



**THE NATIONAL
RESEARCH CENTER
ON THE GIFTED
AND TALENTED**

University of Connecticut

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**Primary Grade Teachers'
Conceptions of Giftedness and
Talent: A Case-based Investigation**

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ABSTRACT

Despite the ongoing, extensive focus on the more equitable representation of gifted students from diverse populations, poor and minority students remain underserved by gifted education proportional to their representation in the broader student population (Donovan & Cross, 2002; U.S. Department of Education, 1993). One possible factor contributing to the continued under-representation of poor and minority students in gifted programs is an inadequate understanding of the roots of the problem in the earliest years of schooling. Failure to identify and develop talent in very young children has been linked to subsequent negative outcomes in cognitive, academic, social, and affective development (Neihart, Reis, Robinson, & Moon, 2002). The National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia conducted a two-phase, mixed-methods study designed to explore the beliefs and practices of teachers at the primary school level (grades K-2). Of particular interest were (a) teachers' beliefs about the nature of giftedness in young students; (b) teachers' beliefs about how giftedness is manifested and distributed across cultural and socioeconomic groups of young students; and (c) teachers' classroom practices related to talent development in the primary grades. In this way, the study considered both teachers' attitudes and beliefs about giftedness and the translation of these beliefs into instructional practices related to perceived student potential. In addition, the study explored the pedagogical potential of equipping teachers with context-specific lessons that incorporate strategies most likely to uncover and develop talent in previously unrecognized gifted students. The first phase of the project involved a multidisciplinary review of the relevant literature to determine those attributes, principles, and recommendations for identifying talent in at-risk, disadvantaged, and culturally diverse young children. The general themes from these literatures informed the development of a survey designed to assess primary grade teachers' beliefs, attitudes, and practices in regard to young gifted (or potentially gifted) students from diverse backgrounds. The second phase of the study involved intensive classroom observations by trained participant observers in primary grade classrooms in six diverse elementary schools. The purpose of this phase of the project was to extensively describe and document the classroom context and to determine the degree of consistency between teachers' philosophies about giftedness and talent and their classroom practices aimed at nurturing and developing talent in all students, particularly those from under-represented groups. Findings from both phases of this study revealed

consistent patterns in four interrelated areas: (a) factors internal to the teacher, (b) forces on the teacher outside the self, (c) teacher behaviors, and (d) observable student behaviors and verbal responses which operate in concert to shape the course of talent development for typically underserved children in primary grade classrooms.

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EXECUTIVE SUMMARY

Despite the ongoing, extensive focus on the more equitable representation of gifted students from diverse populations, poor and minority students remain underserved by gifted education proportional to their representation in the broader student population (Donovan & Cross, 2002; U.S. Department of Education, 1993). While school administrators, school psychologists, and parents typically play important roles in the identification process, it can be argued that teachers are more firmly embedded in the day-to-day practice of education than are any other group (e.g., Brophy, 1986; Sanders & Rivers, 1996; Wright, Horn, & Sanders, 1997). Thus, efforts to improve the practice of gifted education will be supported by a closer examination of how teachers understand giftedness, how their beliefs and expectations shape their classroom practices related to talent development, and how they can be supported to implement research-based best practices in the recognition and promotion of talent in diverse student populations.

A further possible factor contributing to the continued under-representation of poor and minority students in gifted programs is an inadequate understanding of the roots of the problem in the earliest years of schooling. Failure to identify and develop talent in very young children has been linked to subsequent negative outcomes in cognitive, academic, social, and affective development (Neihart, Reis, Robinson, & Moon, 2002). Despite this link, the literature highlights the reluctance of educators to formally identify talent in the early years of schooling, stemming from the belief that very young students should not be "labeled" or "pushed" to perform academically (Sankar-DeLeeuw, 1999). The ramifications of inadequate early intervention for talent development are likely to be most severe for students from poor and cultural minority backgrounds. High potential in these students is often masked in the primary years by a lack of school readiness following inequitable preschool and early home experiences (Magnuson, Meyers, Ruhm, & Waldfogel, 2004). Moreover, where primary classrooms emphasize didactic instruction rather than student-centered, developmentally appropriate practices, the readiness-based gap between the majority and minority cultural groups is likely to widen rather than contract (Hart, Burts, & Charlesworth, 1997; Hauser-Cram, Sirin, & Stipek, 2003; Stipek, 2004), further reducing the likelihood that poor and minority students will be recognized for their talents. If identification and talent development practices in the earliest years of schooling disadvantage these gifted students, it follows that they will be

set up for ongoing academic underachievement and under-representation in programs for the gifted. Thus, a focused investigation of the interplay of early contextual factors that might contribute to the ongoing under-representation of gifted poor and minority students is warranted.

Based on the above rationale, The National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia conducted a two-phase study designed to explore the beliefs and practices of teachers at the primary school level (grades K-2). Of particular interest were (a) teachers' beliefs about the nature of giftedness in young students; (b) teachers' beliefs about how giftedness is manifested and distributed across cultural and socioeconomic groups of young students; and (c) teachers' classroom practices related to talent development in the primary grades. In this way, the study considered both teachers' attitudes and beliefs about giftedness and the translation of these beliefs into instructional practices related to perceived student potential. In addition, the study explored the pedagogical potential of equipping teachers with context-specific lessons that incorporate strategies most likely to uncover and develop talent in previously unrecognized gifted students. That is, the study explored whether, through guided instruction in the context of their diverse classrooms, teachers could learn to recognize and nurture talent in a broader range of students, including those from traditionally underserved groups.

The two-pronged approach employed in this study was designed to delineate possible barriers to the identification and development of giftedness in primary-age students from under-represented groups, and to advance potential solutions to the problem of under-representation. In this way, the study attempted to both add to the existing research and bridge research and practice in authentic classroom contexts.

Research Questions

A greater understanding of primary school teachers' current philosophies, expectations, and practices related to gifted education is necessary to discern how the problem of minority under-representation in gifted education might be addressed in the earliest years of school. To this end, the present study was guided by the following research questions:

1. What beliefs and attitudes do primary teachers hold about the manifestation of gifted potential in all students, including those from traditionally under-represented groups?
2. To what extent are teachers' philosophies about giftedness consistent with their reported and observed classroom practices related to talent development in diverse populations?
3. How effective are context-based intervention efforts in guiding teachers towards more inclusive classroom practices?

Methodology

Phase One

The first phase of the project involved a multidisciplinary review of the relevant literature of special, gifted, and preschool education; developmental, clinical, cognitive, educational, and neuro-psychologies; social policy; child development; social science research; behavioral science; anthropology; and sociology to determine those attributes, principles, and recommendations for identifying talent in at-risk, disadvantaged, and culturally diverse young children. The general themes from these literatures informed the development of a survey designed to assess kindergarten, first, and second grade teachers' beliefs, attitudes, and practices in regard to young gifted (or potentially gifted) students from diverse backgrounds.

Sampling procedures. A disproportionate stratified random sample of K-2 teachers ($n=6,062$) from public schools that served a range of diverse students was drawn using metropolitan status and poverty level as stratification variables. Market Data Retrieval (MDR) drew the sample in February, 2003, providing individual teachers' names, along with the associated school, address, and grade level for each teacher. Four-hundred thirty-four teachers completed the survey (14% response rate with no follow-up). A follow-up postcard was sent to all teachers in the sample, after which only a few additional surveys were returned.

Data analysis. Quantitative data obtained from the survey were analyzed using descriptive statistics and univariate analysis variance techniques. Frequencies and percentages for all survey items were obtained and analyzed by grade level, poverty level of the school, and metropolitan status of the school. Responses to the open-ended case study items were analyzed inductively, seeking common patterns and recurrent themes in teachers' responses.

Phase Two

The second phase of the study involved intensive classroom observations ($n=2,624$) by trained participant observers in primary grade classrooms in six¹ diverse elementary schools across the country over the course of one academic year. The purpose of this phase of the project was to extensively describe and document the classroom context and to determine the degree of consistency between teachers' philosophies about giftedness and talent and their classroom practices aimed at nurturing and developing talent in all students, particularly those from under-represented groups.

Sampling framework. Participating schools were selected according to specific study criteria: (a) schools that served a diverse student population, including a population of students historically underserved by traditional gifted and talented programs; (b)

¹ Due to extensive school faculty turnover, one school in a high-poverty, urban setting participated for two consecutive years with a different group of teachers the second year.

schools that identified giftedness and talent in the elementary setting and served identified gifted and talented students within the school; (c) schools with fewer formally identified students than the district average; and (d) schools with administrators and teachers willing to participate for the entire academic year.

Instrumentation. General themes from the multidisciplinary literature review discussed in Phase One informed the development of the classroom observation protocol and teacher interview protocols (see Appendix B).

Data collection. Researchers were assigned to a particular classroom (or classrooms) where they remained through the entire year as a participant observer in the classroom. Researchers conducted weekly classroom observations of the teacher using the semi-structured observation protocol while also serving as a volunteer in the classroom. The volunteer role of each observer varied widely depending on the teacher, the grade level and needs of the students, the availability of other teacher assistants and school personnel. Researchers kept reflexive journals and chronicled detailed field notes after each observation which were reviewed weekly by a pair of researchers serving as data analysts across all classrooms in the project. Other primary sources of data included teacher interviews, informal student interviews, interviews of other school personnel as necessary to fully understand the context and to triangulate findings (e.g., English as a Second Language (ESL) teachers, Reading Facilitators, Administrators).

Development of Model Lessons

Participating teachers agreed to implement a series of context-specific "model" lessons designed to elicit specific students' talents, specifically targeting students from low-income and under-represented minority and ethnic groups, and non-native English speaking students. Building on the findings of the National Study Group for the Affirmative Development of Academic Ability (2004), the lessons were designed with the assumptions that academic ability is a developed ability and that teaching and learning of knowledge and skill is necessary but not sufficient condition to achieve the goal of developing ability.

Data Analysis

Two separate researchers analyzed the data from these classrooms and each employed a contrasting ethnographic strategy as a way to triangulate methodological approaches and increase credibility of the findings. The approach employed by the first data analyst was deductive analysis (Goetz & LeCompte, 1984). The purpose of this data analyst's work was to begin with a priori, theoretically based hypotheses (e.g., literature on talent development, evidence of talent in primary learners, characteristics of developmentally appropriate practices for primary grade learners) and confirm or disconfirm their existence and relevance to the current data set. The second data analyst employed a constant comparative method as described by Strauss and Corbin (1995). This more naturalistic approach incorporated more subjective, constructivist, generative,

and inductive methods (Goetz & LeCompte, 1984) and allowed for the development of hypotheses about the relationships of the classroom elements. The purpose of this data analyst's work was to better understand the complex nature of talent development in primary grade classrooms from the varied lenses of participant observer, teacher, and the diverse students that populated the classrooms under investigation.

Results and Discussion

The findings of both phases of the study reveal consistent patterns of teachers' beliefs and attitudes about giftedness and talent in primary grade children. The findings from the second phase of the study help to situate and explain the specific patterns identified in the survey responses by describing the context of diverse, public school classrooms and by explicating the complex web of factors that influence the teachers over time and which may contribute to their resulting beliefs and attitudes about talent development in children.

A summary of the findings of this research examines how four major areas, (a) factors internal to the teacher, (b) forces on the teacher outside the self, (c) teacher behaviors, and (d) observable student behaviors and verbal responses operate in concert to shape the course of talent development for typically underserved children in primary grade classrooms. Each of the major areas will be examined in the context of these study findings linking findings from both phases of the study together, noting areas of congruence and incongruence with the related literature.

Factors Internal to the Teacher

Background of the teacher. The data presents clear patterns about how the background of the teachers shape their approaches to their classrooms, their role as teacher, the types of instructional approaches they employ, and their degree of comfort with varying content areas. One common pattern across several teachers is the tendency to teach as they were themselves taught, often incorporating traditional instructional approaches such as lecture and textbook-driven teaching.

Beliefs about the meaning of "gifted" and "talented." A major finding from both phases of the study strongly suggests that the vast majority of primary grade teachers hold traditional conceptions of the constructs related to gifted and talented learners. Survey respondents seemed comfortable with the description of a gifted learner as possessing strong reasoning skills, a general storehouse of knowledge, and facility with language, including a strong vocabulary—characteristics strongly associated with children with rich preschool experiences. At the same time, survey respondents had more difficulty conceptualizing gifted students as those without strong early reading skills, including a limited vocabulary, those with the inability to work independently, or those who lacked internal motivation and persistence—characteristics frequently used to describe children from impoverished family backgrounds. These findings related to the

teachers' predispositions toward traditional conceptualizing of giftedness were echoed in the open-ended survey responses.

Perceptions about the manifestation of talent. Teachers in both phases of the study quickly assign value to students who possess strong work habits, effective verbal skills, and the ability to read and equated these observable behaviors to either strong parent/home support or innate ability. The items on the survey that most strongly resonated with respondents as observable characteristics of giftedness aligned with these traditional conceptions, and included items such as "has a large storehouse of general knowledge" (98%), "can successfully carry out multiple verbal directions" (95%), and "works hard" (94%). From the in-depth classroom investigations, a clear dichotomy was noted between teachers who were more traditional in their philosophy and/or classroom behaviors and those that researchers described as more constructivist in their beliefs and approaches, employing Developmentally Appropriate Practices (DAP) the majority of the times observed.

However, the majority of survey respondents and the majority of case study teachers seemed unable to consider students who deviated from these textbook indicators of giftedness. These pervasive beliefs seemed to most significantly disadvantage students from poverty and those students whose first language was not English. Teachers in the Phase Two of the study also believed that parent involvement either contributes to or hinders the development of giftedness. This idea is consistent with the survey findings that suggest that teachers believe that gifted children possess large amounts of general information about topics of interest. Taken together, these findings suggest that teachers believe that some degree of wealth is a necessary condition for academic giftedness to be manifested and recognized. Hauser-Cram et al. (2003) found that when teachers' and parents' values differed, such as in regard to appropriate parenting and child-rearing as described by the teachers in this study, teachers rated the children as less academically competent and held lower expectations for their academic success, which has obvious implications for their ability to recognize and nurture budding talents.

General beliefs about underserved students. By and large, the teachers in both phases of the study held a deficit-oriented framework when considering the characteristics of the primary grade learner. For example, the case study scenarios in Phase One revealed overwhelming responses to students' negative characteristics and suggested remediation for these deficits before suggesting any enrichment, acceleration, or other gifted intervention strategies for their evident strengths.

Expectations for students' academic achievement. Academic expectations form the cornerstone of this study's findings. The concept of expectations should be viewed from multiple lenses to fully understand the degree to which it affects the development of talent in diverse primary grade learners. Teachers generally considered and determined expectations largely from the group as a whole, rather than considering individual students' strengths and weaknesses. In the instances when the school was populated with large percentages of students in poverty or representing large numbers of underserved groups, such as in the cases of Bond and Carter Elementary schools, some teachers

shaped their expectations from the collective experience level of students and these expectations were generally low. It was common to hear qualifiers in teachers' language when describing the students, collectively or individually, such as "*these* students here are tough" (Ashton, TI1, 4) and "I have a middle group that are average, or maybe slightly below average. Average for our school" (Evans, TI1, 7).

These findings raise the question that has been debated for decades in the expectancy literature: do the students' behaviors inform teacher expectations about their achievement, or do the teachers' behaviors (toward certain individual or sub-groups of under-represented populations particularly) shape students' reactions to align with the teachers' expectations? Recent literature suggests that, particularly in the earliest years of formal schooling, teachers' expectations have more direct effect on students' achievement outcomes than almost any other variable besides parent expectations (Gill & Reynolds, 1999; Hauser-Cram et al., 2003; Rubie-Davies, 2006). And, coupled with the work of Jussim, Eccles, and Madon (1996) that suggests teachers' expectancy effects are strongest among stigmatized groups, including African American, children from poverty, and recent immigrants, who are most vulnerable to seeing themselves as others perceive them, it follows, then, that the teachers of the fictional "Maria" and "Alexis" will not hold academic expectations on the same level as they do for the fictional "Brian," which will result in these students behaving in the ways that the teachers expect them to, meaning that they will continue to be seen as having deficits more than strengths. Likely these children will also be overlooked for talent pools, talent identification, and gifted education services.

Forces on the Teacher Outside the Self

Parent involvement. This external factor of parent involvement also influenced teachers' academic expectations for diverse groups of children. The intersection between teachers' initial academic expectations, particularly for children from under-represented groups and the parents' pro-academic interactions (or lack of interactions) with teachers resulted in different academic experiences for children in the classroom and reinforced their initial beliefs of the children's capabilities.

School-wide reading programs. A formidable external influence on all teachers in this study was the mandated literacy and mathematics programs in place in most of the schools in Phase Two of this study. As expected, teachers whose classroom practices were described as more traditional ascribed greater benefit to the *Open Court* program than those teachers whose practices were more constructivist in nature. The program supporters cited structure and consistency from lesson to lesson and year to year, extensive writing experiences provided as part of the program, and vocabulary lessons that developed comprehension as chief benefits. On the other hand, teachers whose practices were more constructivist in nature described feeling restricted by the rigid structure and repetitive nature of the lesson format, and constrained by the limited creativity afforded to teaching literacy with this program.

Project-provided model lessons. All teachers in the study were provided with model lessons, designed with the specific context of each individual classroom in mind, for the purpose of providing an alternative image of curriculum and instruction that might better promote talent in diverse, primary grade students. The lessons were developed in accordance with each teacher's available resources, teaching style, and particular school-level mandates. In particular, lessons were designed to build toward conceptual understanding of a discipline, to employ developmentally appropriate instructional practices, and to provide a high level of challenge for all students with accompanying scaffolding for those who needed support to reach the high goals.

Student Responses

Display of actual, manifested talent. When asked to describe what manifested talent would actually *look like* when observed, teachers in both phases of this study frequently offered responses that revealed traditional beliefs, such that talent equated to traditional conceptions of school-house talent (e.g., advanced performance in key content areas such as reading and math) as well as an effortlessness with which they acquired this information and these skills. In observations of the classrooms, particularly those populated with the highest concentration of students in poverty and from the most under-represented groups, however, students demonstrated talent in a variety of ways that often went unnoticed by their teachers, or were eclipsed by their other academic or social weaknesses or skill and behavioral needs.

School readiness. By the very nature of the sample of classrooms in the Phase Two of this study, many students came to the primary classroom without experiencing high-quality, preschool programs focused on school readiness and pre-literacy skills. As a result, many teachers described students with highly variable, and often low school-readiness. Most of the teachers in this study attributed the child's scholastic immaturity to their *negative* home experiences (or in other instances, lack of *positive* home experiences), the parent or guardian's lack of priority to school matters (such as completing homework) and lack of positive academic images in the child's life. In many cases, school-readiness equated to compliant behavior in the classroom, following directions, responding appropriately to the teachers' requests, and passively accepting the lessons as delivered by the various instructional methods. Students were described as having low school-readiness when they lacked the academic skills expected of children in the young grades, such as knowing their name, basic geometric shapes, primary color names, the name and location of their school. Additionally, when students acted in ways that contradicted the expected social and emotional behaviors, such as not possessing expected social skills, personal hygiene skills, or basic manners, the children were also noted as lacking school-readiness.

