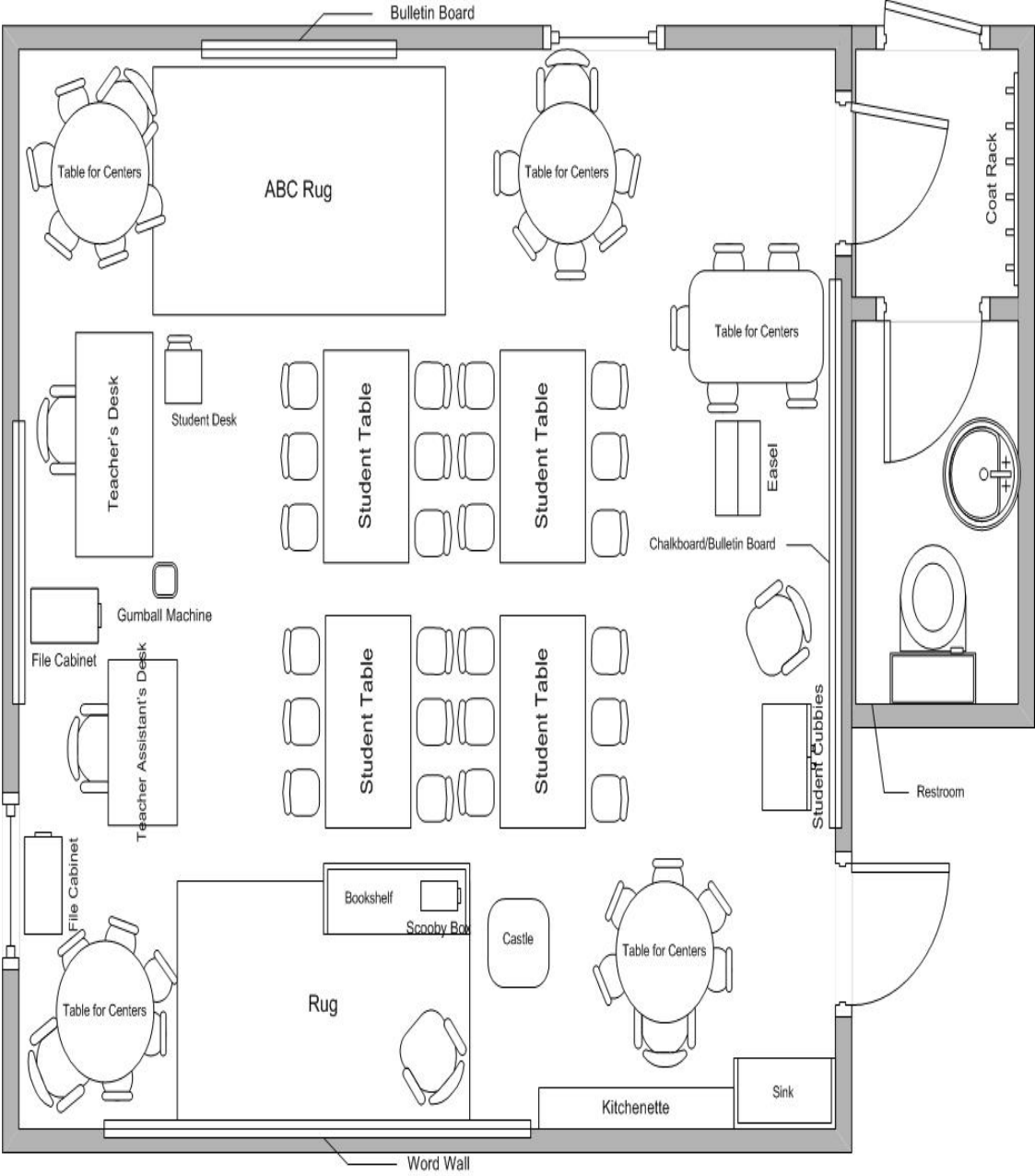
Completed applications and fee should be returned to _____ Elementary, Elementary or the District Administration Center by April 29, 2005. Student applications received after that date will be placed on a waiting list.

.....
School you wish to attend:

Date:		Office Use:	
Legal Name:		Birth Date:	
Physical Address:			
Parent/Guardian Names:		Home Phone #:	

Boy	Gender: Girl	Nickname:	Cell Phone #
Child lives with: Other: (specify) Father only Mother only Both Parents			
My child (above) will attend an all day kindergarten session. I agree to pay the tuition as specified above. I understand that my child will be moved to a half-day program if tuition payments are not made when due. I have attached the \$40 application fee.			
Parent signature:			

APPENDIX J
KINDERGARTEN/1ST GRADE CLASSROOM LAYOUT



APPENDIX K**ARTICLE**

Running head: AN ETHNOGRAPHY OF EARLY CHILDHOOD

An Ethnography of Early Childhood Temperament
and Goodness of Fit in the Classroom

Tiffani Martin

University of Northern Colorado

Abstract

A number of researchers have examined temperament as it relates to goodness of fit. Limited qualitative research however, has been conducted in this area. This study is a type of qualitative research called an ethnography with prolonged engagement occurring over a full cycle, one school year in a Kindergarten/1st grade combined classroom. The participants included the teacher and 15 of her students. The researcher's role in the classroom was that of a participant observer as she conducted observations in the natural setting and gathered information from a number of sources including researcher field notes, teacher field notes, three teacher interviews, artifacts, and a researcher's journal. Qualitative analysis is focused on extracting relevant themes. These themes included creating a learning environment, addressing behavioral challenges, establishing a routine and maintaining organization, and temperament and goodness of fit. An analysis of the themes revealed that the teacher seemed to be able to establish goodness of fit with those students who had a similar temperament to her own by setting up her classroom a certain way and presenting academic information in an exciting format. At various times, the teacher changed the environmental demands to meet those students with temperaments different from her own however, she continued to struggle to achieve goodness of fit with a few students with temperaments different than her own. A way that school psychologists may use this information is in consultation

with teachers to set up the classroom environment and demands to match a student's temperament. The results from this study may also be useful for educators when determining classroom placements.

An Ethnography of Early Childhood Temperament and Goodness of Fit in the Classroom

Temperament is generally defined as biologically based, individual differences in behavioral tendencies that are present early in life and are relatively stable across various situations and over time (Bates, 1989). Temperament is the “how” of behavior, not the “why” (motivation) or “what” (ability), and is dependent upon individual responses to external stimuli (Thomas & Chess, 1977). That is, it provides an indicator of how an individual will respond to his or her environment. It is believed that the concept of temperament can be traced back to the Greek and Roman era. The concept of individual differences continued with research leaders such as Galen and Kant (Thomas & Chess, 1977). It wasn’t until the early 1950s that Thomas and Chess coined the actual term “temperament”.

There are three different views of temperament: (a) behavioral style, (b) biobehavioral regulation, and (c) typology (Seifer, 2000). The behavioral style approach is dominated by the research of Thomas and Chess. Following their definition of the “how” of behavior, Thomas and Chess outlined nine characteristics of behavioral style: (a) activity level, (b) rhythmicity, (c) approach or withdrawal, (d) adaptability, (e) threshold of responsiveness, (f) intensity of reaction, (g) quality of mood, (h) distractibility, and (i) attention span and persistence (Chess & Thomas, 1996). Using levels from these characteristics, they defined easy, difficult, and slow to warm temperament categories. Thomas and Chess (1996) believed that these characteristics influenced the interactions between individuals and their environment.

The biobehavioral regulation approach focuses on the behavioral indicators of regulatory processes that are important for daily living (Seifer, 2000). This approach

examines environmental constraints that are operative when the behaviors are observed (Seifer, 2000). The specification of situational variables is what separates this approach from the behavioral style. For example, what rules are in place in the environment when certain behaviors occur?

The typology approach is a way of classifying temperament characteristics. Thomas and Chess (1996) classified individual children as difficult, easy, or slow-to-warm-up based on their nine characteristics described in the behavioral approach. Another prominent researcher in the area of temperament, Kagan (1994), added a category for individuals who display a distinct syndrome of extremely shy, inhibited behaviors in response to novel situations and are highly physiologically reactive to the novelty.

Regardless of the specific view of temperament, researchers in this area believed that different types of temperaments can predict social, emotional, and behavioral outcomes. For example, researchers have attempted to link temperament with a number of constructs including achievement, school readiness, school adjustment, and psychopathology (Keogh, 2003; Orth & Martin, 1994). The study of temperament and schooling began with the New York Longitudinal Study (NYLS) (Thomas, et al., 1963). Many researchers have since followed their lead. Based on NYLS study and subsequent research, it is clear that temperament affects educational adjustment and outcomes. For example, temperament is related to achievement (e.g., Coplan, Barber, & Lagace-Seguin, 1999, Keogh, 2003, Martin, 1989) in that students who are persistent and are distractible have better ratings in academic achievement. Within this achievement research, some have considered factors such as instruction, teachers, learning theory principles,

developmental concerns, and cultural issues and how these factors relate to student temperament (Horton & Oakland, 1997). The most popular method for studying temperament and achievement has been through the use of a questionnaire of student temperament and an achievement test. Based on this research, academic competence appears to be related to the temperament traits of persistence and approach/withdrawal (e.g., Bramlett, Scott, & Rowell, 2000, Palisin, 1986).

Temperament is also important to school readiness and adjustment, and may actually predict first grade readiness (Schoen, 1994). Older students, who tended to have lower activity levels, were able to regulate their emotions and take initiative in social situations more so than younger students (Mendez, McDermott, & Fantuzzo, 2002). These studies built on the earlier work of Skarpness and Carson (1987) who found that certain temperament characteristics were predictive of children's school adjustment. They narrowed these temperaments down to five characteristics: attention span, distractibility, rhythmicity, general activity level, and mood.

Recently, researchers have examined how temperament relates to risks for psychopathology (Frick, 2004). Overall there appears to be limited research in this area, but may be due to different sub disciplines within psychology that study temperament and psychopathology (Frick, 2004). Those who study temperament tend to be developmental psychologists, while those who study psychopathology tend to be clinical psychologists. Because of the very different theoretical orientations of these two groups, the majority of research has been conducted separately. Some researchers have examined psychopathology and temperament from a developmental perspective (e.g., Lonigan, Vasey, Phillips, & Hazen, 2004). Others view psychopathology as an extreme along a

temperament dimension (Clark, Watson, & Mineka, 1994). Still others have found that psychopathology is the result of a mismatch between student's temperament and the environmental demands (e.g., Keogh, 2003, Martin, 1994). This mismatch is referred to as poorness of fit (Thomas & Chess, 1977), and can be contrasted with goodness of fit.

Goodness of fit is defined as the interaction that “results when the properties of the environment and its expectations and demands are in accord with the organism's own capacities, characteristics, and style of behaving” (Thomas & Chess, 1977, p. 11). In other words, it is a balance between a child's temperament and the demands of the environment. Seifer (2000) suggested that in order to study goodness of fit, it must be operationalized according to one of the following models: (a) objective behavior matching, (b) objective matching of expectations and behavior, and (c) subjectively reporting stress-appraisal-coping models. Behavior matching occurs when the temperaments of parents and children are compared for level of fit (Seifer, 2000, Wallander, Huber, & Varni, 1988). Matching of expectations is defined by the degree of behavioral match with teacher expectations, then comparing that with some measure of competence or adjustment (Lerner, Lerner, & Zabski, 1985). The stress-appraisal-coping model is defined by the degree to which infants have lived up to the individual and cultural expectations of their families (Seifer, 2000). Overall, goodness of fit is not an easy construct to study because it is complex and not uniformly defined.

There is a paucity of research examining goodness of fit in the schools. Because goodness of fit is poorly defined and existing research is methodologically flawed, it is

difficult for professionals to understand how it impacts school behavior. I wanted to explore how goodness of fit unfolded over a typical school year through the use of qualitative methodology. The following research questions guided this study:

- Q1 How does goodness of fit appear in a Kindergarten/1st grade combined classroom?
- Q2 How do children's temperaments affect classroom dynamics?
- Q3 How does the teacher's temperament affect the classroom dynamics?
- Q4 What are the ecological characteristics that make up goodness of fit in a Kindergarten/1st grade combined classroom?

Method

As the researcher, I used a qualitative methodology to examine the ecological aspects of early childhood temperament and goodness of fit in a Kindergarten/1st grade combined classroom. Specifically, I used ethnographic methods to focus on the dynamic interaction between children and their teacher, children and their peers, and children and their classroom environment. I observed how goodness of fit was manifested in a Kindergarten/1st grade combined classroom from the beginning of the school year to the end and gained understanding of how children's temperaments interacted with the teacher's temperament, the researcher's temperament, the environment, and peer demands across different school contexts. The following framework was used to guide this study.

Participants

Marsha was my ideal teacher and primary participant as she has many years of experience and appeared to be interested and open to reflecting on herself and her classroom. She was insightful as well as informed about the school at which she worked.

Marsha displayed a passion for teaching, which was another important characteristic that was desired in a primary participant. She is a white female who was in her 40s and had been teaching approximately 14 years. She also initially presented a willingness to write field notes and journal entries, but we quickly discovered that it would be too time consuming. Instead, we developed a structured form in order for Marsha to record her field notes.

Marsha's classroom included 24 students. I was able to get permission for participation in the study from the parents of 15 of these students. Of those students, eight were in Kindergarten and seven were in first grade. The first grade students had been enrolled in Marsha's Kindergarten class the previous year so they started the school year knowing one another more so than the eight Kindergarten students. Six of the 15 students were male and nine were female. As far as ethnicity, a little over half were Hispanic and the rest were white, non-Hispanic.

At the participating elementary school, there were two Kindergarten classrooms and one Kindergarten/1st grade combined classroom. Each Kindergarten teacher had a teacher assistant but the first grade classrooms did not. Even though Marsha's classroom was combined Kindergarten/1st grade, she did have a teacher assistant assigned to her room. The teacher assistant worked with Marsha all day every day. She was an experienced teacher assistant and had worked with Marsha before. She was not asked to be a participant in this study because although she was a presence in the classroom, she did not have responsibility for educational decision-making. During the spring semester, a student teacher joined the classroom. She, like the teacher assistant, had many years of experience as a teacher assistant. She had decided to further her education by pursuing a

teaching degree. When she began her assignment, she worked nearly full time. She was not asked to be a participant in this study because she had not been present the entire school year.

This study took place in Bradley Elementary School. There were 34 full time teachers, 13 paraprofessionals, two administrators, 11 school support staff, and six other professionals employed at this school. Of note, I was employed as the school psychology intern during the year of the study. The school population averages about 600 enrolled students. Seventy-two percent of the students were Hispanic while 26% were white, and the other 2% included African American, American Indian, and Asian students. Sixty percent of the students were eligible for free and reduced lunch. The school had a very low rate of suspensions and the attendance rate was 93.7%.

The school district is located in a small residential, industrial and agricultural center (approximately 4 square miles in size) located in a north central region of a Western state. According to the school website, the community has experienced moderate to slow growth over the past ten years with new residential and commercial developments just recently starting to emerge. The town has a population of 6,787 people and there are 2,099 households with 48.2% of them having children under the age of 18. Around 13% of the residents are below the poverty line. The school district employs 300 staff members and teaches 2,300 students. It has two elementary schools, one middle school, and one high school.

Procedure

Prior to beginning this study, permission was granted by the University of Northern Colorado's Internal Review Board for the Study of Human Subjects, the district

research board, and the school's administrative officers. As noted, I conducted my research in the same school where I served as a school psychology intern. Consistent with an ethnographic design, this dual position as researcher and intern allowed me to gain a greater understanding of the contextual variables in the greater school system that might impact my observations in the classroom. To begin, I spoke with my supervisor who supported the idea. He agreed to speak with the superintendent confirmed the superintendent's permission to carry out this research. His letter accompanied my application for this research to the Institutional Review Board (IRB) at the University of Northern Colorado.

Once permission was granted, my first step was to recruit a teacher participant. I asked the principal for recommendations and she suggested that Marsha, the teacher for the Kindergarten/1st grade combined classroom would be a good participant because of her experience and her willingness. Marsha appeared flattered and pleased that the principal thought of her first, so I discussed the study with her the next day. Additionally, she fit my preference of an experienced teacher as she was in her fifteenth year of teaching.

Participants were notified of their voluntary participation in the study through teacher consent, parent consent, student assent, and parent and teacher debriefing forms. To confirm participation, these documents were signed and kept in files on the university campus. After three years, the records will be destroyed. The researcher did not intentionally observe or include those students for whom she had not received consent. If they entered a scene in which the researcher was observing, the researcher documented the student as "another student." Precautions were made to protect the participants in this

study by reducing any distractions to the learning environment. Participants were anonymous, as pseudonyms were assigned to the teacher and all of the student participants.