Behavior. In the Phase Two classrooms studied, the students' behavior was an all-important consideration in most aspects of the primary classroom, such as when planning instructional tasks, considering instructional materials, and all the way through to include referring students for gifted education referrals and placements. As described above, when students behaved in a way that was contradictory to the expected norms, they were

designated as not "ready" for school tasks. While some teachers acknowledged that behavior and academic abilities are separate constructs, in the reality of the classrooms in Phase Two of this study, they were often linked.

Teacher Behaviors

Instructional practices. Teachers participating in both phases of this study described (Phase One) and were observed employing (Phase Two) practices that could be categorized on a continuum from "didactic" to "constructivist" in nature. Didactic practices were traditional instructional behaviors including lecture, direct instruction with all students completing the same independent practice tasks, and instruction that was largely dependent upon textbooks, basal programs, and often included scripted teacher language. Constructivist practices, often called Developmentally Appropriate Practices (DAP) were described as active learning experiences for a range of learners that employed varied instructional approaches and a balance between teacher-directed and child-directed activities, for the purpose of students creating personal meaning with the content and skills.

Differentiation. Most teachers in the study acknowledged the varying needs of students in their primary grade classrooms. In daily practice, however, this most often translated into accommodations for the needs of the most struggling students; teachers almost never considered the upper end of the achievement continuum when planning in advance for student differences.

Implications and Recommendations for Practice

The findings of this study strongly support the premise that the under-representation of some key groups in formal gifted programs is a multi-faceted and complex phenomenon; one that is not likely to be quickly and tidily resolved with any one intervention effort. To address these issues, a multi-pronged reconceptualization of primary education must be considered, to include the four key areas of findings from this study—a) teachers' internal factors; b) the external forces that profoundly influence the primary classroom experience; c) teachers' instructional habits and practices; and d) the vast array of students' talent behaviors that result because of (or in many cases despite) the school experiences they witness in kindergarten through second grade.

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Primary Grade Teachers' Conceptions of Giftedness and Talent: A Case-based Investigation

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CHAPTER 1: Introduction

The propensity to serve students from diverse cultural and socioeconomic backgrounds is fundamental to the purpose of gifted education, which seeks alignment with the dual educational goals of equity and excellence. An assumption of the field holds that gifted potential is distributed across cultural and economic subdivisions of society, and gifted education initiatives are valued as a means to meet and nurture the gifts of diverse learners (Clark, 1997; Eby & Smutny, 1990; Frazier, Garcia, & Passow, 1995). In practice however, some critics have argued that gifted education programs tend to single out White, affluent, motivated, high achievers for enhanced educational opportunities (Ford & Harris, 1999). The under-representation of poor and cultural minority students has become a pivotal concern for researchers and practitioners in the field of gifted education (Ford & Harris, 1999; Ford, Harris, Tyson, & Frazer, 2002; Hébert, 2002), particularly since the early 1990s (Saccuzzo, Johnson, & Guertin, 1994).

Efforts to redress the imbalance of cultural and socioeconomic representation in gifted education have been multifaceted. Funding from the Jacob K. Javits Gifted and Talented Education Act of 1988 has supported a mounting body of research into the characteristics and needs of gifted students from traditionally underserved populations. In 1997, the National Association for Gifted Children (NAGC) issued a position statement that urged educators to employ multiple criteria in the identification and placement of students for gifted education programs. This statement reflected the widespread concern that traditional definitions of giftedness, and reliance upon standardized ability and achievement tests as primary identification tools, can contribute to the under-representation of gifted students from low socioeconomic and minority cultural backgrounds (McAlpine, 1996; Maker, 1996). Leaders in the field have called for the increased recognition of diverse manifestations of giftedness (Ford & Harris, 1999; Hadaway & Marek-Schroer, 1992; Hébert, 2002), a more comprehensive focus on early intervention for talent development (Hanninen, 1998; Henderson & Ebner, 1997; McBride, 1992), improved teacher education in issues of giftedness in diverse populations, and the implementation of classroom practices likely to uncover and nurture talent in a broader range of students (Renzulli & Reis, 2002; Tomlinson, 1999).

Despite the ongoing, extensive focus on the more equitable representation of gifted students from diverse populations, poor and minority students remain underserved by gifted education proportional to their representation in the broader student population (Donovan & Cross, 2002; U.S. Department of Education, 1993). For example, data from the National Educational Longitudinal Study (NELS) of eighth grade gifted education programs indicates that students from families within the top economic quartile are approximately five times more likely to be in programs for the gifted than are students from families in the bottom economic quartile of the population (U.S. Department of Education, 1991, as cited in Borland & Wright, 1994). A number of plausible explanations for this circumstance are indicated. Chief among these is that the research findings have failed to translate into practice at the school and classroom levels. It is not researchers who make decisions regarding the selection of individual students for gifted programs, or who determine how curriculum and instruction will be designed to support particular manifestations of ability, but rather school personnel. Moreover, while school administrators, school psychologists, and parents typically play important roles in the identification process, it can be argued that teachers are most firmly embedded in the day-to-day practice of education than are any other group (e.g., Brophy, 1986; Sanders & Rivers, 1996; Wright, Horn, & Sanders, 1997). Thus, efforts to improve the practice of gifted education will be supported by a closer examination of how teachers understand giftedness, how their beliefs and expectations shape their classroom practices related to talent development, and how they can be supported to implement research-based best practices in the recognition and promotion of talent in diverse student populations.

A further possible factor contributing to the continued under-representation of poor and minority students in gifted programs is an inadequate understanding of the roots of the problem in the earliest years of schooling. Failure to identify and develop talent in very young children has been linked to subsequent negative outcomes in cognitive, academic, social, and affective development (Neihart, Reis, Robinson, & Moon, 2002). Despite this link, the literature highlights the reluctance of educators to formally identify talent in the early years of schooling, stemming from the belief that very young students should not be "labeled" or "pushed" to perform academically (Sankar-DeLeeuw, 1999). The ramifications of inadequate early intervention for talent development are likely to be most severe for students from poor and cultural minority backgrounds. High potential in these students is often masked in the primary years by a lack of school readiness following inequitable preschool and early home experiences (Magnuson, Meyers, Ruhm, & Waldfogel, 2004). Moreover, where primary classrooms emphasize didactic instruction rather than student-centered, developmentally appropriate practices, the readiness-based gap between the majority and minority cultural groups is likely to widen rather than contract (Hart, Burts, & Charlesworth, 1997; Hauser-Cram, Sirin, & Stipek, 2003; Stipek, 2004), further reducing the likelihood that poor and minority students will be recognized for their talents. If identification and talent development practices in the earliest years of schooling disadvantage these gifted students, it follows that they will be set up for ongoing academic underachievement and under-representation in programs for the gifted. Thus, a focused investigation of the interplay of early contextual factors that might contribute to the ongoing under-representation of gifted poor and minority students is warranted.

Based on the above rationale, The National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia conducted a two-phase study designed to explore the beliefs and practices of teachers at the primary school level (grades K-2). Of particular interest were (a) teachers' beliefs about the nature of giftedness in young students; (b) teachers' beliefs about how giftedness is manifested and distributed across cultural and socioeconomic groups of young students; and (c) teachers' classroom practices related to talent development in the primary grades. In this way, the study considered both teachers' attitudes and beliefs about giftedness and the translation of these beliefs into instructional practices related to perceived student potential. In addition, the study explored the pedagogical potential of equipping teachers with context-specific lessons that incorporate strategies most likely to uncover and develop talent in previously unrecognized gifted students. That is, the study explored whether, through guided instruction in the context of their diverse classrooms, teachers could learn to recognize and nurture talent in a broader range of students, including those from traditionally underserved groups.

The two-pronged approach employed in this study was designed to delineate possible barriers to the identification and development of giftedness in primary-age students from under-represented groups, and to advance potential solutions to the problem of under-representation. In this way, the study attempted to both add to the existing research and bridge research and practice in authentic classroom contexts.

Review of Literature

The following sections present a review of research from gifted, general and early education, health, developmental psychology, cognitive psychology, sociology, and multicultural education. Perspectives from these fields are combined to form the research base from which the project stemmed.

Research into young gifted children is considered with a particular emphasis on the precocious development of early cognitive skills, and the importance of recognizing and nurturing talents in the very young. Perspectives from health, developmental, and cognitive psychology elucidate the relationship between socioeconomic status and early cognitive development. It is suggested that young gifted children living in impoverished environments are less likely than their more affluent peers to be identified as gifted when definitions emphasize precocious development. More inclusive conceptions of giftedness that recognize various developmental patterns, cultural values, and manifestations of talent are reviewed.

Literature related to common and best practices in the identification of gifted students is presented, with particular attention to the appropriateness of standardized tests in identifying talent in very young children. The concept of school readiness and the practice of readiness assessment are also explored, and it is proposed that the use of standardized readiness tests in the gifted identification process might be counterproductive for some groups of students.

The role of teachers' beliefs and practices related to giftedness, student achievement, and potential among diverse groups is examined. Teaching practices in the primary classroom are framed in terms of developmentally appropriate practices (DAP) and their effectiveness with gifted students and diverse populations of learners. Taken together, these areas of research provide a framework for studying one aspect—the role of teachers—of the multifaceted influences acting upon gifted students from under-represented groups in the earliest years of school.

Characteristics and Development of Young Gifted Children

Despite the proliferation of recent research into school experiences, identification practices, program models, curriculum and instruction, social and emotional needs, and issues of cultural and economic diversity related to gifted and talented students, there remains a perceptible shortage of research literature on the characteristics and needs of very young gifted children, including preschool and primary school age students (Hodge & Kemp, 2000). Where research has focused on the early experiences of gifted children, this has frequently involved retrospective studies of prominent gifted adults (Sankar-DeLeeuw, 1999), has included very small sample sizes (Harrison, 2004), has emphasized scores on standardized tests as indicators of giftedness, or has drawn samples of children from affluent families who are nominated for participation by their parents (see Jackson, 2003, for a full discussion). Each of these factors can arguably limit the extent to which the research findings can be generalized across socioeconomic and cultural groups, or across different early educational settings. However, while these general limitations are acknowledged, recurring themes and findings from the literature provide a strong rationale for an increased focus on the needs of young children who show signs of potential. Numerous authors underscore the importance of early educational intervention for gifted children, arguing that gifted education should follow the lead of special education in recognizing individualized needs as early as possible to provide responsive instructional environments (Kitano, 1989; Levine & Kitano, 1998; Porter, 2005; Shaklee, 1992).

Despite noted inter-individual variation in behavioral, affective, and cognitive patterns (Hodge & Kemp, 2000), there is a cluster of characteristics commonly cited in descriptions of young children who go on to be identified as gifted. These include early language development and reading (Hodge & Kemp, 2000; Jackson, 2003; Sankar-DeLeeuw, 2004), strong verbal and visual memory (Harrison, 2004; Sankar-DeLeeuw, 2004), intense curiosity and interest in investigative problem solving (Hodge & Kemp, 2000; Rotigel, 2003), capacity for abstract thinking (Kitano, 1995; Walker, Hafenstein, & Crow-Enslow, 1999), and extended attention span (Damiani, 1997). Young gifted students have been described as active learners who seek to move beyond the familiar and make connections between the known and unknown (Harrison, 2004), and who seek to "know everything there is to know" about topics that engage their interest (Rotigel, 2003, p. 210).

Early Development of Language and Literacy Skills

Linguistic precocity is among the most researched domains of gifted performance in young children. The early development of receptive and expressive oral language has been consistently documented as an indicator of verbal giftedness and has high predictive validity for continued linguistic aptitude (Tannenbaum, 1992). The linguistically precocious child might demonstrate advanced development in oral language, passing through the stages of spoken utterances, single word acquisition, and linking words into phrases both significantly earlier and with greater rapidity than his or her age peers of average ability (Gross, 1999; Sankar-DeLeeuw, 2004). Based on longitudinal studies of gifted children, Gross (1993) reported that among 52 participants with IQ scores equal to or greater than 160, the mean age at which the first meaningful word was spoken was 9.1 months. Barbe's (1964) earlier study of children with IQ greater than 148 had recorded a mean age of 16 months at which participants were speaking in complete sentences. In another qualitative study of 11 gifted preschool children, parents recalled that their children had spoken their first words between 9 and 12 months of age, and spoken in sentences by 18 months (Hodge & Kemp, 2000). A longitudinal study involving 20 gifted children (IQ 130+) similarly showed participants to be distinguishable from their non-gifted age peers on a battery of assessments, including tests of language development, from as early as 18 months (Gottfried, Gottfried, Bathurst, & Guerin, 1994).

The early acquisition of reading skills is cited as a common characteristic of young children who go on to be identified as gifted (VanTassel-Baska, 1989). Research has identified gifted children who recognize large numbers of printed vocabulary words, both familiar and unfamiliar, by age 3 (Fletcher-Flinn & Thompson, 2000; Jackson, 1988). By 3 or 4 years of age, precocious readers have been found to decode and comprehend varying levels of text (Jackson & Lu, 1992; Sankar-DeLeeuw, 2004). A qualitative study of the cognitive processes of 15 gifted children (as selected through parent nomination and subsequent formal testing) aged between 6 months and 8 years revealed high levels of interest in words and symbols and preference for complex stories before the age of 2, and the ability to read before school entry in most of the participants (Harrison, 2004). Other studies have documented the advanced early development of numeracy skills in some children later identified as gifted, with studies identifying a similar logical ability underlying both precocious reading and mathematical skills (Robinson, Abbott, Berninger, & Busse, 1996; Shavinina, 1999).

Researchers have drawn attention to the emotional and social consequences for highly gifted young students when their talents go unrecognized and undervalued in the early school years (Neihart et al., 2002; Winner, 1997). Gross' (1999) longitudinal research suggests that as early as the first few months of preschool, children later identified as highly gifted might often begin to mask their abilities in an effort to fit in with peers and meet teacher expectations. These children might select picture books in the classroom even though they are reading text-laden books at home, or they might develop different "codes" for speaking at home and school to mask their linguistic sophistication. Highly gifted youngsters are sensitive to early messages that their attempts to express boredom, point out multiple approaches to a problem, or use

sophisticated humor are likely to be perceived as disruptive or disrespectful behaviors by teachers, rather than as markers of high ability. Since they are likely to engage in social comparison earlier than their age peers (Robinson, 1993), young gifted children are vulnerable to feelings of isolation and difference when their abilities are not recognized and valued at school (Gross, 1993). In preschool and primary school, gifted children often become frustrated when they are unable to find peers who share their interests or understand their advanced senses of humor (Webb, Meckstroth, & Tolan, 1982). Rotigel (2003) describes a precocious first grade student whose teacher interpreted the child's lack of participation as a lack of knowledge. The student explained to her parents that she was reluctant to participate because, "I don't want the other kids to know that I know all of the answers," going on to say that, "I do put my hand up when the teacher is really stuck, because I feel like I should help her out when no-one else knows the answer" (p. 210).

There is little doubt that many of the early-developing children such as the participants of the studies described above stand as candidates for early school entrance and/or differentiated programming within preschool and primary classrooms. Teachers at the preschool and primary school level must be prepared to develop responsive, appropriately challenging learning opportunities to nurture talents in students such as these and to help them develop healthy attitudes and habits of learning (Neihart et al., 2002). It is imperative that the possible negative or disruptive behaviors associated with being gifted in a developmentally inappropriate learning environment are acknowledged by teachers.

Relationship Between Socioeconomic Status and Early Development

While studies such as those cited above point to early language and reading development as markers of subsequent gifted performance, and underscore the importance of responding early to precocious children, Jackson (2003) notes that many individuals recognized as gifted in their later school years or adult lives do not demonstrate early language precocity. In addition, not all children who develop language early sustain gains over their age peers through the school years (Jackson, 2003). Thus, although early language development can be a significant marker of giftedness, particularly when it occurs in combination with early reading and advanced motor development (Gross, 1999) it is not a necessary precondition for later gifted performance. As described below, the link between precocious development and later gifted performance might be sullied by the effects of socioeconomic status on children's early development.

The research literature in health and developmental psychology paints a clear picture of the significant impact of the home environment on children's early cognitive development, and indicates that the effects of poverty can be enduring where quality interventions are not available (Dearing, McCartney, Weiss, Kreider, & Simpkins, 2004). Numerous studies have drawn attention to the relationship between quality of parent-child interactions and the early development of language and reading skills (Dickenson & Tabor, 2001; Dodici, Draper, & Peterson, 2003; Justice & Pullen, 2003; Lawhon & Cobb,

2002; Neuman & Dickson, 2002; Sonnenschein & Munsterman, 2002; Whitehurst & Lonigan, 1998). For example, in a study of home literacy practices by Deckner, Adamson, and Bakeman (2006), 55 children and their mothers were studied from age 18 to 42 months, and results indicated that children's interest in literacy activities was strongly associated with the rate of mothers' metalinguistic utterances during shared reading, and that both expressive and receptive language development were associated with home literacy practices. Similarly, a study of 85 parents and their children showed that early home literacy and language activities were correlated with children's subsequent print knowledge and reading interest (Weigel, Martin, & Bennett, 2006).

Longitudinal studies of low-income children by Bradley and Caldwell (1980; 1984) have shown scores on the HOME inventory of environmental characteristics administered in the first 2 years of life to be significantly correlated with both intelligence test scores at age 3 and 4 1/2, and Science Research Associates (SRA) achievement test scores in the areas of reading, language, and mathematics administered in the first grade. A study by Locke, Ginsborg, and Peers (2002) investigated the hypothesis that children reared in poverty begin school with underdeveloped spoken language skills compared with the general population. Through tests of spoken language skills and general cognitive abilities, the researchers found that more than half of children raised in poverty could be diagnosed with a formal language delay in their first months of kindergarten; that is, spoken language skills in impoverished children were significantly below both the general population averages and impoverished children's general cognitive abilities (Locke et al., 2002). Given that spoken language is a recognized precursor to the development of literacy skills (Catts & Kamhi, 1999; Gallagher, Frith, & Snowling, 2000), findings such as these suggest that children raised in poverty are placed at early risk for literacy problems (Dearing et al., 2004).