Qualitative Inquiry

Qualitative research is defined in many different ways. Creswell (1998) defined qualitative research as:

An inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting. (p. 15)

Creswell identified five methodological traditions that follow his definition: ethnography, phenomenology, grounded theory, biography, and case study. The goals of qualitative research are understanding, description, discovery, meaning, and hypothesis generating.

Merriam (1998) outlined five characteristics of all qualitative research. The first characteristic is that qualitative research promotes “understanding the phenomenon of interest from the participants’ perspectives, not the researcher’s” (Merriam, 1998, p. 6). This approach is called *emic* and refers to the insider’s perspective. The second characteristic is that qualitative researchers are the primary instruments for data collection and analysis. The researcher brings a level of sensitivity to the data that cannot be achieved with inventories, questionnaires, or computers. The third characteristic is that qualitative research is characterized by fieldwork. This typically means that the researcher physically observes behavior in its natural setting. The fourth characteristic is that qualitative research is an inductive research strategy. Qualitative researchers do not hypothesize; instead they build toward theory from fieldwork. The fifth characteristic

describes the product as being descriptive through words and pictures rather than numbers. Other characteristics that are found in qualitative research are small, nonrandom, purposeful sampling, emergent and flexible design, and a substantial amount of time in the natural research setting (Merriam, 1998).

For this study, I used a qualitative research design for several reasons. First, my guiding research questions were likely to be best answered through qualitative analysis. I wanted to study Kindergarten children's temperament and goodness of fit in the classroom. Creswell (1998) stated that qualitative inquiries typically start with *what* or *how*. I planned to learn how goodness of fit appeared in a Kindergarten classroom setting. I also planned to learn how children's temperaments and the teacher's temperament affected classroom dynamics. I also wondered what ecological characteristics made up goodness of fit in a Kindergarten classroom setting.

My second reason for conducting a qualitative study was derived from the information learned through the review of literature. Temperament, especially goodness of fit, is difficult to study through quantitative research. Researchers have struggled with how to quantify goodness of fit. They have typically collected information regarding temperament from child, parent, and teacher reports. These reports serve a purpose, but they are not comprehensive. Overall, the current temperament and goodness of fit research lacks theory building evidence and is characterized by correlational studies based on questionnaires. This qualitative research study provided a detailed view of temperament and goodness of fit in a natural classroom setting.

The Framework for Qualitative Research Design

Using Creswell's (2003) framework for qualitative research, I addressed the following four questions related to epistemology, theoretical perspective, and methods. Specifically, the following questions were addressed: (a) What epistemology notified my research?; (b) What was the theoretical perspective behind the methodology?; (c) What was the methodology that controlled the choice and use of methods?; and (d) What methods did I chose to use?

Epistemology: Constructionism. Qualitative researchers begin thinking about their study with a paradigm or worldview, a basic set of beliefs or assumptions that guide their investigations (Creswell, 1998). Creswell identified five assumptions for qualitative paradigms: ontological, epistemological, axiological, rhetorical, and methodological. According to Creswell (1998), each of these assumptions has a different question. For example, when researchers use the ontological approach, they ask, "What is the nature of reality" (p. 75)? For this study which is using an epistemological approach I have asked, "What is the relationship between the researcher and that being researched" (p. 75)?

Ethnographers typically follow the epistemological assumption. Crotty (1998) described the epistemology as "the theory of knowledge embedded in the theoretical perspective and thereby in the methodology" (p. 3). When researchers operate under the epistemological assumption, they interact with those they study in an attempt to move from outsider to an insider (Creswell, 1998). The epistemology used for this study was the constructionism view.

Proponents of the constructionism view maintain that reality is relative to individuals (Cunningham & Fitzgerald, 1996). From this perspective, children are seen

as active agents and eager learners (Corsaro, 1997). Children actively construct their social world and their place in it. This way of thinking is consistent with developmental views of children, especially the theories of Piaget and Vygotsky.

Theoretical Perspective: Social Constructionism. Merriam (1998) discussed the importance of the theoretical perspective. She maintained that the perspective determines the questions, the way to generate the problem of the study, the data collection and analysis techniques, and how to interpret findings. As researchers operate from a social constructionism theoretical perspective, they emphasize the informant's definition of the situation (Schwandt, 2001). The social constructionism view is appropriate for researchers who want to examine a particular construct (e.g., temperament) in social contexts (e.g., a classroom). In this study, I sought to understand how the informant (or actor) recognizes, produces, and reproduces social actions.

When a researcher works from a social constructionism view, she attempts to understand the participant's world according to that person's view by taking into consideration sociocultural factors. Often a person's perception is as important as what actually occurs. The researcher attempts to gain the participant's views about all aspects of the classroom environment: children's temperaments, teacher's temperament, size of class and classroom, location of school, and other factors as they develop. I spent a school year watching a classroom from this perspective.

Ethnography, like other kinds of qualitative inquiry, has an emphasis on firsthand field study. I followed the ethnographic tradition in that I was a participant observer. Participant observation requires the researcher to commit to some relatively prolonged period of engagement (e.g., school year) in a setting (e.g., classroom). The researcher takes part in the daily activities of the people among whom she is studying and

reconstructs their activities through the processes of inscription, transcription, and description in field notes made on the spot or soon thereafter. Participant observation is a methodology that includes activities of direct observation, interviewing, reflection, analysis, and interpretation. It encompasses logistical, ethical, and political concerns involved in entering the world of those who are being studied. Researchers attempt to gain their participants' trust, develop empathy, and understand their ways of talking about and behaving in their world. In this study, I observed the teacher and student participants in the classrooms, in the hallways, in the cafeteria, and outside during recess. I did not observe any participants off school grounds.

There are limitations to participant observation. One limitation is the change in the environment due to the presence of the researcher and the interactions the researcher has with the participants. Throughout my study, my goal in this study was to observe and participate in what was going on, but not change it or lead it into a different direction.

Another limitation to participant observation is the different roles the researcher plays. In order to gain entry into the children's ecology, I tried not to be viewed as a disciplinarian. I set the boundaries of my role with the teacher at the beginning of the study. However, as an adult, the students may have associated me with the role of an authority figure that would ensure that school rules were followed, even though I did not actively adopt a disciplinarian role. This neutrality was crucial in gaining information and developing trust with the student participants. However, at times danger presented itself and I had to take a disciplinarian role.

Ethnographic Procedures. As the researcher, I participated in the classroom as a participant observer one day a week, on Thursdays. Throughout the day, I mostly

limited my role to an observer. The times I directly participated were during the following activities: center time (I facilitated a center), getting students ready to go outside (i.e., helping to zip coats, put on gloves, etc.), and getting students ready to go home. Through my participation and observation, I was able to start developing ideas about temperament and goodness of fit in this particular classroom. Marsha and I had four formal conversations about temperament and goodness of fit and several casual conversations throughout the school year. The formal conversations included the introduction to the study and then three additional interviews. Part of the second interview and the entire third interview were focused on temperament and goodness of fit. I also structured a teacher field note sheet around the broad ideas of temperament and goodness of fit. Through these procedures, I believed that Marsha had a good understanding of the constructs. It was important to establish that both Marsha and I were discussing similar constructs and that there was not a fundamental difference in our interpretation of temperament and goodness of fit.

Sources of Data. Several methods were used for data collection. Participant observation was the foundation of this study as approximately 240 hours were spent observing this particular class and teacher. I spent approximately eight hours a week in the classroom for one academic year (nine months) during which time I took notes of my observations. The observations were used to gather themes, describe occurrences in the classroom, and for subsequent data analysis. By observing the children in their natural school environment, I learned different ecological attributes of the different classroom (e.g., specials, general) and playground settings.

Field notes. Ethnographic field notes were the main source of data for this study and included writings about what I learned and observed through activities, my own actions, as well as questions and reflections. These notes were written for each day that I observed. Ethnographic field notes support and deepen the incorporation of researcher experience with classroom knowledge (Emerson, Fretz, & Shaw, 1995). These field notes are written descriptions from observations and interviews, including personal thoughts and questions.

Although the intention of this study was that the teacher would also keep field notes throughout the school year on various days of the week, Marsha began writing field notes at the middle of the school year and only on the days that I was present. Although I encouraged her to complete field notes when I was not present, she declined. We both attempted to include information regarding student temperament, but not make that the focus of every field note. We attempted to do this by member checking and asking ourselves the following questions after writing a field note: (a) What is really going on here?; (b) Does this relate to temperament?; (c) Am I too focused on temperament?; and (d) What is missing?. I developed these questions after consulting with an instructor in ethnography as well as after a discussion with Marsha. This structure allowed us focus on similar aspects while I was conducting the study. The original intent was to have indepth field notes from the teacher several times per week. However, this proved to be too time intensive and instead Marsha and I settled on a form that could be filled out quickly by providing a summary and checking off. The form was not the in depth field notes that I had hoped for, but more of a summary and/or a list. I wrote 32 researcher field notes and Marsha wrote 14 field notes starting in the spring of the school year.

Interviews. I conducted and recorded three interviews with Marsha during the course of this study. The first interview occurred at the beginning of the school year, the second interview in the middle of the school year, and the third interview at the end of the school year. Topics of discussion included the teacher's background, her perceived temperament, the temperament of her students, and her beliefs regarding goodness of fit between the children's temperament and her own and the classroom environment. The interviews were designed to gain an ecological view of goodness of fit and temperament based on the current research. Each interview was transcribed after it occurred. The first interview focused on her background, training, and her theories of learning and personality. During this first interview, which lasted about an hour, Marsha and I discussed temperament in an informal manner to establish her knowledge level related to this construct. The second and third interviews focused mostly on temperament and each lasted about an hour and a half. All of the interviews were held in my office as Marsha thought this was the best place to have some quiet time to be able to talk and for me to record the interviews on my tape recorder.

Researcher's Journal. I recorded my reflections, notes about classroom ecology, and decisions regarding the research process in my research journal on a weekly basis. For example, I reflected on my dual roles within the school and some of the struggles and complexities associated with fulfilling each of the responsibilities associated with these roles. I wrote 38 researcher journal entries.

Artifacts. Another data source included artifacts. Studying culture involves an analysis of what people make and use (Spradley, 1980). Artifacts are physical evidence of the actions in which people are engaged. Common artifacts in classrooms include

stories, pictures, drawings, and emails. Throughout the study, I attempted to collect artifacts that related to temperament characteristics or goodness of fit. I was able to obtain a significant artifact, a self-portrait drawing of almost every student participant. These self-portraits offered a glimpse of the student perceptions of themselves. I was also able to collect an informational sign-up sheet for the Kindergarten/1st grade combined classroom. An additional artifact was a letter of recommendation that Marsha wanted to write for me.

Data Analysis

A computer program, Non-numerical Unstructured Data Indexing Searching and Theorizing (NUD*IST), version 6 (QSR International, 2004), aided in the organization of the data. NUD*IST helped the researcher by providing a system for storing and organizing files, searching for themes, crossing themes, diagramming, and creating a template (Creswell, 1998). The template was typically a visual display, such as a tree diagram. NUD*IST connected the data analysis element and writing objective with a specific computer procedure.

After collecting data from the different sources and organizing it into the NUD*IST program, I used Wolcott's (1994) three-step process of data transformation: description, analysis, and interpretation of the culture-sharing group. These steps were not mutually exclusive, nor did they have distinct boundaries from each other. For a pictorial view of the transformation, see Figure 1.

In the description step, I asked the question, “What is going on here?” consistent with the procedure outlined by Wolcott (1994). During the description phase, I allowed the data to have a voice. In keeping with this model, I drew large sections of writing directly from notes, journals, or interviews.

One way a writer can present description and organize material is to act as though writing a mystery novel (Wolcott, 1994). The researcher is the detective, and the focus is on solving the problem. In this method, data are introduced through accumulating evidence to be sifted, sorted, and evaluated according to their contribution to solving the mystery. Keeping in mind the focus of this study was to examine temperament and goodness of fit in the classroom, the mystery description built this idea by seeking clues through ongoing observation. For example, I focused on those students who appeared to have goodness of fit with the teacher and classroom environment and those students who appeared to have a poorness of fit, exploring those interactions that seemed to provide the best support for the direction of the level of fit.

For the analysis step, Wolcott (1994) described a sorting procedure that may be conducted in different ways. Two ways of analyzing the data involve highlighting findings and displaying them through tables, charts, diagrams, and figures. Wolcott (1994) explained that through the act of taking field notes, the researcher is highlighting certain aspects and not others. Typically, the analysis step is informed by the information provided in the description step. By reviewing the description step, the researcher can focus on how to sort during the analysis step. The sorting involves breaking down information into small parts that can be coded for themes. The codes and themes are not imposed, but rather emerge from the data.

The NUD*IST program aided me in the analysis of the data. It permitted the development of emergent coding categories (called nodes) that were not yet assigned to a location in the taxonomy (LeCompte & Schensul, 1999). This process allowed me to identify and assign new codes while continuing to refine the definition of the coding category.

In accordance with Wolcott's third step, interpretation, I went beyond the database and probed into what could be created from the data (Wolcott, 1994). I considered extreme, comparative interpretations that raised doubts or questions for the reader (Creswell, 1998). This type of interpretation can "convey a caution against accepting overly simplistic explanations of complex social phenomena or always looking at issues from the same perspective" (Wolcott, 1994, p. 40). For example, is it realistic, in today's economy and the state of public education, to match individual children's temperaments with teacher temperament and the demands of the classroom? This type of interpretation aligns well with examining temperament and goodness of fit, as they are both complex social phenomena.

In Wolcott's model, the researcher can also personalize the interpretation. This process can be completed in two different ways. One way is to describe how the researcher interpreted the data. Another way is to describe how the research affected the investigator personally. During this study, I wrote about how the research affected me personally. This type of interpretation was deemed appropriate as I am just becoming a practitioner in the field of education and research.

The finished product of this study included a variety of components: (a) the narrative description; (b) the written and visual displays of the themes that emerged as a

result of data codes; (c) comparative interpretations; and (d) a written narrative of how the research affected me personally. These components provide the reader with a range of information about early childhood temperament and goodness of fit in the classroom.

Trustworthiness Criteria

The trustworthiness criteria is a way to judge the quality of qualitative studies (Schwandt, 2001). Trustworthiness not only addresses the quality of the data collection and findings, but it is also noteworthy to audiences. Strategies that enhanced the trustworthiness criteria included prolonged and substantial engagement, progressive subjectivity and member checks. Progressive subjectivity requires that the researcher monitor her developing constructions and document the process of change from the beginning to the end of the study. I was attentive to my own biases throughout the study and discussed them in my weekly journal reflections. Another way to build trustworthiness is by triangulation, which involves “checking information that has been collected from different sources or methods for consistency of evidence across sources of data” (Martens & McLaughlin, 2004, p. 106). This research used triangulation by having two people writing field notes as well as collecting researcher journal entries, conducting interviews with the teacher, and collecting artifacts.

Transferability is the degree to which the researcher can generalize the results to other situations (Martens & McLaughlin, 2004). Thick description, which is extensive and careful description of the time, place, context, and culture, is important in transferability. I provided thick description to build transferability in hopes that others studying this topic may find similar results by studying a public school classroom in this qualitative way. Dependability means that “change is expected, but it should be tracked

and be publicly inspectable” (Martens & McLaughlin, 2004, p. 107). I kept a journal in which I created an audit trail. An audit trail is a documentary record of the steps I undertook and the decisions I made in moving from the raw data to my final interpretation of the data.

Confirmability means that the data and their interpretation are authentically derived. I conducted a confirmability audit to make sure that the data could be traced to original sources and that the data analysis could be confirmed. I did this by checking and rechecking the data throughout the study.

The final element of trustworthiness involves the degree of authenticity of the study. “Authenticity refers to the presentation of a balanced view of all perspectives, values, and beliefs” (Martens & McLaughlin, 2004, p. 108). To achieve authenticity, the research must be able to identify the respondents and how information about their constructions was obtained. I welcomed feedback and documented conflicts and value differences. “Ontological authenticity is the degree to which the individual’s or group’s conscious experience of the world became more informed or sophisticated” (Martens & McLaughlin, 2004, p. 108). To determine the answer, I asked the question, “How has this study changed the researcher’s and teacher’s knowledge of temperament and goodness of fit?” The results are reported in the interpretation section. “Catalytic authenticity is the extent to which action is stimulated by the inquiry process” (Martens & McLaughlin, 2004, p. 108). In order to examine catalytic authenticity, I followed the advice of Martens and McLaughlin (2004), I had planned to conduct a follow-up with Marsha at the end of the school year. Unfortunately, I was not able to conduct a follow-up check in with her as she had quit the school district and joined a different one.