Bradley et al. (1994) found that infants born prematurely into impoverished homes have a significantly diminished chance of scoring within normal ranges across developmental domains in early childhood. This study found that access to targeted health interventions designed to address home and family-based risk factors was critical to the development of early signs of resilience in premature children living in poverty. Stanton-Chapman, Chapman, Kaiser, and Hancock (2004) examined the effects of risk factors present at birth on language development in preschool in 853 children from low-income families. The presence of factors such as physical health problems including malnutrition and asthma, parental mental health problems, abuse and neglect, lack of parental education, single parent households, minority ethnic status, and poor mother-infant interactions were found to be associated with developmental delays for impoverished children, particularly where these factors occurred in combination (Stanton-Chapman et al., 2004). In addition to poorer physical and mental health outcomes, children living in poverty go on to have higher school drop-out rates, higher rates of grade-level retention, and higher rates of placement in special education programs than children from more well-off families (Prince & Howard, 2002). Several authors have described how children born into impoverished homes are both more likely to find themselves exposed to risk factors and more likely to experience serious consequences, including cognitive and academic consequences, from the cumulative

effect of multiple risk factors (Brooks-Gunn, Klebanov, & Liaw, 1995; Bradley et al., 1994).

Ongoing research by Turkheimer and colleagues through the National Collaborative Perinatal Project has shed new light on the relationship between home environment and cognitive development for children growing up in poverty. This body of work indicates that the proportions of individual variance in IQ scores attributable to genes and environment vary in a nonlinear relationship with socioeconomic status (Turkheimer, D'Onofrio, Maes, & Eaves, 2005; Turkheimer, Haley, Waldron, D'Onofrio, & Gottesman, 2003). These studies suggest that for children living in impoverished circumstances, 60% of IQ score variance is attributable to environmental circumstances, while genetic influence is minimal. In contrast, for children living in affluent families the contribution of genes accounts for between 80 and 90% of the variance in IQ scores (Turkheimer et al., 2003).

These findings are significant in their implications for young gifted children living in poverty. That is, even where genetic potential may be present, an impoverished environment appears to constrain the extent to which this potential can be detected on a test of cognitive ability. These findings also suggest that where the early development of language and other cognitive skills is employed as a primary indicator of giftedness, children raised in poverty are less likely to have their talents recognized at an early age. For gifted students from low-income families, factors such as inadequate nutrition and health care, lack of exposure to academic role models, and lack of opportunity to attend a rich, developmentally appropriate preschool program (Taylor, Gibbs, & Slate, 2000), all have the potential to drastically affect the development of school-valued abilities in the early years (Magnuson et al., 2004; Ramey & Ramey, 2004).

Toward Broadening Conceptions of Giftedness

While the academic and social needs of young early developers should be addressed, the focus within the research literature on early language, reading and logical reasoning skills deserves critical examination for a number of reasons. While attempts to describe the "typical" young gifted child contribute to an understanding of group needs, this approach might simultaneously diminish the salience of diversity in profiles of giftedness. The great variation in expressions of giftedness has been documented (Hodge & Kemp, 2000), as have multiple cases of highly gifted children and adults who did not exhibit advanced development of language or reading (Gross, 1999; Jackson, 2003). These cases are consistent with the field's increasing drive to embrace broadened conceptions of giftedness that incorporate creative, interpersonal, spatial, and metacognitive dimensions of high ability (Renzulli, 2003; Sternberg, 2003) and acknowledge varying paces and patterns of cognitive development (Tannenbaum, 2003). The extent to which these broader conceptions have consistently influenced the practice of gifted education is, however, debatable.

The belief that students with gifted potential will always appear in the classroom as precocious readers, writers, or mathematicians with an insatiable appetite for

schoolwork is a gross misconception. Gifted students with learning disabilities, with gifts outside the domain of analytical intelligence, and from low income and culturally diverse backgrounds are most likely to be shortchanged by narrow, academic achievement-driven conceptions of giftedness. As noted in the previous section, gifted children living in poverty face multiple barriers to the early development of their abilities and are therefore among those likely to be overlooked on the basis of a skills-based definition of gifted potential. In communities where there is significant overlap between low socioeconomic status and minority ethnic status, such definitions are also likely to exclude minority students with gifted potential.

Ford, Howard, Harris, and Tyson (2000) further point to the cultural mismatch in conceptions of giftedness held at home and at school for many groups, and urge educators of gifted minority students to consider cultural differences according to the dimensions of communication style, social interaction style, response style, and linguistic style. The authors suggest that each of these dimensions can account for learning preferences and expressions of gifted potential that are not compatible with a dominant cultural conception of the typical gifted student. Other studies of African American groups have indicated that oral experiences (Hilliard, 1989; Shade, 1997), physical activity (Ewing & Yong, 1992; Shade, 1997), and strong interpersonal relationships (Hilliard, 1989) are valued in the learning environment more highly than traditionally academic skills. Studies of Latin American cultures have suggested that a social learning style is highly valued (Griggs & Dunn, 1996; Vasquez, 1990), while Native American groups have been found to value collective goals above personal achievement (Callahan & McIntire, 1994). While scattered research studies have delineated conceptions of giftedness among particular cultural minority groups (Peterson, 1999), more research is needed to understand multiple expressions of giftedness among children entering primary school.

Identification of Young Gifted Children

Jackson (2003) highlights the distinction between *describing* gifted behavior or performance in young children and *identifying* individual children as gifted. It follows that the direct translation of common characteristics of giftedness into checklists for identification is problematic. That is, even if common characteristics of young gifted children can be articulated, the direct translation of this knowledge into valid, reliable, culturally appropriate identification tools is a separate challenge. It remains unclear, for example, to what extent descriptions such as "intensely curious," or "investigative" can reliably distinguish potentially gifted from non-gifted children at particular ages, or predict future gifted performance (Jackson, 2003). Thus, there are inherent difficulties, based on current knowledge of gifted characteristics in young children, in selecting from existing or developing appropriate new identification tools.

Considered in light of these challenges in assessing key behavioral characteristics of young children, standardized ability and achievement tests might appear attractive for their capacity to measure more "objective" traits. Indeed, it is common practice for gifted education programs to weight standardized test scores heavily in identification decisions

(Callahan, 2005), despite the prevalence of broadening conceptions of giftedness and theories of intelligence in recent years (Brown et al., 2005). Results from a survey of over 3,000 third and fourth grade teachers by Archambault et al. (1993) indicated that 79% of teachers used achievement tests in the identification of gifted students, 72% used some form of IQ test, and 70% of practices involved teacher nomination (Ford, 1994). Since individual teachers are bound in their practices by administrative directives, these findings can be read as program-wide identification practices. In a more recent study, Brown et al. (2005) surveyed state directors of gifted education nationwide, and results indicated that intelligence or aptitude tests were the most reported mandated component of the identification process, reported by 94% of participants.

Several practitioners and researchers advocate the inclusion of standardized intelligence and achievement tests in the assessment of gifted potential in young children (e.g., Benbow & Stanley, 1997; Borland, 1989; Gross, 1999), but also recognize the limitations of these measures and caution that they cannot provide the complete picture of a child's functioning. To be effective, even in a battery of assessment tools, standardized tests must have evidence of reliability and validity for the purpose of identifying high ability or achievement (Mantzicopoulos, 2000), must be appropriately normed for the population to whom they are administered (Camara & Schmidt, 1999), and must be interpreted in combination with additional data about the individual from alternative sources, such as observation, interview, and work samples (Sattler, 2001). In practice however, commentators suggest that tests are often selected for availability rather than reliability (Shaklee & Hansford, 1992), are often interpreted inappropriately for students from culturally, linguistically, and socioeconomically diverse backgrounds (Maker, 1996), and are often afforded unwarranted weight in educational decision making (Bredekamp & Shepard, 1990).

The Use of Tests With Young Children

Particular caution should be exercised in the use of tests with very young children (Jackson & Klein, 1997; Kanevsky, 1992). Tests of IQ have limited reliability for children under the age of 6 (Tannenbaum, 1992), and other psychometric instruments possess ceilings too low to detect advanced performance (Kaplan, 1992). Moreover, young children's tendency to experience irregular "spurts" of development, their limited attention spans, and their sensitivity to environmental and physical stimuli during testing combine to make "one shot" psychometric tests less than ideal in measuring ability or development (Hodge & Kemp, 2000; Robinson, 1993). While these limitations are real, they are sometimes inappropriately cited by educators to argue for delayed identification and services for young gifted children (Gross, 1999; Proctor, Black, & Feldhusen, 1988). The need for early identification and intervention for young, potentially gifted children does not disappear simply because tests have limitations with a particular group.

Gross (1999) recommends that practitioners in gifted education adopt the treatment model used by audiologists, in which children are referred for early audiometric intervention based on initial diagnostic testing, and are then retested at a later age when the instruments are known to have greater reliability. Adjustments can then be

made to the existing intervention program based on the follow-up tests. This model is predicated on the philosophy that it is in the child's best interests to err on the side of unnecessary intervention rather than none at all. In addition, Gross suggests that when a 2-year-old shows advanced performance on a test designed for 6-year-olds, and such performance is consistent with other observations of giftedness in that individual, then this provides important information even though the test was not administered within the population for which it was intended.

Others propose that the potential for cultural bias inherent in standardized ability and achievement tests results in more harm than good when used in the identification of students for special services (Feiring, Louis, Ukeje, Lewis, & Leong, 1997; Ford & Harris, 1999). It has been argued that traditional IQ tests are culturally biased in favor of White, middle class groups (Onwuegbuzie & Daley, 2001). This purported bias stems from a number of sources, including content based on concepts and vocabulary valued in White, middle class schools (Ogbu, 1988; Washington, 1996), the under-representation of culturally and linguistically diverse individuals in normative samples (Laing & Kamhi, 2003), and the language barrier for non-native English speakers (Baker, 1996). In addition, students from culturally and linguistically diverse and low socioeconomic backgrounds might have limited experiences with "out of context, test-like situations" (Laing & Kamhi, 2003). Many have linked the under-representation of students from cultural minority and low socioeconomic backgrounds in programs for the gifted to an over-reliance on standardized identification tools (e.g., Maker, 1996).

School Readiness

The potential for tests to be used inappropriately becomes particularly pertinent when assessing children prior to and during the first few years of school. Where tests focus on core developmental skills such as language development and emerging literacy and numeracy, they might actually measure the extent to which children have participated in activities and experiences likely to foster these skills prior to entering school (Dearing et al., 2004; Magnuson et al., 2004). Tests of school readiness typically focus on the areas of language and communication, cognitive development, social and emotional development, psychomotor development and health, and are increasingly administered in schools in response to federal policies (Mashburn & Henry, 2004; Meisels, 1999). La Paro and Pianta (2000) note an increasing reliance on the assessment of child-centered characteristics such as skills and abilities to determine school readiness, even as the view that readiness is a function of both individual factors and environmental determinants such as opportunity and quality of early interactions is widely supported (Pianta & McCoy, 1997; Ramey & Ramey, 2004; Willer & Bredekamp, 1990). For example, the National Association for the Education of Young Children (NAEYC) position statement on school readiness emphasizes that readiness "includes ready children, ready families, ready communities, ready early care and education, and ready schools. All are necessary so that all children will experience success" (NAEYC, 1995, p. 1). In practice however, assessment practices continue to promote a child-centered view of readiness (Kagan, 1992).

La Paro and Pianta (2000) document the dearth of reviews linking specific preschool readiness tests to subsequent school outcomes. Based on a meta-analysis of 70 published longitudinal studies, these authors found preschool tests of cognitive and academic skills to be only moderately predictive of performance in first and second grade, while effect sizes were found to be low for social and behavioral measures. These and other findings (Pianta & McCoy, 1997; Meisels, 1987) suggest that caution should be exercised in making judgments about children's ability to cope with school based solely on child-centered, standardized assessments.

Each of the areas typically assessed as part of readiness is strongly influenced by early environmental experiences, including access to a high-quality preschool program (Bracey, 2003; Ramey & Ramey, 2004). As noted previously, the home environment is also a significant source of influence on early cognitive development, particularly for children living in poverty (Bradley & Caldwell, 1984; Connell & Prinz, 2002), and this influence is revealed in marked differences between ethnic groups in the extent to which children have mastered a range of cognitive skills prior to entering school (Bracey, 2003). Lower rates of readiness among children from Black and Hispanic groups compared to White and Asian groups have been associated with socioeconomic inequalities (Bracey, 2003). In this way, the extent to which dimensions of readiness are incorporated into the concept of giftedness will significantly impact the cultural and socioeconomic distribution of young children identified as having gifted potential. Readiness-based conceptions of giftedness are also likely to promote a deficit model of thinking about cultural and socioeconomic differences, with teachers more apt to focus on deficient basic skills and less likely to recognize and nurture areas of strength (Ford, Moore, & Milner, 2005).

Teacher and Parent Nominations

What are the alternatives to reliance on standardized ability and achievement tests in the identification of giftedness? Other tools commonly employed include parent and teacher nominations. Research on the reliability of parent nominations has yielded mixed results. Gross (1999) found parent nominations to be more accurate than teacher nomination for preschool and primary school children. Jackson (2003) found that while parent nomination was accurate for the areas of language, literacy, and numeracy; parents varied significantly in the less quantifiable characteristics they took to be signs of giftedness in very young children. While the importance of involving parents in the identification and talent development process is undeniable, parent nomination also has the potential to bias identification in favor of the White middle class (Gandara, 2004). That is, in the absence of deliberate efforts to reach out to all parents, those who feel more comfortable with the language and environment of school, who are supportive of education, and who are more educated in the characteristics of giftedness, are those most likely to step forward and "work the system" to advocate for their children (Gandara, 2004). Economically disadvantaged parents might harbor feelings of mistrust towards the education system or lack the knowledge and skills to act as effective advocates (Woods & Achey, 1990).

Teacher nominations are a common component of gifted identification practices (Siegle, 2001). Almost all identification practices involve teachers in some form of "gatekeeper" role (Hunsaker, 1994; Hunsaker, Finley, & Frank, 1994). While teachers play a key role in the identification process, few if any teacher training experiences at the primary school level incorporate instruction in how to recognize and develop talent in a wider range of students with gifted potential (Culross, 1997; Karnes & Johnson, 1991; Roedell, 1989). The lack of appropriate training might contribute to the phenomenon of less accuracy in nominating gifted students than are teachers in the latter grades (Sankar-DeLeeuw, 2004). Other studies suggest that teachers are as accurate as some standardized developmental tests in assessing certain academic abilities in students, but they are less able to recognize more abstract skills such as applied problem solving; the kinds of advanced thinking skills characteristic of gifted students (Quay & Steele, 1998). Others have suggested that teachers are more prone to recognize weaknesses than strengths in students (Delahanty, 1984), and that the curriculum itself is sometimes too narrow to allow students' gifts to emerge (Chance, 1990). The lack of a challenging, engaging curriculum through which talents can emerge is of particular concern as public schools increasingly respond to the demands of high-stakes testing by narrowing curriculum and instruction around tested content and test-like activities (Moon, Brighton, & Callahan, 2003).

Like other instruments, teacher nomination might be subject to cultural and socioeconomic bias. Where, for example, the manifestation of giftedness in a young child living in poverty, includes behaviors outside the traditional concept of giftedness, teachers are often ill-equipped to make informed judgments (Renzulli, Reis, & Smith, 1981). Teachers of young children have been found to incorporate information about gender, culture, and family characteristics into their ratings of student ability (Quay & Steele, 1998). In a study of 207 primary grade teachers' responses to hypothetical gifted student profiles, Elhoweris, Mutua, Alsheikh, and Holloway (2005) found that teachers made different recommendations based on students' reported ethnicities. However, in contrast, Powell and Siegle (2000) reported no effects due to student ethnicity in a study of teachers who had received some training in gifted education. Alexander, Entwisle, and Thompson (1987), however, found that teachers from more affluent backgrounds rated first grade students from low socioeconomic backgrounds as less mature and described lower expectations for these students. In a study of 105 very low-income kindergarten students, Hauser-Cram et al. (2003) found that when teachers perceived the education-related values of the families to be lower or different from their own, teachers rated students as less competent academically and held lower expectations for the students' future academic success than they did for families who communicated a shared education-related value. The relationship between teachers' levels of training and their ability to accurately identify non-traditional profiles of giftedness is an area of needed additional research.

Best Practices in Gifted Identification

While the use of particular identification instruments in particular combinations can be debated, certain principles are common to all sound identification practices.

Callahan, Tomlinson, and Pizzat (1993) suggested themes that emerged from a study of model identification practices. Among the identified principles of best practice are the recognition that (a) giftedness is multifaceted, (b) giftedness is manifested in multiple ways, (c) identification procedures are best when data are collected over time; (d) program and identification procedures should actively seek to include the inclusion of students from diverse backgrounds; (e) the use of a collaborative model with input from teachers, parents, specialists, and students is important throughout the process; and (f) consistency is critical between the identification process and the services delivered through the program.

Among promising identification practices that address the above principles are various "case study" models, in which information about a student is collected over time, across varied activities, and from multiple sources. In one such model employed by Wright and Borland (1993), predominantly low-income, minority students from an urban public school district were assessed using a three-phase process involving parent and teacher education, opportunities for students to build transitional skills to promote success in the gifted education program, guided teacher observations, test scores and multiple samples of students' work. The model showed promising results in selecting and preparing students of high potential for entry into local schools and programs for the gifted. Project START (Support To Affirm Rising Talents; Callahan, Tomlinson, Moon, Tomchin, & Plucker, 1995) employed a multiple intelligences model in the identification and multifaceted intervention for talented students from traditionally underserved groups. Teachers in the study showed evidence of becoming more attentive to students' strengths and more flexible in their conceptions of giftedness as they applied the identification framework to their classroom learning tasks. Renzulli's Schoolwide Enrichment Model (Renzulli & Purcell, 1995; Renzulli & Reis, 2002) has demonstrated the potential of providing opportunities for students' talents to emerge through engaging, challenging curriculum based around students' interests. Like Project START, this model promotes a longitudinal, strength-based assessment of potential that encourages teachers to become better observers of diverse manifestations of talent in the classroom.

The need for consistency between identification practices and effective programming is inherent in the following comment from Wright and Borland (1993):

Giftedness, especially potential giftedness, is an elusive, socially-constructed entity. Too often, it is reified as a thing that is out there waiting to be discovered once the perfect tools for its detection and the tests for its quantification are developed. (p. 209)

According to this view, giftedness for the purposes of identification and talent development is most usefully conceptualized in terms of a child's individualized needs relative to his or her specific educational setting, rather than as a stable and inherent trait that can be directly measured in the individual. In other words, identification should serve as a catalyst for meeting the educational needs of the child, and should therefore remain sensitive to the unique characteristics of both the individual and the educational environment. Intrinsic is the idea that the selection of one identification instrument over

another cannot be evaluated except as it meets the goals of the program for which students are identified, which is always grounded in local context. This sentiment is consistent with Callahan's (2005) entreaty for educational leaders to recognize the appropriate identification of traditionally underserved gifted students as a "complex interaction of factors" that cannot be solved by a "single, silver-bullet answer" (p. 98). In the primary setting, teachers' beliefs, practices, and responsiveness to guided intervention are essential components of the complex interactions surrounding the education of the young gifted.