Results

Temperament and goodness of fit are important in describing children's behavior. Previous research has documented the correlation between difficult temperament patterns and behavioral educational problems (Keogh, 2003). Conversely, when temperament characteristics match the demands of the environment, goodness of fit emerges and children thrive. The purpose of this study was to document through ethnographic research what temperament and goodness of fit look like in a natural environment. A full and rich portrait of events, experiences, and perceptions was produced when relationships and themes were explored in a broader, more open-ended way. Through this research, four broad questions were addressed. In regard to the first question, it is my opinion that Marsha was able to establish goodness of fit with those students that had a similar temperament to her, the students with easy and slow-to-warm-up temperaments. For students whose temperaments were reported as difficult, she struggled to achieve the goodness of fit. Poorness of fit would be the best way to describe Marsha's fit with two of the students. Marsha explained it quite well in one of the interviews where she reflected that some of the students get very excited and hyper along with her but then have a hard time coming back down and settling down. At various times, Marsha changed the environment demands to meet those students with temperaments different than her own. At times, there was a balance between each child's temperament and the demands of the environment.

I found that the children's temperaments affected the classroom in a variety of ways. Marsha mentioned at various times how other students became uncomfortable and/or upset when another student was having difficulties. I also observed this in my field notes and during participation in the classroom. This provided some insight into

goodness of fit among the various students and their temperaments. The children appeared to have a reaction to other children's temperaments by their interactions and/or lack of interactions with one another.

The third question ties back into the first one in that Marsha's temperament affected the classroom dynamics in general, and specifically within the goodness of fit model. Keogh (2003) concluded that a teacher's decision is influenced by a number of things, including teacher temperament and personality, beliefs about what students should be like, and individual characteristics of the child or group of children. With such a large class, Marsha often made her decisions based on what would be best for the whole group. This is quite common. As Seifer (2000) concluded, teacher expectations are for the general class and not individuals. Her easy temperament and outgoing personality often made instruction upbeat and exciting. For some of the slow-to-warm students and difficult students, it was over stimulating.

The themes that emerged from this ethnography portray the ecological characteristics that make up goodness of fit. They included the learning environment, organization, and routines. All of these played an important role in the goodness of fit in the classroom.

The learning environment was set up primarily by Marsha and as mentioned earlier, was mostly presented for the class as a whole and not the individuals. The learning environment during centers was small group so somewhat more individualized. When it comes to the environment of the classroom, Marsha believed that the best environment is something that is relaxing and homey. A map of the classroom is presented in Figure 2. Marsha described her classroom as being that and being bright

with light and with color. She particularly liked the color red as she believed it represented accomplishment. Another aspect of learning environment that Marsha believed in is freedom. She reported that she respects having to be at certain places at certain times but that when flexibility was allowed, she took advantage of it. Her example that she gave is bringing something from home or having a water bottle in class. Marsha also believed that this showed ownership and that that is important for young children. The learning environment provided a good fit for those students with easy temperaments, a somewhat good fit for those with slow-to-warm temperaments, but appeared stressful for those students with a difficult temperament.

The ecological component of organization had similar findings to the learning environment. It appeared that a relaxed organization of the classroom worked well for those students with easy temperaments. It appeared to be a poorness of fit however with those students identified as slow-to-warm and difficult. During the first teacher interview, Marsha explained how she organizes her classroom:

“Such as the tape on the floor, the arrows in which way you want your centers to move, little things like that. (pause) Children like to see their names. And so when you have a helper chart . . . you put all their names up. Certain students are helpers. Certain students have the day off. I mean, little things like that will make a big difference in the stress level of a new teacher coming in.”

The routines appeared to help all of the students achieve goodness of fit. A class schedule is presented in Table 1. Marsha provides an honest look at the routine of her classroom in the first teacher interview:

TM: Okay. Tell me what a typical day is like in your Kindergarten classroom.

Marsha: (pauses) That’s difficult.

TM: (giggles)

Marsha: Because one reason why I really like teaching is because it's different every day. I've never had a day where I get up and say, "Oh, I don't want to go to school" because it's never a dull moment. I have an awful lot of laughter. There's times I want to cry. But for the most part I would say, it's a comfortable environment for children. That's what my day is like.

On those days that the routine was changed, the majority of students were able to adjust. There were a few exceptions and those mostly included the students with difficult temperaments.

Display findings

Table 2 is a visual display of the temperaments of the class reported by Marsha as compared to my perceptions of each student's temperament. In summary, three temperament categories represented the 15 student participants. The teacher and I agreed on most of them, with disagreement only between the easy and slow-to-warm-up categories.

Interpretation

The findings from the description and analysis extend to how it relates to the larger picture. It is difficult to generalize to a large population based on just one classroom. However, in qualitative research, one goal is to focus on the particulars in order to understand and gain insight about a topic, in this case, temperament and goodness of fit.

A theme that emerged that relates to the larger picture was the challenges with having two grades in a combined classroom. I thought that of any grade combination, a Kindergarten/1st grade combined classroom would be the easiest, but there were definitely many challenges. A major challenge was teaching to both grade levels at the same time. I could tell in several different ways that this was difficult for the teacher.

The teacher really took it upon herself to provide for both grades. She worked very hard to make sure both grades were developing in the way they should. At the end of the study, during the last interview, she described how she worried for the kindergartners moving on to first grade. She felt that of the two grades, that was the one she struggled with the most. She was much more confident about the first grade students moving on to second grade. She mentioned how she believes these students are actually further along academically than the other first grade students in the other classes. Marsha might have felt this way because she was able to teach them for two years instead of just one.

Connect with personal experience. I had many personal experiences during my ethnography in this classroom. It was my first time being an employee in a school setting outside of being a director for a before- and after-school child care center located in an elementary school. This was a very personal experience for me as it was something that required a lot of growing and learning. Throughout the process, there were many ups and downs for me. At the beginning of my study, I felt like somewhat of an outsider in the classroom. I was someone who was not there daily, so at first, it felt a little more forced. By the middle of the school year, I was more of a member of the class and viewed by other staff as part of the Kindergarten/1st grade combined classroom in some capacity.

I explored my own temperament and what it meant for the dynamics of the classroom. Being a slow-to-warm person, I noticed subtle differences in how I approached the students versus another teacher or teacher's aide or teacher in training. One of the most difficult tasks was continually asking Marsha if she had any field notes for me. I was torn between empathizing with her lack of time and my desires for the

study. I knew that she was overloaded as it was but as the researcher, I had to figure out a way to make it work. I also observed that being a slow-to-warm person; I was able to relate more to the students that were also slow-to-warm.

Aspects of Marsha's temperament played a role in how students displayed goodness or poorness of fit in her classroom. In general, Marsha set up her classroom environment to match her easy going and cheery nature. The routine and organization of her classroom also seemed to parallel her easy temperament. This type of environment seemed to match well with those students who had easy temperaments. For students with slow to warm temperaments, Marsha was able to make adjustments in the environment to try to develop goodness of fit. She contacted their parents for ideas, incorporated their interests into her classroom routine, and created spaces that were considered soothing or comforting. As the year progressed, many of these "slow to warm up" students seemed to open up in the classroom. I observed these students raising their hands more often to answer questions and ask for help. From the middle of the school year on, they also became more outgoing in their play, independently seeking others to be their partners, and taking more risks on the playground. In addition to these observations, Marsha reported that these students were progressing academically.

The behavioral issues that arose came mainly from those students with difficult temperaments and in general, may have reflected a poorness of fit between Marsha's temperament and the students. For example, when Marsha's structure was loose, these students were more likely to engage in misbehavior. I believe Marsha noticed the

poorness of fit she had with some of the students before the middle of the school year. She tried to adjust to them by building a relationship with them by spending more one-on-one time with them. She also referred them to the counselor for support.

The students in the classroom with a difficult temperament also seemed to affect other students in class, particularly those students with slow to warm temperaments. For example, one day when Andrew was acting up I observed Alyssa looking anxious and she appeared to want to leave the classroom. Another example was when we lined up to go somewhere. I could see the students with slow to warm temperaments subtly move themselves away from a student with a difficult temperament. When a student with a difficult temperament was at my center, I observed the students at the center who had easy temperaments seemed to be able to ignore any misbehavior that occurred while the students with slow to warm temperaments seemed to be distracted by the behavior. Developing peer relationships is very important in early childhood education. In their review of the literature, Raver, Garner, and Smith-Donald (2007) noted that children who handle emotions in an antisocial way struggle when building positive relationships with peers. During my observations at the center, I watched this dynamic play out as other students either ignored or became anxious around a student who had a difficult temperament.