Teachers' Beliefs About Giftedness in Young Students

Both teachers' beliefs about the abilities of their students and teachers' conceptions of giftedness are areas of critical consideration related to identification and talent development practices in primary school classrooms. As noted above, teachers play a central role in the identification of young gifted students regardless of the combination of instruments used. Teachers are more embedded in the practice of gifted identification and talent development than are researchers or policymakers, especially at the primary school level where more formal instruments such as standardized testing are less likely to be employed (Gross, 1999). In this way, *whether* a primary grade student receives support to develop his or her talents, and *how* his or her talents are developed will depend in large measure on how that student's teacher conceptualizes giftedness in young children, including those from diverse backgrounds. However, few research studies have explored the beliefs primary teachers hold about giftedness.

In a survey study by Sankar-Deleeuw (1999), only half of the participating primary teachers expressed the belief that children should be identified as gifted in the early years of school. Only 32% agreed that gifted children require a different curriculum in the primary years, while only 7% of teachers expressed support for the early school entrance of gifted students. These findings are consistent with a trend towards later identification and formal intervention for gifted students, with students typically recognized in the third or fourth grade or into the middle school years (Karnes & Johnson, 1991; Proctor et al., 1988). Teachers might be motivated to avoid the misidentification of children at this level (Siegle & Powell, 2004), believing that children will be socially disadvantaged if removed or singled out from age peers (Gross, 1999). Children from disadvantaged and culturally diverse backgrounds are placed at particular risk by their under-representation in the few gifted programs that do exist for the very young, since they are least likely to benefit from out-of-school supports for talent development (Barclay & Benelli, 1994).

Survey responses from a national study by Brown et al. (2005) suggest that a majority of teachers do believe in a multifaceted approach to uncovering talent in students. Teachers in this study supported a case study approach to talent identification, with a focus on the development of gifted behaviors and evidence of emerging student ability from a range of sources. These beliefs are inconsistent with actual identification practices. However, many of the teachers surveyed received some training in gifted education, but the study did not report findings by grade level. It is unclear to what

extent primary teachers share these conceptions, or to what extent these beliefs translate into teachers' classroom practices related to talent development in young children. A study by Hunsaker (1994) revealed that while the majority of teachers viewed creativity as an important indicator of giftedness, few of them actually used creativity as a criterion for identifying students for gifted programs. However, the study did not explore the extent to which this discrepancy between teachers' stated beliefs and their practices might be a function of broader program goals. McBride (1992) found that among those primary teachers who expressed support for the early identification of gifted students, there was great variability in the articulation of how they would support identification and talent development in their classrooms. Taken together, these findings suggest that while teachers express beliefs about the multidimensional nature of giftedness and the importance of supporting young gifted students, they might be unwilling or unsure how to apply these beliefs in practice, or might feel unable to do so in the context of broader program requirements. Thus, it is important that research examine the relationship between teachers' philosophies about giftedness and their actual classroom practices.

The Role of Teacher Expectations in Judgments About Students

As noted earlier, research suggests that teachers, particularly those with less training, often rely on characteristics of ethnicity and family background in making judgments about students' abilities (Elhoweris et al., 2005; Mashburn & Henry, 2004; Quay & Steele, 1998). Other studies have suggested that primary teachers base their academic expectations on non-cognitive factors such as behavior, dress, and speech patterns (Alexander et al., 1987; Baron, Tom, & Cooper, 1985; McLloyd, 1998). Teacher judgments are also influenced when they equate giftedness with high academic achievement and compliant behaviors (Mantzicopoulos, 2000). This view of the typical gifted child is likely to disadvantage gifted students with emotional and behavioral difficulties (Abell & Lennex, 1999), who are from low socioeconomic backgrounds (Adams, Hillman, & Gaydos, 1994; Butler, Starfield & Stenmark, 1984), and those who have not had access to high quality preschools and supportive early childhood experiences (Downer & Pianta, 2006).

A growing body of research highlights the important link between teacher expectations and student achievement. In Rosenthal & Jacobsen's (1968) classic "Pygmalion in the Classroom" study, students made significant academic gains when teachers were led to expect such. Subsequent studies have supported teacher expectancy effects on student performance (Babad, 1993; Brattesani, Weinstein, & Marshall, 1984; Dusek, 1985; Ferguson, 2003; Kolb & Jussim, 1994; Raudenbush, 1984; Trouilloud, Sarrazin, & Bressoux, 2006). More specifically, studies have found that teachers hold lower expectations for minority students and economically disadvantaged students than for students from the cultural and economic mainstream (Comer, 1988; Diamond & Spillane, 2004; Epps, 1995; Gill & Reynolds, 1999; Hughes, Gleason, & Zhang, 2005; Rubie-Davies, 2006; Weinstein, Madison, & Kulinski, 1995). These studies suggest that based on lower expectations, teachers might be less likely to recognize signs of giftedness in students from cultural minority and low socioeconomic groups.

Another body of research suggests that teacher expectations are shaped by the manifestation of students' actual skills and performances (Brophy, 1983; Jussim, Eccles, & Madon, 1996). Jussim and colleagues suggest that children's actual skills and performances influence teachers' expectations which then inform future achievement. From this model, the learning process becomes a cycle of increasing and decreasing achievements and failures, which has dire consequences for students who enter the primary classroom without adequate school readiness skills.

It is worth noting that although teachers' beliefs can negatively affect their instructional practices, research indicates that these beliefs can be altered, which can lead to changes in classroom practice (Richardson, Anders, Tidewell, & Lloyd, 1991). Findings such as these support ongoing efforts to educate teachers about giftedness in diverse populations and to guide them towards best practice in curriculum and instruction related to talent development.

Classroom Practices Related to Talent Development

Over the past two decades, instructional practices in primary classrooms have been significantly influenced by the National Association for the Education of Young Children's (NAEYC) advocacy for developmentally appropriate practices (Jones & Gullo, 1999). Classrooms characterized by developmentally appropriate practices (DAP) are based on the philosophy that children actively construct knowledge for themselves as they interact with their peers, adults, and materials (Bredekamp & Copple, 1997). In this model, the child's experience is at the center of instruction, and learning activities are designed for their potential to engage children at their current levels of cognitive development (Stipek, 2004; Jones & Gullo, 1999). The DAP classroom environment is organized to allow for a variety of learning experiences based on individual, developmental, and cultural characteristics of young students (Huffman & Speer, 2000), and in this way, the model represents a shift away from the teacher-led, didactic instructional environment of the more traditional classroom. Recent developments in understanding of the developing brain have also been cited in support of DAP. That is, DAP are thought to gain students' attention, encourage students to develop meaningful connections between new and prior knowledge, foster memory development through an emphasis on patterns and active problem solving, and allow students to work at an appropriate level of challenge, all of which are consistent with the function of the brain during learning and environments that nurture talent (Rushton & Larkin, 2001).

Although some disagreement persists among researchers about the achievement-related benefits of DAP across groups when compared with more traditional methods, recent studies lend strong support to the effectiveness of DAP in promoting both achievement and social gains for young children, and suggest that gains are most marked when achievement is measured as applied problem solving ability in addition to memorized facts and basic skills (Huffman & Speer, 2000; Jones & Gullo, 1999). In addition, children attending kindergarten programs characterized by DAP have been found to perform better in the primary years than students who do not experience this type of instruction (Frede & Barnett, 1992). This superior early performance might serve

to enhance teacher expectations for student achievement, and to increase students' self-efficacy related to the school environment, which could subsequently increase these students' chances of being identified for gifted education programs.

It is promising to note that research has supported the effectiveness of DAP in reducing the readiness-based achievement gap that exists between White, middle class students and those from culturally and linguistically diverse and low income backgrounds when children enter school. In a study of 113 predominantly African American and Hispanic kindergarten and first grade students attending urban public schools, Huffman and Speer (2000) found that students in DAP classrooms performed better on tests of letter and word recognition and applied problem solving than did students in non-DAP classrooms. Hart et al. (1997) reviewed the research literature and suggested that in kindergarten and primary school classrooms adopting DAP, African American and low income students are typically found to make similar achievement gains to their White middle class peers, while in non-DAP classrooms, minority and poor students tend to fall further behind over time. Research also suggests that teachers of high-poverty students who engage in questioning and design learning activities that promote higher-order thinking are more likely to have students who perform highly on tests of reading and writing (Taylor, Pearson, Peterson, & Rodriguez, 2003). These and other studies highlight the potential of child-centered, constructivist instruction which allows students to engage in higher order thinking and applied problem solving as a means of gradually addressing the cultural and economic achievement gap in the early years of school.

In practice, the picture for minority and low income students might not be as promising as the above studies suggest. A study by Stipek (2004) assessed teachers' instructional practices in 314 kindergarten and first grade classes across three states. The data indicated that teachers serving predominantly low income and culturally and linguistically diverse students focused on basic skills through teacher-driven, didactic instruction, and these teachers also reported more negative social environments within their schools. By contrast, teachers of predominantly Caucasian students more frequently employed constructivist teaching practices reminiscent of DAP. These findings are consistent with previous research indicating that students from culturally diverse and low income backgrounds are more likely to experience teacher-driven "skill and drill" style instruction based around the development of basic skills (Moon et al., 2003). Moreover, Jones and Gullo (1999) conducted a study of beliefs and practices related to DAP among primary teachers, and found great variation in the extent to which teachers voiced support for the principles underlying DAP. Where teachers did support DAP, a study of their classrooms revealed that beliefs were not consistently reflected in effective instructional practices. Others have advised that classroom practices cannot be defined as either DAP or non-DAP, but fall along a continuum from most to least developmentally appropriate, clouding the extent to which children might actually be reaping the benefits of best practices (Bredenkamp & Copple, 1997). Thus, although both the research literature and NAEYC advocate developmentally appropriate practices for young students, the exact nature of these practices, the extents to which teachers embrace their underlying philosophy and the equitable provision of such instruction across diverse student groups remain unclear. These questions become particularly pertinent in the current climate of

high-stakes testing, where the instructional focus is on basic skills, and educational outcomes are often considered synonymous with test scores (Moon et al., 2003). The Stipek (2004) study in particular highlights the importance of examining both teachers' beliefs and the consistency of stated beliefs with actual classroom practices.

Developmentally Appropriate Practices and Gifted Students

How do young, potentially gifted students fare in developmentally appropriate classrooms? While studies have not specifically addressed this question, Morelock and Morrison (1999) explicate a number of concerns regarding the suitability of DAP for gifted students. In particular, the authors point to the underlying assumption that development follows a series of stage-like progressions that can be predicted with reasonable accuracy based on a child's age. They suggest that this assumption is inconsistent with the asynchronous development characteristic of many young children, whose needs are unlikely to be met when age-based criteria are used to evaluate whether practices are developmentally appropriate. These authors recommend Vygotsky's zone of proximal development as a more appropriately individualized model of cognitive progress, whereby development is fostered as students practice skills and solve problems that they are able to complete with cognitive scaffolding, as they move towards independent mastery. Within this framework, instruction is tailored to meet the student's actual, rather than expected, developmental capabilities. Although student progress is arguably more difficult to measure, this approach leaves the teacher with no choice but to differentiate curriculum to meet the needs of all students, including those who are potentially gifted.

A number of programs for young gifted children, including those from diverse and disadvantaged backgrounds, have shown promising results using differentiated instruction within the kind of child-centered classroom promoted by DAP (Gould, Thorpe, & Weeks, 2001; Karnes & Johnson, 1991; Walker et al., 1999). Although further research is required across multiple settings, common elements of these programs appear to include a child-centered focus, curriculum derived from students' interests, curriculum focused on important interdisciplinary concepts, and genuine involvement from parents and local communities. Karnes and Johnson (1991) found that within one program aimed at young gifted students and characterized by these elements, disadvantaged students not identified as gifted also made significant gains.

In the relative absence of formal programming for young gifted children, which could stem from a lack of mandated funding for this purpose, beliefs about the dangers of early identification, or the reluctance of parents to advocate for gifted programs at the primary level, curriculum and instruction assumes great import within the regular classroom. To what extent do primary school teachers create opportunities for talents to emerge as students engage with high quality curriculum? How do teachers perceive and nurture talent in students from impoverished and culturally diverse backgrounds? How do teachers combine positive features of DAP with appropriately differentiated instruction to meet the needs of all students, including those who display gifted potential? To date, research has not comprehensively addressed these questions.

In sum, the current research on primary classroom practices suggests that low income and minority students exposed to child-centered DAP are likely to fare better than those exposed to more traditional, teacher-centered instructional practices, but that potentially gifted students and others who develop according to a different pace or pattern than the age-typical student require differentiated instruction. Programs that involve the differentiation of content, process, product, and learning environment in response to individual learners, and provide rich, challenging curriculum have been shown to benefit not only young gifted students, but students of diverse ability levels and backgrounds (Tomlinson et al., in press). More research is needed into primary teachers' current practices as they relate to the recognition and development of diverse manifestations of potential, and into teachers' experiences of receiving administrative support to understand and implement recommended practices.

Under-representation of Culturally Diverse and Low Income Gifted Students

Considered in combination, the literature reviewed here proposes that young, potentially gifted students have special educational needs that often go unacknowledged and under-developed in the primary years; that young, gifted children from cultural minorities and economically disadvantaged families are at particular risk of underachievement and inappropriate future programming if their needs are not addressed early; that these populations of gifted students are least likely to be identified for the relatively few existing gifted programs in the primary years; and that classroom practices and teacher expectations can further mask potential in diverse young gifted students. This picture is consistent with the noted under-representation of students from cultural minority and low socioeconomic backgrounds in middle and secondary school programs for the gifted (Anguiano, 2003). It also highlights the importance of examining the interplay of individual and sociocultural processes that contribute to the early roots of under-representation and lack of talent development among diverse populations.

Paramount across the areas mentioned above is the role of the primary school teacher. Although bound to some extent by program goals and requirements, primary teachers often operate in the position of gatekeeper as they participate in formal identification processes and/or design classrooms that value particular manifestations of gifted potential and foster talent in particular ways. Efforts to implement culturally and socioeconomically inclusive practices in gifted education hinge on teachers' willingness and capacity to bring best practices to life in the classroom. This willingness and capacity in turn depends on the attitudes and beliefs teachers hold about young, gifted students, including those from diverse backgrounds. Ford et al. (2005) suggest that a key to realizing equality of service for culturally diverse gifted students lies in teachers' ability to move beyond both a "deficit view" of cultural difference and a view of "culture blindness" in which students are treated as though cultural differences do not exist. The tendency to value and give voice to different traditions in the classroom is one aspect of teaching practice that deserves further attention. The extent to which multiple manifestations of giftedness are acknowledged and fostered in the classroom is another.

Research Questions

A greater understanding of primary school teachers' current philosophies, expectations, and practices related to gifted education is necessary to discern how the problem of minority under-representation in gifted education might be addressed in the earliest years of school. To this end, the present study was guided by the following research questions:

1. What beliefs and attitudes do primary teachers hold about the manifestation of gifted potential in all students, including those from traditionally under-represented groups?
2. To what extent are teachers' philosophies about giftedness consistent with their reported and observed classroom practices related to talent development in diverse populations?
3. How effective are context-based intervention efforts in guiding teachers towards more inclusive classroom practices?

CHAPTER 2: Methodology

Phase One

The first phase of the project involved a multidisciplinary review of the relevant literature of special, gifted, and preschool education; developmental, clinical, cognitive, educational, and neuro-psychologies; social policy; child development; social science research; behavioral science; anthropology; and sociology to determine those attributes, principles, and recommendations for identifying talent in at-risk, disadvantaged, and culturally diverse young children. The general themes from these literatures informed the development of a survey designed to assess kindergarten, first, and second grade teachers' beliefs, attitudes, and practices in regard to young gifted (or potentially gifted) students from diverse backgrounds.

Instrumentation

The survey (see Appendix A) consists of six sections: Conceptions of Giftedness (teachers' beliefs about the meaning and manifestations of giftedness); Instructional Practices (classroom practices in general and as related to talent development); Identification of Talent (teachers' valuation of students' characteristics when nominating students for placement in gifted programs); Student Readiness (teachers' beliefs about students' readiness); Demographics (educational and professional background and current classroom characteristics); and Case Studies (two different cases—one of a student manifesting typical gifted traits—"Brian," and then 1 of 3 profiles of students exhibiting talent indicators that are either masked or overshadowed by poverty, dominant language, cultural traditions, health status, or other mitigating circumstances—"Alexis, Cory, or Maria"). The majority of the survey items use a Likert-type scale. In the open-ended case study section, teachers are asked to recommend educational adjustments for a student given particular characteristics and to provide their rationale for the adjustments they suggest.

The survey was piloted with 12 K-2 teachers from a local school district who were not part of the study sample. They were asked to respond to the survey and to note any items that were confusing or misleading. Minor changes were made to the survey as a result of their feedback.

Sampling Procedures

A disproportionate stratified random sample of K-2 teachers ($n=6,062$) from public schools that served a range of diverse students was drawn using metropolitan status and poverty level as stratification variables. Market Data Retrieval (MDR) drew the sample in February, 2003, providing individual teachers' names, along with the associated school, address, and grade level for each teacher. The teachers were provided with a self-addressed stamped envelope to return the survey. Respondents were assured that all responses were anonymous; researchers maintained demographic tracking

information only. Four-hundred thirty-four teachers completed the survey (14% response rate with no follow-up). A follow-up postcard was sent to all teachers in the sample, after which only a few additional surveys were returned.

Participants

Of the respondents, 39% taught in a suburban setting, 34% taught in a rural setting, and 28% taught in an urban setting. The responding teachers taught at schools with varying poverty levels: Twenty-three percent worked in schools with 0-5.9% of students living below the poverty level, 32% with 6-15.9% of students below poverty, 26% with 16-29.9% of students below poverty, and 19% with 30% or more of the students living below the poverty level. Forty percent of the teachers reported that their schools identified gifted students in the primary grades; 36% of the schools offered programs for gifted learners. The majority of the teachers were female (98%) and White (91%). The teachers had an average of 21.5 students in their class. The majority (90%) of the teachers held their teaching certification in elementary education. Despite the low response rate, the respondents' demographics closely paralleled the full sample, thus reducing the threat of response bias (Babbie, 1990). However, the low return rate raises concerns about both internal and external validity, which will be addressed later in this paper.

Data Analysis

Quantitative data obtained from the survey were analyzed using descriptive statistics and univariate analysis variance techniques. Frequencies and percentages for all survey items were obtained and analyzed by grade level, poverty level of the school, and metropolitan status of the school. To explore whether the survey items reflected the specific dimensions contained in the survey, the data were subjected to an exploratory principle component analysis with varimax rotation. An examination of the scree plot indicated that the first seven factors should be included. Further examination of the data revealed that the first seven factors accounted for 32% of the variance, while the subsequent factors added only slight increases in the percentage of accounted variance. The seven factors had eigenvalues exceeding 3.50 at an alpha level of 0.05. The seven-factor solution appeared most interpretable in defining the dimensions within the survey. Therefore, the varimax-rotated seven-factor solution was regarded as an adequate representation of the data provided by this sample of primary grade teachers. Items that had a loading of .40 or greater were retained in the factors.