Marsha's goodness of fit with the majority of students in her classroom remained steady throughout the school year. On the other hand, her goodness of fit with students identified as having difficult temperaments had a more cyclical reaction. As Marsha wasn't able to reach certain students, she seemed to become discouraged and in some ways, gave up. In turn, as she felt less successful, she became a bit more impatient and

this may have then contributed to more behavioral issues. As the misbehavior increased, Marsha pulled away even more and at the end of the school year, reported feeling as if she had failed. This demonstrates the reciprocal reaction of temperament as it affected Marsha and changed her behavior as well.

For an entire school year, I observed a Kindergarten/1st grade combination classroom one day per week to develop a better understanding of the interaction between classroom environment, teacher characteristics, and student temperament. My goal was to use description, analysis, and interpretation to understand how “goodness of fit” developed within a classroom setting. The ecological characteristics that seemed to contribute to goodness of fit for the majority of the students included a bright, positive classroom, demands within a student’s ability, and an established relationship with the teacher. The teacher’s temperament also seemed to affect the classroom dynamics. Just as I felt more empathy for those students who were viewed as slow to warm up, Marsha seemed to relate to those students with a similar temperament to her own (i.e., easy). Her style of teaching was outgoing and interesting.

An unexpected finding was the degree to which the temperament of certain students seemed to affect the classroom dynamics, adult behavior, and the other students. In particular, students with slow to warm temperaments seemed most affected by misbehavior of students with difficult temperaments. Goodness of fit was observed in the classroom for the students with easy temperaments who seemed to match with Marsha’s own temperament and teaching style. Marsha’s efforts at creating a welcoming environment also tended to help the students with slow to warm temperaments to find their fit within the classroom. Unfortunately, for the students identified as having

difficult temperaments, their behaviors and mismatch with teacher expectations created a kind of reciprocal relationship which resulted in a growing tension between themselves and others.

Discussion

Temperament and goodness of fit are important in describing children's behavior. Previous research has documented the correlation between difficult temperament patterns and behavioral educational problems (Keogh, 2003). Conversely, when temperament characteristics match the demands of the environment, goodness of fit emerges and children thrive. The purpose of this study was to document through ethnographic research what temperament and goodness of fit look like in a natural environment. A full and rich portrait of events, experiences, and perceptions was produced when relationships and themes were explored in a broader, more open-ended way. Through this research, four broad questions were addressed.

My overarching question was, "How does goodness of fit appear in a Kindergarten/1st grade combined classroom?" How do we know when there is a good fit? A bad fit? What does that look like in the day to day functioning of a classroom? Despite the simplicity of this question, it turned out to be especially difficult to answer because there are so many factors other than temperament that play a role in how a teacher and a student find a "fit" with one another. In many ways, it appears relatively easy for a teacher to establish "goodness of fit" with students whose temperaments are considered to be "easy." Many of the elements of good teaching, such as setting up a good structure from the first day, making expectations clear, and establishing a relationship with students seem to create a good match for the majority of students. As

Wong and Wong (2004) noted, teacher expectations will greatly influence the students' achievement not only in class, but also in life. In this classroom, the teacher's high expectations for academic achievement were met, although this was not true for her behavioral expectations. She had felt that in previous years she had met her high behavioral expectations.

For students whose temperaments appear to be more difficult or slow to warm, the process is more difficult. For the students who are slower to warm up, more effort is required of the teacher. Reaching out to the parents, taking the extra effort to create a comfortable environment, and incorporating "homey" touches to the classroom can help these students to emerge and find their place in the classroom. Unfortunately, for that small number of students who would be described as having a difficult temperament, the challenge is great. In fact, "poorness of fit" would be the best way to describe Marsha's relationship with two of the three students identified as having difficult temperaments. In fact, Marsha reflected on her dilemma quite well when she noted that the very strategies she used to connect with her "easy" students and to engage her slow to warm up students, caused her "difficult" students to get very excited and energized. They then had a hard time calming themselves enough to participate and follow classroom rules.

There are a number of minor accommodations that a teacher can integrate into classroom routine to help meet the needs of students with different types of temperaments. For example, Marsha helped students calm down by allowing them to listen to a soothing tape instead of doing the class activity. Other times, Marsha allowed slow-to-warm students additional time to complete tasks. When Marsha intervened in this way, there was a balance between each child's temperament and the demands of the

environment. Sometimes these strategies worked and students were able to find their place in the classroom. Unfortunately, this was not always possible due to the broader demands of the system or the learning needs of the other students. When this mismatch occurred, the misbehaviors increased and the goodness of fit deteriorated even more, leaving both teacher and student somewhat defeated.

Just as the teacher's temperament affects the classroom, so do the temperaments of the other children. Even though there were a small percentage of students with difficult temperaments, their impact was phenomenal. Marsha mentioned at various times how other students became uncomfortable and/or upset when another student was having difficulties. Children appeared to have a strong reaction to other children's temperaments. One of the most notable ways this was observed was through their avoidance or lack of interactions with more difficult students. The slow to warm students in Marsha's class seemed most affected, and seemed to become visibly stressed or upset by some of the behavioral outbursts. Jackson (2009) found similar results in her qualitative study and noted that a source of students stress arises from situations where a teacher needs to tend to a student having a difficult time behaviorally. Students who are considered more aggressive struggle to achieve social relationships (Beardan et al., 2008). Similarly, Sterry et al. (2010) reviewed friendships based on a child's temperament. In particular, the temperament characteristics of general activity, flexibility-rigidity, and attentional focus were found to be of utmost importance in social behaviors. The characteristics of attentional focus and flexibility aided in developing relationships while over activity and rigidity hindered developing the relationships. The students in Marsha's class who were identified as having difficult temperaments tended

to be more rigid rather than flexible and struggled with attention and focus. In terms of activity level, it is possible that there are gender differences. For example, although Charlotte was considered to have a difficult temperament, she did not seem to be more active than other students. On the other hand, both Andrew and Joseph definitely appeared to have a higher activity level than others.

There are many factors that affect the goodness of fit in the classroom. In this study, teacher temperament was especially important because Marsha had such an outgoing, dynamic temperament. She believed that her positive approach to each day, the color of her classroom, and the degree to which she believed in each student could change them to be successful, confident students. Keogh (2003) concluded that a teacher's decisions are influenced by a number of things, including their temperament, personality, and beliefs about what students should be like, as well as individual characteristics of the child or group of children. In the end, teachers must make decisions based on the needs of the entire group. As Seifer (2000) concluded, teacher expectations are for the general class and not individuals. With such a large class, Marsha often made her decisions based on what would be best for the whole group. As noted, Marsha's easy temperament and outgoing personality often made instruction upbeat and exciting, but may have been over stimulating for those with slow to warm up and easy temperaments. Misbehavior in the classroom may have reflected a poorness of fit between Marsha's temperament and the students. It also appeared that the poorness of fit became more pronounced as the school year progressed.

Finally, I wondered at the degree to which the ecological characteristics of a school or classroom contributed to goodness of fit Kindergarten. The themes that

emerged from this ethnography captured some of the ecological characteristics that are important to goodness of fit. They included setting up a positive learning environment that had a specific routine with opportunities for individual or small group interactions. Marsha's classroom was bright, colorful, and stimulating. She began every day with a positive song and had visual reminders in the classroom for students to stay focused on trying their best. The learning environment provided a good fit for those students with easy temperaments, a somewhat good fit for those with slow-to-warm temperaments, but may have been stressful or overstimulating for those students with more difficult temperaments.

Researchers Curby, Grimm, and Pianta (2010) emphasized the relationship between quality emotional interactions and organizational interactions that teachers have with their students. Emotional support and classroom organization are positively related over time. In Marsha's classroom, it appeared that a relaxed organization of the classroom worked well for those students with easy temperaments but not with students identified as slow-to-warm and difficult. The routines seemed to help all of the students achieve goodness of fit. On those days that the routine was changed, the majority of students were able to adjust. There were a few exceptions and those mostly included the students with difficult temperaments.

Limitations and Recommendations

As with any study, there were a number of limitations. For me, the greatest limitation was my ability to observe only one day a week. This restricted my opportunity to observe the students and teacher in different settings as well as to observe how a difficulty on one day might be resolved the next. Furthermore, I did not have a chance to

become a full member of the classroom; instead there was always a “special” quality to my presence because I did not become part of the classroom routine. Future researchers may choose to observe in the classroom more days per week in order to build a more rich and comprehensive description.

Although there were some definite advantages to studying a classroom in a school in which I was working such as understanding the overall context and the general ease in joining a classroom, there were also drawbacks. One of the greatest was the dual role in which I found myself. For example, there were times when the teacher wanted me to meet with a student who had challenging behaviors or to discuss issues with his or her parent. When this occurred, I realized that it affected my more neutral position as a researcher.

From a researcher’s stance, operating from one position would allow for a truer participant observer role. Although journaling helped me to focus on what I needed to as related to my research, I also sometimes felt like I was working two very different jobs in one day. At the end of my observation days, I sometimes felt confused, rushed, and somewhat overwhelmed. Not only did I need to take time to reflect on what I had observed, I also had to consider what I needed to carry out the next day as related to my school psychology intern position. At times, aspects of these two roles overlapped. For example, for the students who were struggling behaviorally in Marsha’s class, I might have to think about how I was going to provide consultation to her or how I might help set up a behavioral plan as part of my other role. I also had to think about how I would help provide special education services.

Journaling was an important tool for helping me to separate the two roles and focus on what was going on in Marsha's classroom. It allowed me to reflect on each day and move forward with what I was planning on observing next. Unfortunately, it was a challenge for me to remain in Marsha's classroom for an entire day. Office staff and other teachers knew where I was and sometimes interrupted so that I could address an issue (e.g., classroom problem), a crisis (e.g., difficult student), or simply answer a question. I was able to navigate this dual role when it came to other teachers and colleagues (e.g., speech language pathologists, school counselor), however it was difficult to turn down the principal when she made a request for my time on Thursdays.

A strength of this study was the completion of a full cycle; that is, I studied a classroom over the course of an entire academic year. This is important as the children grow so much and in so many ways from the beginning to the end. It was wonderful and informative to watch as their confidence, their skill, and personhood unfolded. Specifically, it was informative to watch the Kindergarten students with their first experience in formal schooling. In many ways, I believe the most information can be learned from this first year of school.

Furthermore, observing in a public school setting was especially beneficial. In this setting, teachers are asked to educate children with special learning needs, behavioral problems, gifted children, and those with emotional disabilities. In other words, public education challenges a teacher to address all aspects of a student's experience. As a result, it provides an excellent choice for studying temperament and classroom dynamics early on in the learning lifespan. Although generalizability is not typically an aspect of

qualitative research, it is likely that these findings would transfer to another public school more so than if this study had been carried out in a private school where children would be more similar to one another in terms of ability and background.

Implications

One of the most interesting aspects of this study was the degree to which a classroom focused on academic achievement helped all students to progress, no matter their temperament. Even those students who appeared to have a poorness of fit with the demands of the classroom, made academic progress in their respective grade (Kindergarten or 1st). In fact, for the most part the teacher was satisfied with the students' academic growth and tended to worry more about the continued behavioral challenges. The first grade students with a year of schooling succeeded well in moving ahead academically. The majority of Kindergarten students in the classroom also appeared to be ready for 1st grade and the full day that is a part of that experience. However, there were three Kindergarten students who did not appear to have the readiness for whole school days. Halfway through the school year, two of them were allowed to leave earlier in the day. Although it is unknown, it was expected that in the following year and with more maturation, they would be able to tolerate a full day of 1st grade.

Previous research has found that students with difficult temperaments or slow to warm up temperaments may be at greater risk for aggression and anxiety disorder, respectively. It is difficult to speculate based on the findings from this study on relationship between temperament and future psychopathology. The children are so young and have many more years of schooling in front of them. However, there are early

indicators of poorness of fit that may or may not continue as the students enter new grades with different teachers. Further, other students had started to avoid them and peer rejection is also associated with poorer outcomes.

As mentioned in the literature review, matching expectations and behavior can be helpful in establishing a goodness of fit in the classroom. Age, gender, and the temperament dimensions of attention span-distractibility, rhythmicity, general activity level, and mood were important and relevant predictors of children's adjustment. Understanding these factors can help professionals promote a successful initial experience for students within the educational system. Many factors can affect goodness of fit, some of which are not within the teacher's control. For example, teachers are typically powerless over the district's reading curriculum, the number of students the classroom, or the overall scheduling of day (Keogh, 2003).

However, there are some elements that are within the teacher's control. Keogh (2003) suggested three general strategies for anticipating and intervening with students with various temperaments: (a) know thyself; (b) anticipate problems; and (c) intervene when necessary. In order to try to understand goodness of fit with students, teachers can do some delving into what they know about themselves. A good way to handle the day to day differences is to anticipate problems. As Marsha had mentioned, every day is different in a Kindergarten or first grade classroom. It is important to use observations to identify trouble spots and times (Keogh, 2003). Lastly, teachers should intervene when necessary. By establishing consistencies in routines and expectations, teachers can set up mechanisms within the classroom to help students succeed. However, even with great planning, there will be times in which the teacher will need to intervene before problems

escalate (Keogh, 2003). Keeping the student's temperament type in mind, teachers can approach students in an appropriate manner. For example, when working with a slow-to-warm-up student, it may be necessary to just lightly encourage the student to take risks or to join other students.

The findings of this study may be useful for future teacher pre-service and in-service trainings. For example, teachers could explore their own temperament category (e.g., difficult, easy, slow to warm) and their beliefs about how this might affect their classroom structure, relationships with students, and tolerance for students who have temperaments that differ from their own. Further, they might explicitly consider the temperaments of their current students. Once they have identified these elements, they could focus on goodness of fit and brainstorm ways to change the environment to create a better match. Questions they could ask themselves are: "Am I teaching to the group as a whole as if all the students have the same temperament?" "Am I modifying the way I communicate to students of different temperaments than my own?" "What changes could I make to my instruction style that would build goodness of fit with all of my students?"

Goodness of fit extends beyond the classroom teacher to other adults within the school. School staff might also explore the best ways for children of different temperaments to get along in other settings including specials, lunchroom, and cafeteria. Within the classroom, students might benefit from learning about themselves and others and/or mixing up groups of students during center time. Another idea might be for new teachers to participate in temperament training to prepare them for the upcoming school year. A greater level of preparation may help to mediate the temperament characteristics of their students.

Another way school staff could use this information from this study is to develop ways that teachers discuss temperament with parents. Sometimes a parent may see his or her child as having a different temperament than what the teacher thinks. In these cases, it is helpful to communicate with parents about their child's temperament and goodness of fit at home. By having this discussion with parents, teachers and families can work together to brainstorm ideas about how to help students feel comfortable at school.

Occasionally, teachers may have poorness of fit issues in the form of teacher-student or student-student difficulties that cannot be resolved alone. In these cases, a school staff member outside of the classroom may be able to provide insight. For example, a school psychologist who has training in temperament and personality may be able to provide insight and suggestions on the source of the conflict and strategies for addressing, before the teacher begins to feel "burned out" and defeated by a particular student. The school psychologist can provide specific environmental changes that could be implemented to increase goodness of fit. The school psychologist may also be able to help the teacher reflect on ways to modify the instruction delivery or intervention strategies for children who have difficult and slow to warm temperaments. For example, the school psychologist would consult with the teacher in writing an individualized behavior plan. The school psychologist could also work with the student to self-regulate his or her own behavior. Increasing student's awareness of their temperament may help them manage their behavior.

At the broadest levels, school psychologists could utilize this information in consulting with administration. For example, working with the principal and other

teachers, the school psychologist might help with classroom assignments for the following year. Information from this study might help school psychologists and teachers predict which students will do better based on their temperament than that of the teacher.

Conclusion

This study focused on temperament characteristics and the environment of a Kindergarten/1st grade combined classroom. Some of the expected findings were the degree to which aspects of “good” teaching contributed to a classroom environment that supported the majority of learner needs. An unexpected finding was the degree to which students with difficult temperaments could impact a teacher’s perceptions of herself and her skill as a teacher. It is difficult to determine whether it was the students themselves, or the combination of having a combined classroom that contributed to the teacher’s sense of frustration. Future research should continue to study these areas. According to Martin (1994a), environments can be designed that are consistent with a child’s needs. By understanding goodness of fit, school psychologists are better able to consult with teachers to help develop accommodations and modify practices to adapt their strategies to meet the needs of students, regardless of their temperament.