Responses to the open-ended case study items were analyzed inductively, seeking common patterns and recurrent themes in teachers' responses. Teachers' responses to the open-ended case study responses were grouped first within each grade level, then subgrouped within the grade level by metropolitan type, and socioeconomic strata. Researchers read and analyzed one grade level of responses at a time, coding responses to "Brian" (dominant culture student exhibiting "typical" gifted characteristics) first and then coded each of the three other profiles (three diverse learners—"Alexis," a student from urban poverty, "Cory," a student with attentional/learning processing difficulties or

social or emotional issues, and "Maria," a student with limited English proficiency) who each demonstrated the talent indicators noted in the literature. A matrix was created that outlined key themes across grade-level responses to the varied case studies. Following the grade-level analyses, cross-grade analyses were conducted that collapsed codes into encompassing themes. Each general theme was explicated and supported with specific quotes from teachers' responses.

Phase Two

The second phase of the study involved intensive classroom observations ($n=2,624$) by trained participant observers in primary grade classrooms in six² diverse elementary schools across the country over the course of one academic year. The purpose of this phase of the project was to extensively describe and document the classroom context and to determine the degree of consistency between teachers' philosophies about giftedness and talent and their classroom practices aimed at nurturing and developing talent in all students, particularly those from under-represented groups. As a part of the participant observation over the course of the school year, researchers worked with classroom teachers to design and implement model lessons aimed at eliciting high performance and observable talent in the students who researchers studied in the classroom context. After the implementation of the model lessons, researchers interviewed the teachers to determine whether the teachers' perceptions of talent development had changed through the process.

Sampling Framework

Participating schools were selected according to specific study criteria: (a) schools that served a diverse student population, including a population of students historically underserved by traditional gifted and talented programs; (b) schools that identified giftedness and talent in the elementary setting and served identified gifted and talented students within the school; (c) schools with fewer formally identified students than the district average; and (d) schools with administrators and teachers willing to participate for the entire academic year.

The 6 elementary schools that participated in this study represented varying cultural/ethnic groups, different dominant languages, varying SES levels, and differing metropolitan areas. Three schools were designated as urban, 2 schools were designated as suburban, and one school was designated as rural. Within the schools, building administrators were asked to identify specific teachers to participate who were "successful" working with primary grade students. This approach to selection of project teachers allowed for the administrators' varied perceptions of success and yielded valuable insights about the school cultures with the varied explanations of how the administrators viewed each selected teacher as particularly effective. Other selection criteria included teacher willingness to participate in the study, including having a participant-observer in the classroom each week during the academic year,

² Due to extensive school faculty turnover, one school in a high-poverty, urban setting participated for 2 consecutive years with a different group of teachers the second year.

(approximately 30 weeks) to be interviewed once per month for approximately 60 minutes, and the willingness to implement context-specific "model" lessons designed to elicit specific students' talent during the school year. The teaching of these lessons occurred in most cases in the third or fourth quarter of the school year when the researchers were most familiar with the classroom context including teachers' instructional approaches and the young students in their classrooms.

Instrumentation

General themes from the multidisciplinary literature review discussed in Phase One informed the development of the classroom observation protocol and teacher interview protocols (see Appendix B). The semi-structured observation protocol included four sections—the classroom context (including a description of the physical, material, and human resources in the school and classroom, room configuration, and classroom routines); the interactions between the teacher and students (including the types and frequency of individual student feedback, praise/reprimand ratios, types and frequency of student/student interactions); learning experiences (including the specific curriculum, instruction, and assessment experienced by the children); and the students (including individual students' profiles, particularly characteristics of demonstrated or potential giftedness and talent).

Paralleling sections of the survey, the semi-structured teacher interview protocol had six sections—general demographic information (years of teaching, educational background); conceptions of giftedness (teachers' beliefs about the meaning and manifestations of giftedness in young children); instructional practices (teacher report of classroom practices in general and as related to talent development); identification of talent (teachers' perceptions of the necessary students characteristics when nominating students for placement in gifted programs); student readiness and appropriate challenge (teachers' beliefs about students' readiness and the appropriate degree of challenge for young children in general and for certain students specifically); and perceptions of specific students (teachers' professional opinions about specific students' responses to instructional tasks, students' behaviors).

Data Collection

Researchers were assigned to a particular classroom (or classrooms) where they remained through the entire year as a participant observer in the classroom. Researchers conducted weekly classroom observations of the teacher using the semi-structured observation protocol while also serving as a volunteer in the classroom. The volunteer role of each observer varied widely depending on the teacher, the grade level and needs of the students, the availability of other teacher assistants and school personnel. For example, in one classroom, a researcher was used to file papers in the back of the room while the teacher instructed the class. In another classroom, the researcher sat on the floor with the students while the teacher instructed the whole class. In a third classroom, the researcher monitored learning centers while the teacher instructed a small group of students. In each instance, the teacher and researcher negotiated a role for the researcher that allowed them

to be able to observe unobtrusively and was of some assistance to the teacher. Researchers kept reflexive journals and chronicled detailed field notes after each observation, which were reviewed weekly by a pair of researchers serving as data analysts across all classrooms in the project. Other primary sources of data included teacher interviews, informal student interviews, and interviews of other school personnel as necessary to fully understand the context and to triangulate findings (e.g., English as a Second Language (ESL) teachers, Reading Facilitators, Administrators). These interviews were audio taped and later transcribed verbatim into paper transcripts that were coded and analyzed. Researchers occasionally videotaped lessons or segments of the school day to be analyzed and to serve as a source of discussion in the teacher interviews. Following the interview discussion of the taped classroom segments, the videotapes were destroyed in accordance with school confidentiality policies and the approved terms of the university's Institutional Review Board. Other secondary sources of data included student work samples, teacher planning and instructional documents (e.g., worksheets, task cards), and school information (e.g., school handbook, teacher newsletters, school calendars).

Development of Model Lessons

As described in Phase Two selection criteria above, participating teachers agreed to implement a series of context-specific "model" lessons designed to elicit specific students' talents, specifically targeting students from low-income and under-represented minority and ethnic groups, and non-native English speaking students. As stated above, these lessons were designed and taught, in most cases, in the third or fourth quarter of the school year when the researchers were most familiar with the classroom context including teachers' instructional approaches and the young students in their classrooms.

Building on the findings of the National Study Group for the Affirmative Development of Academic Ability (2004), the lessons were designed with the assumptions that academic ability is a developed ability and that teaching and learning of knowledge and skill is necessary but not sufficient condition to achieve the goal of developing ability. Therefore, effective teaching and learning must also actively seek to develop purpose of learning, which will result in a student's ability to "adaptively and efficiently use knowledge . . . to engage in and solve both common and novel problems" (Bennett et al., 2004, p. 8). The study group defined academic ability as:

- Literacy and numeracy;
- Mathematical and verbal reasoning;
- Skill in creating, recognizing, and resolving relationships;
- Problem solving from both abstract and concrete situations, as in deductive and inductive reasoning;
- Sensitivity to multiple contexts and perspectives;
- Skill in accessing and managing disparate bodies and chunks of information;
- Resource recognition and utilization (help seeking); and
- Self-regulation (Bennett et al., 2004, p. 1)

Context-specific lessons were designed in all core content areas based on the classroom teacher's specifications and in consideration of the school resources and existing programs. In one urban school, the district-mandated, highly scripted Reading and Math programs prevented the participating teachers from deviating from the standard course of study, however in these instances, smaller-scale lessons were designed for special area (e.g., music, art). Teacher-selected model lesson topics ranged from an interdisciplinary investigation of spring (kindergarten), a unit on measurement (kindergarten), art history (kindergarten), the founding of Jamestown (kindergarten), conducting a research project on animals (first grade), map skills and problem solving (first grade), meteorology and the study of weather (second grade) and Egyptology (second grade). As the lessons were designed to incorporate a range of new instructional approaches that were, in some instances, different from how the teacher typically instructed the class, the lessons were shared with each classroom teacher well in advance of implementation for the purposes of ensuring that the teacher was clear about the lessons' goals and necessary steps for implementation. Second, each lesson was critically reviewed by at least one university professor in gifted education to ensure that lessons: (a) aligned with key principles of the study group findings; (b) provided a high ceiling of challenge for students demonstrating potential; (c) incorporated adequate differentiated support mechanisms to ensure mastery of key learning goals; (d) were developmentally appropriate; and (e) promoted a high level of student engagement in the topic under investigation.

Data Analysis

Two separate researchers analyzed the data from these classrooms and each employed a contrasting ethnographic strategy as a way to triangulate methodological approaches and increase credibility of the findings. The approach employed by the first data analyst was deductive analysis (Goetz & LeCompte, 1984). The purpose of this data analyst's work was to begin with a priori, theoretically based hypotheses (e.g., literature on talent development, evidence of talent in primary learners, characteristics of developmentally appropriate practices for primary grade learners) and confirm or disconfirm their existence and relevance to the current data set. The analyst worked with theoretical premises in four major areas: (a) classroom environment; (b) teacher student interactions; (c) curricular, instructional, and assessment approaches; and (d) teacher qualities. As such, the first data analyst read through each primary and secondary source of data (e.g., classroom observation notes, field notes, interviews) and noted and documented confirming or disconfirming evidence of the a priori, theoretical premises.

The second data analyst employed a constant comparative method as described by Strauss and Corbin (1995). This more naturalistic approach incorporated more subjective, constructivist, generative, and inductive methods (Goetz & LeCompte, 1984) and allowed for the development of hypotheses about the relationships of the classroom elements. The purpose of this data analyst's work was to better understand the complex nature of talent development in primary grade classrooms from the varied lenses of participant observer, teacher, and the diverse students that populated the classrooms under investigation. Toward this end, the researcher read each primary and secondary

source of data and coded it for themes, noting patterns across classrooms, grade levels and school, metropolitan level, and type of classroom context. Following this open coding process, the researcher configured the existing themes into more encompassing ones, attempting to discover relationships between categories and subcategories within the data. In the final stage of coding, the researcher identified the most prominent concepts and collapsed the remaining themes into those concepts. The second data analyst kept a methodological log for the purposes of documenting the evolving understanding of the relationships between concepts and themes. This phase of data analysis yielded a concept map delineating how the encompassing concepts are related to the earlier themes and patterns both within this data set and in the literature. Through this data reduction process, the original 24 teacher sample was narrowed to seven teacher cases who represented important elements of the concept map and allowed for an efficient way to present findings.

This second methodological approach, in concert with the more conventional deductive approach, provided a balance between existing theories and the development of new theories. The rationale for the two contrasting approaches to the data analysis was to first attempt to validate the existing theories of talent development in the literature, and then to attempt to add to the body of literature with additional information from these classroom contexts. Further, the power of the findings bolstered by triangulating the findings with the two (deductive and inductive) approaches to data analysis.

Criteria for Trustworthiness

The naturalistic paradigm distinguishes itself from the scientific paradigm in the methods used to establish trustworthiness of inquiry. Lincoln and Guba (1985) suggest that trustworthiness can be established through credibility, transferability, dependability, and confirmability of research findings. These authors define credibility as "activities in the field that increase the probability that credible findings and interpretations will be produced" (p. 301). Particular methods of trustworthiness suggested by these authors that were employed in this study include: (a) prolonged engagement in the site; (b) persistent observation of the individuals, as each classroom teacher participating in this study was observed between 50-100 hours over the course of one academic year; (c) triangulation of researchers were employing a team of university faculty, advanced graduate student researchers, and field researchers who collected the voluminous classroom data; and (d) triangulated data analysis approaches. The researchers also were debriefed during their monthly meetings. The purpose of these meetings was to share thoughts and ideas and to get new insights into relevant phenomena, modify observation and interview protocols in response to on-going analyses and periodic member checking with the teacher project participants. Through this process, participants were asked to review selected videotape segments, interview transcripts, and/or field note segments to ascertain the documents' accuracy.

CHAPTER 3 Survey Results

Phase One

Survey Trends

When asked about conceptions of giftedness, teachers generally reported that they could more easily see positive characteristics associated with gifted behaviors than negative characteristics (see Table 1). For example, when asked on a Likert scale if they could imagine a gifted student who "transfers learning into other subjects or real life situations" (with 5 equal to "very easy to imagine" and 1 equaling "cannot imagine"), 72% of teachers reported that this was very easy to imagine ($M=3.7 (.50)$). Alternatively, when asked if they could imagine a gifted student who "is not curious," 48% said this was difficult to imagine, while 36% reported that they could not imagine a gifted student not being curious ($M=1.82 (.76)$). These textbook characteristics illustrate that teachers often have preconceived notions about the characteristics of gifted students, and that these notions are heavily skewed toward more positive characteristics. In fact, when taking the three highest mean scores of the questions focusing on conceptions of giftedness, they were overwhelmingly positive ("transfers learning into other subjects or real life situations," $M=3.7$; "tries to understand the how and why's of things," $M=3.68$; "and has a large store of general knowledge," $M=3.64$), while the three lowest means can be qualified as negative ("is not curious," $M=1.82$; "has a limited vocabulary," $M=2.11$; "and has difficulty with reasoning skills," $M=2.28$).

Any exceptions to this general rule involved the social and emotional needs of gifted students. In general, teachers seemed more willing to imagine that gifted students had more social and emotional issues. For example, when asked if they could imagine gifted students "having poor social skills," 34% of respondents indicated that this was very easy to imagine, while 49% saw this as easy to imagine ($M=3.15 (.75)$). In addition, teachers were in general agreement that gifted students can "be shy" ($M=3.11 (.69)$), and can "misbehave in school" ($M=3.13 (.75)$). However, even more overwhelming were teachers' responses to believing gifted students could "have a high social intelligence that results in a strong connection to their community" ($M=3.36 (.64)$). One final trend was that teachers were much more in agreement over the positive characteristics of gifted students than they were the negative.

Table 1

Teachers' Reported Conceptions of Giftedness

<i>How easily can you imagine a gifted primary student who . . .</i>	Very Easy to Imagine	Easy to Imagine	Difficult to Imagine	Cannot Imagine	Mean (SD)
transfers learning into other subjects or real life situations?	72%	26%	2%	0%	3.70 (.50)
tries to understand the how and why's of things?	70%	29%	1%	0%	3.68 (.50)
has a large store of general knowledge?	67%	31%	2%	0%	3.64 (.54)
has an active imagination (i.e., generates many writing and story ideas, makes up original games, etc.)?	63%	35%	1%	0%	3.62 (.51)
likes to make three-dimensional structures from blocks and other manipulatives?	51%	47%	3%	0%	3.54 (.58)
completes assignments faster than same age peers?	58%	38%	4%	0%	3.54 (.58)
can devise or adapt strategies to solve problems?	54%	45%	1%	0%	3.52 (.53)
can carry on a meaningful conversation with an adult?	52%	45%	3%	0%	3.5 (.55)
has unusual interests for their age (e.g., A first grader who is interested in walled cities, or studying the weather)?	56%	38%	5%	1%	3.48 (.64)
can successfully carry out multiple verbal instructions?	51%	44%	5%	0%	3.46 (.60)
demands a reason for things?	45%	50%	5%	0%	3.41 (.58)
has a sense of timing in language and gestures (i.e., dramatic flair)?	47%	47%	7%	0%	3.40 (.61)
works hard?	45%	49%	6%	0%	3.39 (.60)
has a high social intelligence resulting in a strong connection to their community?	44%	48%	7%	1%	3.36 (.64)
pays attention to detail?	43%	50%	7%	1%	3.35 (.63)
demonstrates leadership skills in one or more areas?	42%	52%	6%	0%	3.35 (.60)

Table 1 (continued)

Teachers' Reported Conceptions of Giftedness

<i>How easily can you imagine a gifted primary student who . . .</i>	Very Easy to Imagine	Easy to Imagine	Difficult to Imagine	Cannot Imagine	Mean (SD)
dislikes drill and practice?	45%	45%	9%	0%	3.34 (.67)
is bilingual?	33%	56%	9%	3%	3.18 (.70)
makes people laugh with clever jokes?	28%	61%	11%	0%	3.17 (.60)
has poor social skills?	34%	49%	15%	2%	3.15 (.75)
misbehaves in school?	32%	52%	13%	3%	3.13 (.75)
is shy?	28%	56%	14%	2%	3.11 (.69)
adapts readily to new situations and changes?	26%	56%	18%	1%	3.07 (.69)
is unusually sensitive to others' feelings?	21%	61%	18%	0%	3.03 (.63)
is able to overcome obstacles resulting from difficulties at home?	22%	54%	23%	2%	2.95 (.72)
does NOT seem interested in school?	30%	40%	21%	9%	2.90 (.93)
has an average achievement or aptitude test score?	19%	54%	25%	3%	2.89 (.73)
often does NOT bring in homework?	25%	45%	24%	7%	2.88 (.86)
has immature fine motor development?	21%	51%	23%	5%	2.87 (.80)
has a short attention span?	21%	50%	23%	6%	2.87 (.81)
has skill deficits in one or more academic area (such as in math, science, etc.)?	17%	51%	26%	6%	2.79 (.80)
uses non-standard English?	17%	43%	32%	9%	2.69 (.86)
is unmotivated?	18%	42%	32%	8%	2.68 (.86)

Table 1 (continued)

Teachers' Reported Conceptions of Giftedness

<i>How easily can you imagine a gifted primary student who . . .</i>	Very Easy to Imagine	Easy to Imagine	Difficult to Imagine	Cannot Imagine	Mean (SD)
has weak spatial skills (such as, sense of direction, figuring out how things work, poor with shapes and construction, etc.)?	12%	37%	43%	8%	2.54 (.81)
is a "follower" (seldom takes the lead and usually does what the other students are doing)?	9%	40%	44%	7%	2.51 (.76)
CANNOT work independently?	11%	32%	43%	14%	2.38 (.86)
does NOT read early or have strong early reading skills?	10%	31%	45%	15%	2.37 (.85)
learns at a slow pace?	10%	26%	52%	12%	2.35 (.82)
is NOT creative?	9%	29%	48%	15%	2.31 (.83)
has difficulty with reasoning skills (such as seeing connections between ideas, solving problems without help)?	8%	26%	53%	14%	2.28 (.79)
has a limited vocabulary?	6%	19%	54%	21%	2.11 (.80)
is not curious?	3%	12%	48%	36%	1.82 (.76)

Table 2 focuses on recognizable signs of giftedness and what characteristics teachers believe tend to contribute to students being recognized as gifted at the primary level. Teachers, in general, believed that the most important factors contributing to students being recognized as gifted come from exposure to stimulating events at home or from their parents. The three highest means were: "having lots of books at home" (M=4.16 (.76)), "having lots of experience from family trips" (M=4.06 (.71)), and "having parents who worked with them at home" (M=3.98 (.80)). Teachers tended to favor the experiential context influence on recognizable signs of gifted as opposed to the more foundational/textbook signs of giftedness such as: "coming from two-parent homes" (M=3.24 (.83)); "they are the only children in the home" (M=3.21 (.76)); "and their parents' first language is English" (M=3.31 (.81)). The response with the lowest mean was that "the students attended day care" (M=3.18 (.70)), which would seem to fall under the experiential context. However, the mean for this response is likely low due to

the teachers' perceptions that the students are getting enough stimulation and exposure from their parents and home life so that day care does little to supplement this.