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Table 1

Class Schedule

Time	Activity
8:05	Students arrive in the classroom. Welcome, attendance, and Grumpy Brush song.
8:15	Kindergarten students go to breakfast with the teacher assistant. First grade students take spelling test with teacher.
8:35	Daily Oral Language.
8:45	Handwriting Books.
9:15	Teacher or teacher assistant reads book to students while other prepares centers.
9:30	Centers.
10:05	Morning recess.
10:15	Resume centers.
11:00	Lunch.
11:30	Lunch recess.
11:55	Teacher or teacher assistant picks up students from outside.
12:15	Specials. Thursdays: Music.
1:00	Calendar. Show and Tell. Math.
2:00	Snack. Andrew and Lincoln leave for the day.
2:30	Math or science. Review book.
3:00	Get ready to go home. Get backpacks and coats.
3:20	Bell rings. Students leave the classroom.

Table 2

Student Temperament Categories

Student	Grade	Teacher's view of Temperament Category	Researcher's view of Temperament Category
Andrew	Kindergarten	Difficult	Difficult
Brandon	Kindergarten	Easy	Easy
Heather	Kindergarten	Easy	Easy
Joseph	Kindergarten	Difficult	Difficult
Lincoln	Kindergarten	Slow to Warm Up	Easy
Maria	Kindergarten	Easy	Easy
Samantha	Kindergarten	Easy	Slow to Warm Up
Scott	Kindergarten	Easy	Slow to Warm Up
Alyssa	First Grade	Easy	Slow to Warm Up
Angie	First Grade	Easy	Easy
Beth	First Grade	Easy	Easy
Charlotte	First Grade	Difficult	Slow to Warm Up
Emily	First Grade	Easy	Easy
Katelyn	First Grade	Slow to Warm Up	Easy
Ricky	First Grade	Slow to Warm Up	Easy

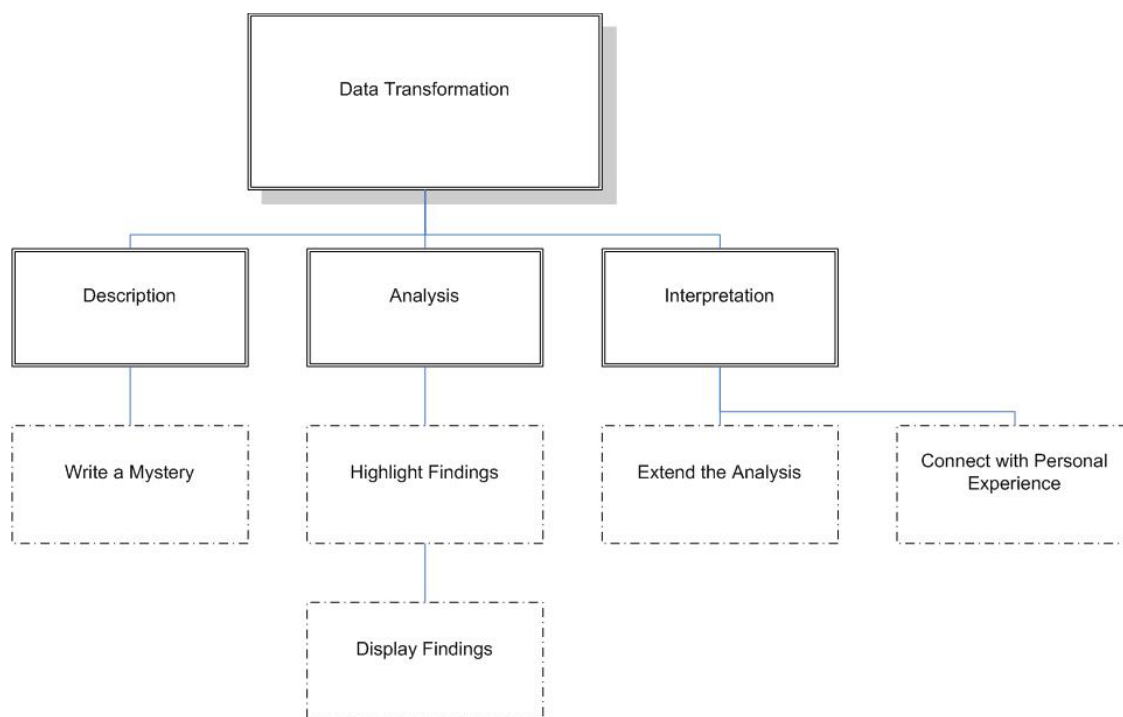


Figure 1. Data Transformation Process

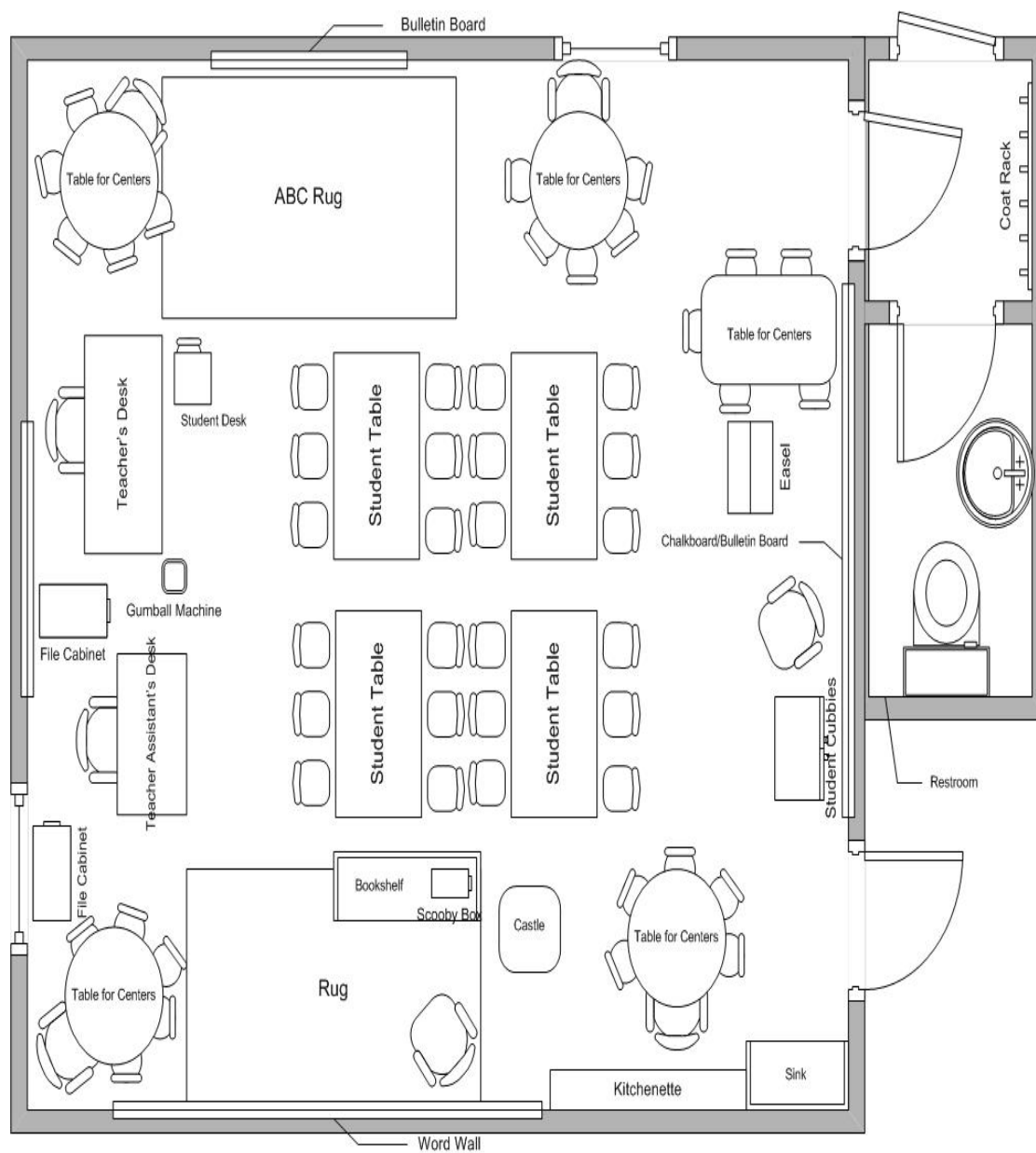


Figure 2. Kindergarten/1st Grade Classroom Layout