Table 2

Recognizable Signs of Giftedness

<i>Primary age students are more likely to be recognized as gifted if . . .</i>	Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided	Mean (SD)
they have lots of books at home.	35%	46%	15%	2%	2%	4.16 (.76)
they have lots of experience from family trips.	26%	52%	17%	2%	3%	4.06 (.71)
their parents worked with them at home (e.g., taught them reading skills, drilled them on numbers, provided computer games that are meant to "jump start" their skills).	25%	50%	20%	4%	1%	3.98 (.80)
they have siblings who are strong students.	13%	47%	32%	6%	2%	3.70 (.77)
their parents' first language is English.	8%	27%	48%	13%	4%	3.31 (.81)
they come from two-parent homes.	7%	27%	47%	18%	5%	3.24 (.83)
they are the only children in the home.	5%	23%	52%	14%	6%	3.21 (.76)
they attended day care.	4%	19%	56%	11%	9%	3.18 (.70)

When asked about various groups where giftedness could be found (see Table 3), the highest mean response was associated with "The potential for academic giftedness is present in equal proportions in all racial/ethnic groups in our society" (M=4.08 (.89)). Additionally, 77% of responses strongly agreed or agreed with the statement, indicating that the wide majority of teachers believed that all students possess the potential for giftedness in equal proportions. Additionally, the items with the two lowest means concerned differences among how boys and girls learn. Both "boys are more likely to show their giftedness through activities that tap spatial ability" (M=3.54 (.69)), and "girls are more likely to show their giftedness through activities that tap verbal ability" (M=3.59 (.69)) suggest that primary teachers agree less on the extent to which gender differences affect the ways that giftedness is manifested. Taken together, these results suggest that teachers are more likely to believe that giftedness is manifested differently

among different cultural, racial, or ethnic groups than among gender. One interesting finding was that 27% of respondents disagreed that "the potential for academic giftedness is present in equal proportions in all socioeconomic groups in our society." Thus, a quarter of the primary teachers responding felt as though socioeconomic status was a major determinant in possessing some kind of academic giftedness.

Table 3

Primary Teachers' Beliefs About the Presence of Giftedness Across Groups

	Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided	Mean (SD)
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups in our society.	37%	41%	16%	6%	2%	4.08 (.89)
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	21%	53%	21%	5%	5%	3.91 (.78)
Giftedness manifests itself differently in different socioeconomic groups.	19%	56%	22%	4%	5%	3.90 (.74)
The potential for academic giftedness is present in equal proportions in all socioeconomic groups in our society.	29%	36%	27%	9%	1%	3.85 (.93)
Girls are more likely to show their giftedness through activities that tap verbal ability.	8%	47%	42%	4%	7%	3.59 (.69)
Boys are more likely to show their giftedness through activities that tap spatial ability.	7%	45%	44%	4%	9%	3.54 (.69)

When asked about the importance of particular practices and strategies, the trend suggested that teachers were responsive to and respectful of the individual needs of students (see Table 4). For example, items included "planning for a variety of materials and levels of content" (M= 2.92 (.28)), "giving students individual attention" (M=2.9 (.31)), "respecting students' personal values" (M=2.92 (.27)), and "respecting students' cultural values" (M=2.93 (.26)). Mediating these results, however, were the findings that teachers reported focusing less on "developing a flexible, individualized program" (M=2.62 (.54)) and "evaluating the work of different students by different standards"

($M=2.42$ (.64)). Teachers' responses to these questions suggest a misalignment between their beliefs about the needs of students and their actual practices to address those individual needs.

Table 4

Importance of Particular Classroom Practices and Strategies

<i>How important is it for you to focus on the following practices/strategies in your classroom?</i>	Very Important	Somewhat Important	Not Important	Mean (SD)
Respecting personal self-images and enhancing positive ones	94%	6%	0%	2.94 (.242)
Respecting students' cultural values	93%	7%	0%	2.93 (.255)
Fostering creativity and imagination	93%	7%	0%	2.93 (.251)
Offering challenging and engaging material	93%	7%	0%	2.93 (.26)
Planning a variety of materials and levels of content	92%	8%	0%	2.92 (.28)
Developing basic skills	92%	7%	1%	2.92 (.29)
Respecting students' personal values	92%	8%	0%	2.92 (.273)
Creating a warm, safe, and permissive atmosphere	91%	9%	0%	2.90 (.30)
Giving students individual attention	89%	11%	0%	2.90 (.31)
Providing students feedback about their work	89%	11%	0%	2.89 (.32)
Listening to each student's opinion	88%	12%	0%	2.88 (.33)
Assessing the level of ability, interest, or needs of the students	88%	12%	0%	2.88 (.33)
Providing materials for students to develop ideas	87%	13%	0%	2.86 (.35)
Permitting students to suggest additional or alternative answers	85%	15%	0%	2.85 (.37)
Sharing responsibility for learning with the students	82%	18%	1%	2.81 (.40)
Giving alternative ways of working when a student shows a lack of interest or frustration	80%	20%	0%	2.80 (.40)

Table 4 (continued)

Importance of Particular Classroom Practices and Strategies

<i>How important is it for you to focus on the following practices/strategies in your classroom?</i>	Very Important	Somewhat Important	Not Important	Mean (SD)
Allowing students space to display their own work	76%	23%	1%	2.75 (.46)
Providing time for students to develop ideas	76%	23%	1%	2.75 (.44)
Asking "How would you predict?" questions	73%	26%	1%	2.71 (.48)
Providing the time and opportunity for students to use special aids, language aids, learning centers	72%	27%	1%	2.70 (.49)
Leading students to a question or problem that puzzles them	69%	29%	2%	2.67 (.51)
Withholding judgment on students' creative work	70%	27%	3%	2.67 (.53)
Encouraging the student to put his or her ideas to a test	65%	34%	1%	2.63 (.52)
Developing a flexible, individualized program	65%	33%	3%	2.62 (.54)
Encouraging students to make "if, then" statements	59%	38%	4%	2.55 (.56)
Lecturing less	57%	40%	4%	2.53 (.570)
Encouraging students to admit errors openly	57%	33%	9%	2.49 (.66)
Having students find their own information	50%	47%	3%	2.47 (.56)
Entertaining even wild or far-out suggestions by students	53%	41%	7%	2.46 (.62)
Evaluating the work of different students by different standards	50%	42%	8%	2.42 (.64)
Discussing current issues with the class	47%	48%	6%	2.41 (.60)
Giving fewer directions	27%	61%	12%	2.14 (.61)

Teacher responses also indicated that traditional approaches to instruction seemed to be the rule rather than the exception based on the items with the lowest mean responses: "giving fewer directions" ($M=2.14 (.61)$), "having students find their own information" ($M=2.47 (.56)$), "lecturing less" ($M=2.53 (.57)$), and "entertaining even wild or far out suggestions by students" ($M=2.46 (.62)$). These responses suggest that the actual practice of differentiation of instruction was probably more the exception than the rule, which is supported by earlier findings.

Teachers were also asked the frequency of use of particular practices in their classrooms (see Table 5). The most frequently occurring practices used on a daily basis included: "connecting curriculum to other content areas" (81%), "encouraging (but not insisting upon) participation" (80%), "providing activities in a variety of settings" (73%), "encouraging peer praise and positive interaction" (83%), and "adjusting pace according to students' needs" (72%). These responses indicate that teachers were interested in making learning individually meaningful for the students through connections with other content areas, a variety of activities, and adjusting the pace for students' needs.

The practices that reportedly occurred least frequently included: "having students conduct experiments" (7% daily), "tape recording content material for the student to listen to" (7% daily), "individually administering a test other than a make-up for student absence" (6% daily), "allowing students to do a written assignment orally" (18% daily), and "using computer programs that focus on problem solving, critical thinking, or advanced understanding" (27% daily). When these results are compared to previous responses, several interesting conclusions appear. First, although 72% of respondents agreed that it is very important and 27% indicated that it is somewhat important to provide the time and opportunity for students to "use special aids, language aids, and learning centers," this is not congruent with their reported actual practices, as 41% report having never tape recorded content material for students to listen to, 15% indicated that they had never individually administered a test, and 21% had never allowed a student to do a written assignment orally. Clearly teachers recognize the need to make adjustments for students' special needs, but this does not appear to translate into practice.

Additionally, 88% of teachers indicated that "assessing the level of ability, interest, or needs of the students" is very important and 12% saw it as somewhat important. In practice, however, only 38% reported providing students "with materials to match their interests" everyday, and 44% once or twice a week. Additionally, only 47% used "learning centers to address student interest" everyday while 30% used them once or twice a week. Related to using "flexible grouping to address student interest," 57% reported using it daily and 32% once or twice a week.

Table 5

Frequency of Particular Classroom Practices

<i>How often do you use the following practices in your classroom(s)?</i>	<i>Every Day</i>	<i>Once or twice a week</i>	<i>Once or twice a month</i>	<i>Twice a year</i>	<i>Once a year</i>	<i>Never</i>
Connecting curriculum to other content areas	81%	17%	2%	0%	0%	0%
Focusing the curriculum around a theme	54%	27%	15%	2%	1%	1%
Providing students with materials that go beyond the average range of your grade level	54%	35%	9%	1%	0%	1%
Providing students with material matched to their interests	38%	44%	15%	2%	0%	1%
Brainstorming with students	34%	55%	10%	1%	0%	0%
Using learning centers that address different student intelligences	51%	27%	14%	2%	0%	6%
Using learning centers that address different student interests	47%	30%	12%	3%	1%	7%
Introducing new concepts and materials from outside the classroom	41%	44%	13%	2%	0%	0%
Encouraging (but not insisting upon) participation	80%	15%	3%	0%	0%	1%
Providing activities in a variety of settings (tables, bookshelves, learning or resource centers, out-of-doors)	73%	21%	5%	1%	0%	0%
Encouraging mentors, senior citizens, parents, grandparents, community volunteers to visit and assist	28%	36%	24%	8%	2%	2%
Encouraging peer praise and positive interaction	83%	15%	2%	0%	0%	0%
Encouraging creative expression, fantasy, imagination, original art, stories, and other work	61%	33%	6%	0%	0%	0%
Flexible grouping (assigning varying work groups based on students' interest, readiness, and learning styles)	57%	32%	8%	1%	0%	2%

Table 5 (continued)

Frequency of Particular Classroom Practices

<i>How often do you use the following practices in your classroom(s)?</i>	<i>Every Day</i>	<i>Once or twice a week</i>	<i>Once or twice a month</i>	<i>Twice a year</i>	<i>Once a year</i>	<i>Never</i>
Offering students who finish a lesson early a related activity	62%	31%	4%	1%	1%	1%
Having students conduct experiments	7%	33%	49%	7%	2%	3%
Modifying time student takes to complete an assignment	65%	28%	6%	0%	0%	1%
Tape recording content material for the student to listen to	7%	19%	21%	9%	4%	41%
Individually administering a test other than a make-up for student absence	6%	27%	37%	12%	3%	15%
Individually tailoring an assignment as part of planning for instruction	31%	38%	25%	2%	1%	4%
Adjusting pace according to students' needs	72%	23%	4%	1%	0%	0%
Using peers as tutors	43%	43%	10%	2%	1%	2%
Varying materials based on student reading levels	77%	20%	1%	1%	0%	1%
Adjusting length of assignment according to student needs	64%	27%	7%	1%	0%	2%
Adjusting depth of content according to student needs	60%	29%	8%	1%	0%	2%
Allowing students to do a written assignment orally	18%	28%	25%	5%	2%	21%
Providing hands-on activities to understand abstract concepts	59%	35%	6%	0%	0%	0%
Using computer programs that focus on problem solving, critical thinking or advanced understanding	27%	41%	18%	3%	1%	11%

Ninety-three percent of responding teachers indicated that "offering challenging and engaging material" was a very important classroom practice. However, this does not appear to translate into practice, particular with high achievers, as only 54% reported "providing students with materials that go beyond the average range of the grade level" on a daily basis. Only 35% of teachers indicated that they did this once or twice a week. Also, only 60% reported daily adjustment of "the depth of content according to students' needs" and with only half that many doing it once or twice a week. Because such a large percentage of respondents see these approaches as important practices, one would hope that it would be reported as taking place more frequently in classrooms.

Teachers were asked how likely they would be to identify a student as gifted if the student acted in a given way or had particular characteristics (see Table 6). In general, teacher responses tended to tap into more traditional views of gifted behaviors and characteristics. Questions with the higher means included: "learns easily and quickly" ($M=2.79$ (.60)), "has an advanced vocabulary for age" ($M=2.83$ (.39)), "is highly imaginative" ($M=2.82$ (.40)), "offers unusual, unique, clever responses to questions and problems" ($M=2.89$ (.35)), "has a large amount of general information" ($M=2.64$ (.52)), "enjoys playing with words" ($M=2.67$ (.52)), "uses details in stories and pictures" ($M=2.7$ (.51)), and "is able to see cause and effect relationships" ($M=2.73$ (.47)). On the other hand, teachers were generally less apt to consider identifying a gifted student who: "is well liked by classmates" ($M=1.84$ (.66)), "makes other students laugh" ($M=1.81$ (.66)), "gives unexpected, sometimes 'smart-aleck' answers" ($M=1.92$ (.71)), "has a lot of energy, may have difficulty remaining in seat" ($M=1.94$ (.63)), "has difficulty moving on to another topic" ($M=1.91$ (.66)), and "likes to work in small groups" ($M=1.8$ (.63)).

In addition to these broad trends, several other responses were worth noting. For example, teachers had a more difficult time seeing students who "give unexpected, sometimes 'smart-aleck' answers" ($M=1.92$ (.71)), "have a lot of energy, may have difficulty remaining in seat" ($M=1.94$ (.63)), and "have difficulty moving on to another topic" ($M=1.91$ (.66)) as being likely to be identified as gifted and or talented. There is often a negative stigma associated with students who possess these characteristics and it seems as though teachers have a more difficult time envisioning identifying a student as gifted who disrupts class and interferes with classroom control and management.

Table 6

Consideration for Identifying Gifted Students

<i>How likely would you be to identify a student as gifted/talented if the student . . .</i>	<i>Very Likely</i>	<i>Somewhat Likely</i>	<i>Not Likely</i>	<i>Mean (SD)</i>
offers unusual, unique, clever responses to questions and problems?	90%	9%	1%	2.89 (.35)
has an advanced vocabulary for age?	84%	15%	1%	2.83 (.39)
is highly imaginative?	83%	16%	1%	2.82 (.40)
learns easily and quickly?	78%	21%	1%	2.79 (.60)
is able to see cause and effect relationships?	74%	25%	1%	2.73 (.47)
uses details in stories and pictures?	73%	25%	2%	2.70 (.51)
enjoys playing with words (i.e., using puns, rhymes)?	69%	28%	2%	2.67 (.52)
has a large amount of general information?	66%	32%	2%	2.64 (.52)
uses expressive speech?	68%	29%	4%	2.63 (.56)
is persistent in completing tasks of interest?	67%	28%	5%	2.62 (.59)
has high interest in specialty topic?	60%	37%	3%	2.57 (.56)
is self-motivated?	61%	36%	4%	2.57 (.56)
asks a lot of questions?	61%	36%	4%	2.57 (.56)
is attentive to detail in the environment?	53%	43%	5%	2.48 (.59)
takes the lead in small groups?	46%	48%	6%	2.40 (.61)
has a high interest in school?	48%	44%	9%	2.39 (.65)
has unusual emotional depth and intensity?	42%	49%	10%	2.32 (.64)
has a keen sense of humor?	42%	45%	13%	2.30 (.68)
makes up creative excuses?	44%	43%	13%	2.30 (.69)

Table 6 (continued)

Consideration for Identifying Gifted Students

<i>How likely would you be to identify a student as gifted/talented if the student . . .</i>	<i>Very Likely</i>	<i>Somewhat Likely</i>	<i>Not Likely</i>	<i>Mean (SD)</i>
is able to see another's point of view?	42%	48%	11%	2.30 (.66)
is easily bored with routine tasks?	36%	53%	11%	2.25 (.64)
questions rules?	26%	55%	19%	2.06 (.67)
likes to work alone?	23%	56%	21%	2.02 (.66)
takes action to help someone in need?	20%	57%	23%	1.98 (.66)
has a lot of energy, may have difficulty remaining in seat?	17%	60%	23%	1.94 (.63)
behaves well in class?	20%	54%	27%	1.93 (.68)
gives unexpected, sometimes "smart-aleck" answers?	21%	50%	29%	1.92 (.71)
has difficulty moving on to another topic?	18%	56%	26%	1.91 (.66)
is well liked by classmates?	15%	54%	31%	1.84 (.66)
makes other students laugh?	14%	53%	33%	1.81 (.66)
likes to work in small groups?	12%	57%	32%	1.80 (.63)

When primary teachers were asked about the importance of particular factors (see Table 7), the two highest factors reported by teachers were "social and personal development" ($M=2.72 (.47)$) and "language and literacy skills" ($M=2.60 (.57)$), indicating that teachers perceived students as needing to behave in a school setting and also to come in with a foundation of literacy and language development. On the other hand, "mathematical thinking" ($M=2.36 (.65)$) and "scientific thinking" ($M=2.28 (.61)$) were the two areas of least importance to teachers. Thus, it appears that teachers were more concerned about students entering school with the skills to function in a school setting rather than any mathematical or scientific skills. This possibly reflects that teachers value basic abilities to function in a class rather than those that may indicate advanced abilities.

Table 7

Importance of Factors When Entering School

	<i>Very Important</i>	<i>Somewhat Important</i>	<i>Not Important</i>	<i>Mean (SD)</i>
<i>Social and Personal Development</i> (e.g., follows classroom rules, takes turns, pays attention, is not disruptive, finishes tasks, works cooperatively)	72%	27%	1%	2.72 (.47)
<i>Language & Literacy</i> (e.g., uses letters to depict words, identifies letters in the alphabet, has a basic understanding of phonetic principles, recognizes common sight words, listens for meaning in discussions)	65%	31%	4%	2.60 (.57)
<i>Physical Development</i> (e.g., has well developed gross and fine motor skills, performs self care tasks competently, is physically healthy, rested, and well nourished, cuts with scissors, uses pencils and paint brushes)	54%	43%	3%	2.50 (.57)
<i>Mathematical Thinking</i> (e.g., recognizes patterns and duplicates them, can count to 20 or more, understands the concept of number and quantity, can perform simple addition and subtraction, can tell time to the hour)	45%	46%	9%	2.36 (.65)
<i>Scientific Thinking</i> (e.g., uses senses to observe characteristics of living and non-living things, makes comparisons between objects, seeks answers to questions through active investigation)	36%	56%	8%	2.28 (.61)

Brian

"Brian" was a dominant culture student exhibiting "typical" gifted characteristics. It is clear from the teachers' perspectives that he needs a great deal of challenge in school, challenge that far exceeds the current curriculum. Respondents clearly view him as a gifted individual. One respondent wrote, "I think all of Brian's characteristics and abilities show that he needs to be in an advanced/gifted class" (133SC). To meet Brian's educational needs, teachers primarily suggested: challenging curriculum, advanced assignments, and modification in home reading and homework with a specific emphasis on reading and language challenge. One respondent recommended that teachers should ". . . challenge Brian as much as possible to bring him as far as he can go" (3SA). Another teacher wrote, "It is important that he is challenged so that he doesn't become bored and can achieve his highest potential" (117RC). Journaling activities, creative

writing exercises, and book writing were also suggested as ways to increase challenge for Brian allowing him to work at his "ability level." One teacher explained, "I feel that Brian should be provided with opportunities to do extra projects, such as writing and publishing some of his stories into books and then sharing them with other classes" (102RD).

Respondents seemed to have no doubt as to his high level of giftedness, evidenced by his actions in the classroom (creativity, inquisitive nature, sense of humor, high academic ability). A teacher explained, "Testing theories, asking questions and trying to figure out how things work again would probably show a tendency towards giftedness" (15RB). Another said, "I would first recommend Brian to be tested for our G/T program because of his intellectual abilities, his sense of humor, and his descriptive stories and words" (135SD). Many of the respondents did not question the idea that Brian was a perfect match for a school's gifted program. In fact, a recommendation for gifted programs and services was the most frequent suggestion from all groups. One teacher stated simply, "Brian is a gifted student who should be placed in a class with other gifted students to challenge his ideas" (49RB). Another respondent wrote, "I would recommend testing Brian for the gifted program. It appears that he has mastered the first grade curriculum and would benefit from the gifted class" (43RC).

Many times challenge was seen as a way to alleviate boredom for Brian. One teacher stated, "I would give him more appropriate material to work on so he does not become bored. I really like to challenge my students" (92UB). Another explained, "He needs work that is going to challenge him—work that is on his grade level. If he does not get this he may become bored and have a behavior problem" (12UC).

Recommendations for gifted services for Brian (including acceleration options) were more prevalent in the mid-to-high SES respondent pools than those in low-SES groups. Acceleration to a higher grade level in reading and math was mentioned by some teachers. "Due to Brian's high reading level, I would put him in an appropriate reading group in another classroom," one teacher said (77RB). Another explained, "When the average kindergarteners are napping, Brian should work in a second grade classroom to advance his reading, math, and science skills with his intellectual peers (regular second graders)" (32UD).

Rural respondents were more likely to suggest peer tutoring for Brian as an outlet to foster Brian's patience and social skills while helping struggling students. "I would let him peer tutor as much as possible—use him as a resource," (89RD) one respondent wrote. Another stated, "By his helping other students he is learning a great gift of patience and getting along with people—a necessary skill for his future" (43RB).

Further emphasizing Brian's socialization, one teacher said, "He obviously gets great satisfaction from his peers and needs to interact with children his own age" (6SB). Another teacher pointed out, "How are his social skills? Can he work in a group? [Social skills are] far more important than gifted!" (70RA).

Special assignments in research, focusing on Brian's interest areas, were suggested as a way to serve his inquisitive nature. One respondent suggested, "Allowing individual research time will allow him to think on his own" (119UC). Hands-on projects, project design and implementation, problem solving, and science activities were suggested by several teachers. A respondent explained, "He could have the opportunity to design and implement some type of project that requires him to explain how his project works and why. These projects could allow him to delve into how things work and he could answer his own curiosity" (111UD). A focus on advanced reading, advanced writing, writing contests, creative writing exercises, and publishing opportunities were stressed frequently as well. One respondent wrote, "Encourage him to enter available reading and writing opportunities and to 'publish' his work" (42RB).

Individual research was recommended many times for Brian. Hypothesis testing, in-depth and interest based projects, testing of his own questions, and independent work were suggested to meet Brian's academic needs. "Brian should also be allowed to work on individual projects that have open-ended solutions" (74SC).

Finally, a common element of responses from all groups was the inclusion of Internet research and computer programs for advanced work, including computer programs for math and writing, as well as Webquests. These responses show the growing importance of inclusion of technology in the classroom to assist gifted learners.

Cory

"Cory" was a student with attentional/learning processing difficulties or social or emotional issues, but demonstrated talent indicators noted in the literature. The recommendations that were most prevalent in the teacher responses encouraged the use of hands-on activities for Cory, focusing on independent projects and exploration activities geared toward Cory's interests, helping Cory to develop his social skills, and using counseling to manage his exhibited classroom behavior.

The use of hands-on activities and manipulatives to keep Cory occupied and interested during the school day was mentioned by several respondents. One teacher wrote, "He needs hands-on materials. Manipulatives seem to be what keeps his processes going" (53RC). Another teacher recommended the use of "more hands-on activities that he is free to go to when he has finished the most basic of things in the class; keep him busy with things that can lead to his own discovery of answers" (81SB).

Also, there was a high recognition of Cory's inclination towards science or exploration and independent work. Therefore, common suggestions included providing extra science activities or exploration opportunities in project-based settings. One teacher suggested,

It seems that Cory has a knack for hands-on projects that require him to create knowledge on his own and work through the experiment at his own pace. I would recommend that Cory be involved in more hands on projects that require him to

lead his own investigations, designed by the teacher with a specific overriding goal, but provides Cory with plenty of room to investigate and experiment and come to conclusions on his own." (17SA)

Another teacher wrote, "I would find out if some of the lab supplies Cory is using could be brought into the kindergarten classroom for Cory to continue a project in the classroom with the aide" (101SA). One respondent recommended, "He needs to be challenged with in-depth project type activities" (111SB). A teacher also mentioned, "If his mother teaches physics, he probably has some good science genes—capitalize on that" (71RD).

A major concern of all groups was group and peer socialization for Cory. Rural and suburban respondents emphasized Cory's participation in group work and socialization or leadership opportunities. One teacher recommended using "games, so he can learn to play with others" (86RD). Another teacher wrote, "He needs to spend less time in the physics lab and more time with the learning thoughts and ideas about his own age learning. He is not developed in his own age social skills because he spends too much time with older people!" (27SD).

Conversely from the need for Cory to develop social skills was a recurring theme about teachers finding out about and capitalizing on Cory's interests, so to encourage better behavior and spur his interest in classroom activities allowing him to work independently. One teacher wrote, "He seems to work well on his own, so possibly the teacher could find out his interests and let him have the time to pursue them" (66RD). Another teacher suggested, "He should also be able to pursue some of the interests he demonstrates" (7SA). Another common response included having a teacher find out about and capitalize on student interests to maintain student motivation. A respondent noted, "Cory seems to be highly motivated in curriculum that he is interested in. Adapting curriculum to meet his needs may tap into his ability to be on task and be engaged" (157SB). Another teacher noticed, "He may not be interested in what is being taught, or he isn't being challenged. He may be interested in only a few things. He swings from one thing to another because of lack of interest" (74RD).

Also, respondent groups showed some emphasis on the teacher using positive reinforcements or a token economy system in the classroom to modify and control Cory's behavior. One teacher recommended using "positive reinforcement geared to his interests (science, hands-on) for following rules" (58SB). Another teacher suggested using a "chip/sticker/token system for staying on task and/or attention" (40UC). One respondent suggested "encouraging Cory when he is staying on task and making good progress" (55UD).

Very few respondents recommended gifted testing for Cory. Rather than suggestions pertaining to giftedness, most respondents suggested classroom curricular changes instead. Some of these respondents even focused on creating an IEP for Cory (suburban response) or finding him a tutor (urban response). Examples of recommendations for such curricular changes follow. One teacher wrote, "Maybe he is

bored with the level of instruction and needs more challenging activities" (71RD). Another wrote, "It sounds like Cory needs more challenging activities or work within his classroom. He is already six and may have been held out a year due to immaturity, but obviously he is bright" (131SA). Regarding gifted programming one teacher wrote, "See how he fares in third grade. If he is not challenged enough, recommend him for gifted class" (86RD). One teacher explained, "I would recommend that he applies for admittance to our gifted magnet. The fact that he can create his own projects and then work at them for hours is very convincing; however his resistance to leaving them unfinished is even more so!" (80UC).

Although gifted programming was not recommended often, support services were the focus of many responses. One teacher wrote, "I would probably refer Cory to the student support team for testing to see if he was attention deficit or emotionally behaviorally disturbed. He obviously is intelligent but probably is not very successful in the classroom because of his inability to focus" (75RC). In addition, many suburban respondents recommended counseling services to deal with Cory's behavior. One teacher explained, "The Guidance Counselor could assist Cory with his emotional outbursts" (118SA). Another respondent wrote, "I'd first discuss Cory's behavior with his mother and the counselor" (143SC).

One respondent from each of the suburban and rural groups recommended that Cory be tested for ADHD/ADD. One teacher wrote, "Cory is probably ADD maybe even with HD. He might benefit from medication to aid in his concentration and attention in class. This kind of behavior also makes these children 'loners'" (102RB). Another stated, "Refer Cory for counseling if confrontational behavior disrupts [the] classroom" (77RD).

Maria

"Maria" was described as a student who demonstrated both limited English proficiency and talent in science. All respondent groups seemed to focus primarily on two areas: first, Maria's need for ESL support, and second, Maria's high interest in science. There were also many respondents that mentioned parental support to increase Maria's use of English.

In regards to ESL recommendations, one teacher wrote, "I would suggest that the school's ESL teacher be asked to work with this child on a regular basis both individually and within the classroom. It is sometimes difficult for teachers who speak English to recognize what ESL students really understand and, therefore, may not realize they are gifted" (18RB). ESL services were suggested to assist Maria with classroom work, translations/understanding and parental support. Another teacher recommended "ESL tutoring for 20 minutes per day," commenting, "If she can do what she's doing having to deal with two languages, mastery of English should let her reach her prime" (58SB). Another wrote, "Maria is demonstrating a very natural reading delay due to her acquisition of two languages. She would benefit from ESL support and additional reading support in English and Spanish, but, based on other strong skills will likely be on grade level in reading certainly before fourth grade" (75SC).

In light of Maria's high interest in science, teachers made recommendations to incorporate more science activities into the curriculum for Maria. One teacher wrote, "I would also allow her to complete any science 'project' she would like in lieu of regular homework" (121RB). Another respondent wrote, "In the classroom I would set reading, math, and science areas with science interests a focus" (49SA) as a way to integrate curriculum. An urban teacher explained, "I would incorporate science in other subject areas. That way she can improve in other subject areas and hopefully become more excited in other subject areas" (20UB).

An overwhelming response by all respondents, which deals with this idea of science integration and activities, was the use of science-related reading materials to match Maria's reading level to create interest for reading improvement. Use of such materials was suggested in hopes of raising her reading proficiency by using personally motivating materials. One teacher explained,

To help Maria work up to grade level in reading, I would try to find appropriate level reading materials in science—using an area that she is interested in to help her gain the needed skills in reading. This may be more difficult because of limited reading materials for primary children on science topics." (56RD)

There was much less of a focus put on placing Maria in a gifted program than on capitalizing on her interests in-class and trying to help her reading problems. One teacher stated, "Maria needs a teacher who understands gifted students (inclusion gifted is better than pull-out)" (54UC). Another teacher wrote, "She should be tested to see if she qualifies for the Gifted Program [since] she makes up fun games [and is] always trying to figure out 'why?', and she makes connections on her own" (2RB). Instead of being considered for gifted programming in most instances, Maria was usually the student who was thought to need the extra assistance from others. Overall, respondents in all groups showed a greater focus on improving Maria's weaknesses and needs (reading improvement, ESL, etc.) through the use of materials and topics related to her interests. One teacher explained, "She shows gifted tendencies, however I would not refer her. Without testing procedures, her reading problems would hinder her. Since she couldn't be retested for 2 years, I'd give her another year to adjust and recommend testing in third grade" (27RD).

One rural teacher explained, "She should be placed in our Reading Recovery program. This would get her to grade level in reading and everything else would fall into place" (34RB). To increase her reading proficiency, another common theme in suburban and rural responses was to allow Maria opportunities to share information with peers and do class presentations as ways to improve her verbal communication while sharing her ideas with others. One teacher wrote, "Encourage Maria to share with other students information that she reads" (84RA).

Rural and suburban respondents had some recommendations for involvement of Maria's parents as well. This involvement could take the form of conferences, parent support for academics at home, or having the parents participate in the ESL program with

Maria. One teacher wrote, "I would involve her parents as well by giving them many ideas and ways to help her reading skills develop" (28RC). Another respondent wrote, "Hopefully programs for ESL with her parents would benefit" (3SA). Low SES suburban respondents recommended parental support at home to advance academics. One teacher wrote, "Her parents might want to attend her school and classroom to see what she was doing and learning. Establishing some communication with the parents would be good so everyone is helping Maria. She could be teaching her parents English!" (152SC).

Alexis

Recommendations for Alexis, a talented student from urban poverty, remained relatively consistent across respondent groups of teachers, grades K-2.

Teachers emphasized the importance of mentorships to aid Alexis emotionally and academically. Responses indicate that a mentor could be beneficial for Alexis, not only to help her complete her homework, but to act as a steady role model and support system. "I think Alexis should be allowed to have a high school or peer mentor after school that can give her time and quiet she needs to do her work well" (91RB), one teacher stated.

Support systems were emphasized for Alexis by respondents. Counseling and assistance from family support services weighed heavily in the responses proposed to benefit Alexis. Rural respondents were the most likely to emphasize the use of after-school or summer programs for Alexis as well as a guidance counselor or a guidance group to assist her. A suburban respondent suggested, "counseling to deal with multiple foster homes" (118SA). Another respondent recommended, "counseling to provide some type of support for her family environment" (49UD). Both rural and urban respondents requested that the school intervene with social services or the foster family to try and improve Alexis' home-life situation. One respondent wrote, "In school, the counselor should be involved with independent and group counseling. Also counseling outside school dealing with social skills would be helpful" (137RB). All respondent groups also placed a large focus on Alexis' problem with completing homework. Suggested solutions included: allowing Alexis time to complete homework in a quiet environment during class, to complete homework in a structured time after school, or allowing her to demonstrate mastery of the curriculum without completing homework at all. One teacher recommended the use of a "tutor to help her complete her homework" or assigning "homework that she can complete without assistance" (117RC). Another teacher suggested "giving her time to work on her assignments during literacy centers . . ." (105RB). Teachers also recommended strategies to encourage Alexis to complete homework more regularly. "I would set up an incentive program for her to turn in her homework and work on extra assignments" (96UD).

Several respondents mentioned Alexis' problems with language usage as well. Grammar, language, and spelling skills were pointed out as lacking and in need of remediation. "It is clear that she demonstrates skills, but some of her basic skills are not developed. I would recommend her for any tutorial programs at our school" (96UD).

Another teacher explained. "I would have mini-conferences with her about her grammar/punctuation problems with her writing. Then I would see if she could correct her mistakes" (65UC).

Respondents suggested the need to increase Alexis' time with books by allowing her to take books home from school, increasing her library time, encouraging her to write in a personal journal, or creating a book-making center for her to use. One teacher mentioned, "It would be important to set up a room library and provide the child with the opportunity to use books from the library. If the child completes her work before others, perhaps she could work at the library center or even complete homework assignments" (107UD).

All groups had a few suggestions for gifted testing or services for Alexis, although this option was overshadowed by recommendations for homework help, literacy exposure, and mentorship participation. Another obvious pattern within these responses is that the main recognized characteristic that precludes Alexis' giftedness is her ability to thrive within difficult conditions. One teacher wrote, "She shows great initiative despite her horrible life. She should be tested, and if gifted, be given an IEP to attain her goals" (14SA). Another said, "If there are programs available at school for the gifted, see if she can be included" (57RA). Respondents seemed more apt to encourage remediation, counseling, and fulfilling homework obligations for Alexis before recommending her for gifted programs and services.

CHAPTER 4 Case Studies

Carter Elementary School

Carter Elementary School was a small elementary school with majestic-looking pillars situated on a small hill in a moderately-sized mid-Atlantic city. It served approximately 265 students in grades K-4. Carter's demographics illustrated its diversity: The student body was 55% African American, 32% Caucasian, 4% Hispanic, 1% Pacific Islander, and 7% other races. Seventy-five percent of students were eligible for free or reduced lunch. There were 184 students in K-2 classrooms nested in 10 general education classrooms with 6 part time instructional assistants. The class sizes in the primary grades averaged 18.4 students.

Carter was a school-wide Title I school with a gifted and talented pull-out program serviced by one gifted specialist, Ms. Blake, and a Book Buddies program for struggling readers instituted with education students from a local university. According to state report card data, 14% of Carter's teachers did not meet the federal definition of highly qualified, exceeding the state average of 8% for high poverty schools; 48.5% of teachers at Carter held master's degrees.

The state tests were particularly significant at Carter during the year of the research study. The previous year, the school did not meet its annual yearly progress (AYP), and was labeled "accredited with warning," a fact widely publicized by local newspapers as it allowed families zoned to attend that school to make the choice of attending another elementary school in the division. As a result, some families did choose to transfer their children to other elementary schools in the district, however most elected to stay at Carter. According to one second grade teacher, Ms. Hopkins, most of the families who chose a transfer had never attended Carter. They had been in private schools, and then chose to go to one of the other public elementary schools. "So it's not like they'd ever come here to try," she said (Hopkins TI2, 3). State data show that student enrollment dropped by 52 students from the previous year; however, it was not clear how many students' families chose to leave Carter specifically due to its AYP status.

In part to boost their test scores, Carter implemented Open Court, a scripted reading and language arts program in the primary grades. Teachers were involved in selecting which program to adopt, although second grade teacher Ms. Miller believed the teachers had recommended a program different from the one the board chose (Smith FN2, 8). The teachers received training in the program over the summer; the program content and style was new to all of the teachers in the study. The school was in its third year of implementing Cognitively Guided Instruction (CGI) as the core of their math program, K-4.

All primary grades teachers at Carter used a behavior management system that employed colored cards. Each student had a pocket with his/her name on it. Inside, there were three cards: green, yellow, and red. All students started on green. If a student

misbehaved, the teacher asked him/her to "turn" the card to the next color. Red was the most "severe" stage. Consequences for one's card being red varied from class to class and student to student (cf, Faber, FN2, 4).

Test results from the year of the study indicate that Carter did reach its goal of making AYP and the school became fully accredited, although the school division in which Carter was located remained not accredited.

Kathy Ashton

A third year Kindergarten teacher at Carter Elementary, Kathy Ashton was a heavy-set Caucasian woman in her mid-20s with short blonde hair and dark-rimmed glasses. Ms. Ashton held a B.A. in education from a Midwestern state university. Her teacher training program there gradually eased pre-service teachers into the classroom by partnering with the on-campus elementary and secondary lab schools, which Ms. Ashton described as "perfect schools." That is, they were not representative, she felt, of the real world of school in terms of demographics. Because she was certified to teach grades K-9, Ms. Ashton spent 4 weeks teaching seventh and eighth graders during her final year in the program. After this "very hard" experience, she taught first grade for a full semester at a school demographically similar to Carter. Kindergarten was the only grade she had taught independently (TI1, 3-4), and her first year at Carter had been particularly challenging due to student discipline problems (TI2, 2).

Classroom Context

There were 15 students in Ms. Ashton's class. Throughout the year, there were changes to the group. One student left in the fall after his family moved. Another student joined the class for just under a month when his family moved to live in the nearby Salvation Army shelter (TI2, 1; TO4, 1). Later in the year, Megan, an autistic student, left to join another kindergarten class after having been absent for the month of December to undergo heart surgery (TO5, 1). In the spring, a new kindergartener arrived who remained through the end of the year (Ashton CS, 5).

Ms. Ashton's class was predominantly African American. Three of her students were Caucasian. Socioeconomic differences among the students were evident in how some of them were dressed for school. Leigh, a refugee from Somalia, came to school dressed in clothes that were too large, often wore shoes without socks, and donned sandals throughout the winter season (TO4, 8; TI5, 4; Ashton CS, 5). Kourtney wore the same long-sleeved tee shirt, jeans, and sneakers on many observation days (TO5, 10). By contrast, a few students frequently wore new clothes: Peter came to school with different pairs of bright white sneakers, and Hope wearing a variety of patterned pink sweatshirts. Grey often sported new extensions in her hair, complete with rows of colorful beads (TO5, 2).

Ms. Ashton's class was very diverse in other ways as well. She said that her group was,

a totally different type of class than I've ever had before, like as far as kids' special needs . . . there's Jake who . . . trying to get him to focus is hard because he doesn't have ADD he has something else that I'm not familiar with . . . [and] Steven and Karrie sometimes they talk in a different way. And then Jake sometimes is off his rocker. And then Peter is talking about, um, for example Friday for Show and Tell he brought in a book about megamammals and seadragons, and he was explaining to us about them. (TI3, 1)

Ms. Ashton also expressed a feeling that her class comprised many students with "disabilities and different learning styles" (TI3, 1). Four of her students worked with the speech therapist, although Ms. Ashton thought that number should be higher. Three students worked with the school's reading specialist and attended pull-out classes in the afternoon for additional help in reading.

Ms. Ashton had a full time aide, Ms. Jenkins, who was actively involved in the classroom, both in teaching and in behavior management. Ms. Jenkins was a very experienced aide who preferred working with kindergarten students rather than older children, and had good rapport with the students in Ms. Ashton's class. Ms. Ashton was also joined by the school's reading specialist, Ms. Kind, each morning for approximately an hour during language arts time. Ms. Kind planned and instructed one reading group station, and therefore taught each student in Ms. Ashton's class, regardless of reading or writing ability. Ms. Ashton also met with the school's Title I math teacher who was "helping us review our math program and helping us do more centers" (TI1, 1). The Title I teacher visited Ms. Ashton's classroom periodically (Ashton CS, 2-3).

Four themes emerged from observing Ms. Ashton's classroom over the course of one academic year on a weekly basis: (a) a didactic approach to curriculum and instruction; (b) not knowing learners leads to low expectations for them; (c) teachers' conceptions of giftedness; and (d) the role of the school in teachers' conceptions of giftedness.

A Didactic Approach to Curriculum and Instruction

Influence of own learning experience on teaching. Ms. Ashton remembered several aspects of her own experience as a learner that she thought influenced her teaching style and her planning of curriculum and instruction. First, she recalled instructional reading groups that bore overt labels such as blue jay and crow, which indicated how smart the students in each group were. For this reason, Ms. Ashton said she gave her reading groups names that did not stigmatize students (e.g., lions, tigers, bears) (TI2, 2-3).

Another memory of her childhood classrooms was the regimented nature of the curriculum. She described her teachers always securely holding the teacher's guide, reflecting,

I remember the manual being chained to the teacher and all the answers to the workbook questions were in red. And, I mean, I guess I just remember her, like, and then trading papers and correcting them. (TI2, 2)

Despite her disdain for this style of teaching, Ms. Ashton admitted being guilty of relying on the teacher's manual with the new scripted reading program. She also knew she should not use worksheets extensively, but reported depending on them because they were easy (TI2, 3). According to the observer, Ms. Ashton did not make corrections or compliment specific achievement related to worksheets (Ashton CS, 15). On occasion, the teacher did not look at worksheets at all, but rather told students to put them in their take-home folder (TO7, 5; TO9, 5).

In reflecting on her teachers in general, Ms. Ashton remembered many of them being close to retirement, with the exception of her fifth grade teacher who was just out of college. He was her favorite teacher because he had them do hands-on projects. He had a lot of energy, was respectful of students, and engaged everyone in meaningful activities. Ms. Ashton said she tried to be like him more than like her other teachers, who, it seemed, were simply passing time with dittos (TI2, 3).

Throughout the year, the observer observed Ms. Ashton teaching reading, language arts, math, science, and social studies. The curriculum itself was given to her, she said, and comprised curriculum guides and state standards (TI1, 5). Students were assessed according to district assessments, the quality of which Ms. Ashton did not think was very high.

In explaining her instructional decisions, Ms. Ashton elaborated,

I'm still kind of half creative, half 'let's do a worksheet' sometimes, and I'd like to kind of get more away from the 'let's do a worksheet' but it's hard to know exactly what are good activities to do instead . . . like we have a Title I math teacher who is helping us review our math program and helping us do more centers and more 'let's share how we do our problem' and it's hard because I'm so used to 'let's just teach out of the textbook' you know? (TI1, 1)

Although she believed lesson planning in general was a weakness for her, Ms. Ashton reported planning curriculum and instruction according to the traits of her students; for example, giving visual learners more pictures and videos, and kinesthetic learners manipulatives. If the group were prone to misbehave, she said, she would not use messy activities (TI1, 4).

Reading program. Ms. Ashton did not feel positively toward the new scripted reading program the school was implementing. Specifically, she said it was basic, designed for the average child, repetitive, slow, did not elicit talent, and "not the best thing for our kids," because it was too hard for some students and too easy for the rest. However, she relented, "But we have to use it" (TI5, 1-2).

In her training for the program, Ms. Ashton was told that, as teachers became more familiar with the structure, they would need to rely on the manual less and less. Still, she remained concerned:

There are a lot of materials for some lessons, and I forget if I don't have my book. If I just wing it, I'll go back and say, oh I forgot to do those two activities because I couldn't remember the eighty-five things I'm supposed to do. (TI2, 3)

By January, the observer observed Ms. Ashton was still relying on her reading manual a great deal for instruction and was not sure if the disconnectedness of reading lessons should be attributed to the program itself or to Ms. Ashton's implementation (TO8, 6). Indeed, the teacher expressed frustration with the series in what it asked her to do (TO7, 5; TO8, 1). The activities were the same every day, varied only by theme, letter focus, or what story the children were reading (TO4, 2). The students noticed and responded negatively to this the repetition. For example, in January, when the afternoon was again beginning with a picture sort, most of the children began the task while rolling their eyes or sighing. Kourtney verbalized his annoyance, saying, "I don't see why we gotta do this darn stuff again" (TO7, 4).

Because her mornings were "dominated by literacy" (Transcript, 10/27/04, p. 5) and her afternoons by a new math program as well as choice time, Ms. Ashton had little room for science and social studies (called "content" at Carter). In addition, due to the AYP focus, Ms. Ashton perceived the district did not consider content a priority. She quickly added that she did not feel that way herself and expressed a desire for training in how to develop activities for teaching these subject areas (TI1, 5). Planning content was her weakest area, she admitted: her "default lesson [was] to a read a story and have the students do a follow-up coloring activity or journal" (TO7, 2). The content folders Ms. Ashton maintained comprised worksheets that asked to students to circle, cut and paste, math, or create a sequence book (TO7, 2). Although the district had adopted a new science textbook for kindergarten, as of late October, Ms. Ashton had not had time to review it (TI1, 6).

While many components of the curriculum were pre-determined, and she felt a lack of resources, scheduling restrictions, and the new reading program were barriers to her ideal classroom (TI3, 4-5; TI4, 1), Ms. Ashton was permitted to make numerous independent curricular decisions. However, in the implementation of these decisions, the observer observed little continuity or meaningfulness (Ashton CS).

Certain curricular choices Ms. Ashton made did not allow her to address the spectrum of abilities in her class. Twice, she chose novels for read-aloud time that were appealing to her most able readers but alienating for the rest of the class (TO5, 2; TO9, 3). One novel was considered by the observer to be developmentally inappropriate for kindergartners.

Because February was National Children's Dental Health month, Ms. Ashton responded to a flyer in her school mailbox and sent for curricular materials from a

toothpaste company. Students cut paper teeth featuring words and phrases associated with eating and teeth cleaning habits, and then glued them into "good" and "bad" columns. The lesson closed with a video on dental health. While some of the top readers enjoyed reading the phrases on the teeth, particularly Jake, other students were confused by the terminology. Peter, a highly able student, avoided the activities altogether by spending time at the sink and in the bathroom (TO9, 3-5).

Some weeks, Ms. Ashton said, she chose to forego math altogether and teach content by doing "fun, crafty things" she wanted to do, explaining, "[The students] are only 5 years old. They need to cut and paste and glue, which they don't always have a chance to do" (TI1, 6). Accordingly, students created paper penguins, turkeys, weaving projects, gingerbread men, and Christmas trees (TO4, 1; TO6, 1; TO8, 1). The observer remarked that a large amount of time was spent cutting and pasting.

There is an amazingly high amount of time spent cutting and pasting sorts during this academic period . . . the ratio of mechanics, or cutting and pasting, to instruction is completely unbalanced—mechanics taking the most in terms of time. This is true for all the groups, and true for multiple stations during language arts time. In other words, every single group cuts and pastes at least twice during the span of language arts, spending about 15 to 20 minutes of time on the cutting. (TO3, 11-12)

In interviews, Ms. Ashton stressed the importance of hands-on activities, believing them more likely to elicit talent than worksheets. At the same time, she said she did not do as many hands-on activities as she would have liked. In her description of what these kinds of activities entailed, Ms. Ashton indicated that she equates hands-on with art projects and math manipulatives (TI1, 2; TI4, 1; TI5, 1).

In reality, Ms. Ashton's instructional style was characterized by repetition and attention to behavior management (cf., TO3, 17-22). She spent the majority of classroom time in direct instruction. Typically, she taught from a seated position in her rocking chair and students were seated on the carpet in rows, each in his or her assigned spot. She asked students questions, involving them by requesting they touch their noses if they heard a certain sound, put up thumbs if they agreed/disagreed, or use whisper voices (TO2, 21; TO3, 4). She also involved students with clapping: "Let's sing our alphabet song. What happens when we get to a yellow letter? We stop and clap" (TO3, 1). Instructional segments in Ms. Ashton's class ended abruptly with few meaningful transitions or opportunities for students to make meaning. The observer speculated that, despite claims to the contrary, Ms. Ashton's lessons indicated that she wanted the students to learn while sitting passively (TO8, 4-5).

Not Knowing Learners Leads to Low Expectations

Ms. Ashton felt her role as a teacher was multi-faceted—mother, psychologist, nurse, parent—and that these roles superseded the educator role. She believed she must meet the students' physical needs before worrying about teaching them content,

especially considering the population of students at Carter (TI1, 2). However, the observer characterized the classroom attention Ms. Ashton gave students as more distant than nurturing:

In conversation and interaction with children, Ms. Ashton often seems preoccupied or hurried to the point of being slightly dismissive. For example, when students approach her with pictures they have drawn, she responds, "Oh. Thank you." When students offer personal comments like "I went to pick apples," or, "We went sledding at Wellington Park," she replies with one or two words, invariably re-directing conversation to the task at hand. (Ashton CS, 3)

Ms. Ashton believed that she had not been teaching long enough to have a teaching philosophy. She continued, "I guess just get my job done and manage behavior and hope everything works out for the best? I don't know" (TI1, 2). Her "job," as she described it, was to teach the curriculum. Ms. Ashton's conception of teaching as a job surfaced not only in other interviews and interactions with the observer (TI2, 1; MC, 2), but also in her language with students, as she referred to them doing their jobs, for example, a math job or their job to behave well (TO1, 1, 11).

Classroom management. Classroom and behavior management was, Ms. Ashton believed, her greatest strength as a teacher. She credited her supervising teacher with instilling its importance. "I feel that without [discipline], you can't have a functioning classroom," she added (TI1, 1). Her first year teaching, during which she taught a class of students she described as "really rough" may have also influenced this emphasis (TO2, 9). Strategies Ms. Ashton used to manage student behavior included asking rhetorical questions (e.g., "Remember, friends, have there been any directions yet?"), using the school wide card system, assigning desks and carpet spots, and separating students from the whole group or from one another (TO1, 1, 5; TO4, 8; TO5, 15). In the way Ms. Ashton used the classroom carpet—to gather and refocus students or to start a new lesson—it served as a management tool (TO7, 5). Routines were also important to management, as with calendar time and take-home folders (TO1, 6; TO3, 2; TO7, 5).

In November, Ms. Ashton implemented a new system to motivate students to do their homework. When they earned six stickers on the homework chart for successful assignment completion, they chose a prize from a bucket (TO4, 2). According to the observer, this system of extrinsic rewards proved ineffective (MC, 4). After three homework assignments, half the students had three stickers. Notably, these were the same students who had been consistently turning in homework prior to the new system, as well as the same students whose parents had attended parent-teacher conferences (TO5, 1).

Response to student interests. Ms. Ashton said her class was an inquisitive group of students, especially in how they asked questions that guided their own learning. "So the bare minimum just doesn't work for them," she said (TI4, 6). When they talked about hurricanes in science one day as a class, she noticed the students were interested in them. In response, she checked out books on the subject from the library and let the students

peruse them during center time. Capitalizing on student interests, Ms. Ashton reported, was something she did frequently (TI4, 7).

However, the observer did not believe Ms. Ashton took advantage of student interests regularly. Though they were available in the classroom, the students did not use computers or audiotapes. Also, although their interests were apparent in the words they chose for the Word Wall, the teacher did not use it to guide her curricular choices (MC, 4).

Ms. Ashton tended to avoid creative questions and comments (TO3, 19-20; TO4, 7). Similarly, the questions she posed—including those independent of the scripted reading program—called for yes or no responses (TO1, 8; TO2, 22; TO3, 15-16; TO5, 11, 15; TO8, 6-7; TO9, 2-3). During the model lesson implementation, students expressed interest in spending more time on some of the activities and in giving more answers to questions Ms. Ashton had posed, but Ms. Ashton told them it was time to move on (TO12).

In general, Ms. Ashton was apprehensive about allowing students to share ideas and interests during the course of a lesson, or to respond proactively to those interests. One exception was each Friday, when the students were allowed to bring in something for show and tell (TI3, 1). This designated time for sharing interests was congruent with Ms. Ashton's preference for predictability.

Student academic variance. Ms. Ashton shared that her class was atypically "high" in terms of academic ability. Confident that a number of her students were academically stronger than the average kindergartener, others, she felt, showed unique artistic and dramatic acuity. Speaking to the diverse abilities in her classroom, she said:

. . . With this group, I mean, I had kids with the [reading program assessment] get to "The Wagon," which is like level 14 which I'd never seen before. I had to stop for some of them because of the comprehension but for others . . . I mean, they could have kept reading. Like Jake, he got 47 words per minute on "The Wagon," which is pretty amazing. I mean that's more than a decent score. (TI4, 6)

The observer noted that although Ms. Ashton's class did seem like an academically able group, it was also an extremely diverse group with a few students who already knew the material presented on any given day, who could already read the new "instructional level" book they were given or already solve mathematics problems, but also with a few students who were overwhelmed (Ashton CS, 7). The observer helped with a math lesson that illustrated this disparity well:

Ms. Ashton had asked me to help the kids with a telling time activity, which gave me a very surface idea for who understood telling time and who did not. Several of Ms. Ashton's top students were able to tell time accurately to the half hour, but most of her students could only tell time to the whole hour, and some could not tell time at all. In fact, one child could not accurately identify all of the numbers

featured on the clock. Such is the extent of the range of ability in Ms Ashton's room. (TO9, 1-2)

Response to student academic variance. In the context of discussing the recent behavior of two academically able students, Jake and Peter, the observer asked Ms. Ashton if she knew why they might be misbehaving; the teacher speculated it might have been the changes in the weather that late winter, because every time it changed, they were "off." She then commented that she wished it could be just one temperature and stay that way, even if it were cold (IS, 1-2). This reference to the weather symbolizes Ms. Ashton's frustration with and response to the student variance in her class. She saw the need for differentiation, but was not sure what to do, or according to the observer, not willing to do the necessary work to differentiate (MC, 3). Even with worksheets, Ms. Ashton could not decide whether to read the directions aloud because many students could read them themselves and had started working (TO7, 3). In one interview, Ms. Ashton suggested that because she had to cover the curriculum, she could not differentiate (IS, 2).

In practice, Ms. Ashton required all students to work at the same pace, telling students to wait for everyone else or re-read (TO3, 5, 8; TO5, 5). For example, when Jake finished reading a book before his peers, this exchange occurred:

Jake: I'm done.

Ms. A: Can you read it again?

Jake: But I'm finished.

Ms. A: If you read it again your brain will get bigger and bigger. Jake then opens the book, and starts to hum, looking at Hope who is sitting next to him. (TO5, 16)

During her language arts block, Ms. Ashton grouped students according to reading ability. While this grouping was meant to be flexible (TI4, 1), the groups changed only once during the observation cycle from October to May. Interestingly, although students were grouped based on ability, the single observed difference between groups was the books they read for homework. And, according to the observer, "Grouping did not seem to reflect the abilities of the students in the groups that are formed, particularly with respect to the higher groups" (Ashton CS, 14). For example, during one block, students in all three groups completed the same sort, and none of the students had any trouble sorting the pictures according to sound" (FN2, 3). Ms. Ashton did, however, send students home with different leveled books in plastic bags for homework (TO4, 1-2).

Ms. Ashton felt positively about her use of groups in math, because she thought it allowed her to better differentiate. When the observer asked her for an example, she described a word problem in which she increased the numbers depending on the groups:

Easy: Faith had 6 pennies. She bought a hat that cost 1 penny. How many pennies did she have left?

Medium: Faith had 10 pennies. She bought a hat that cost 2 pennies. How many pennies did she have left?

Hard: Faith had 20 pennies. She bought a hat that cost 7 pennies. How many pennies did she have left? (IS, 2)

During the math lesson that day, Ms. Ashton divided her class into three groups, and gave them the following tasks:

Group 1—Match a digital time to an analog time

Group 2—Work with her on math story problems [see above]

Group 3—Use play pennies to count out specific numbers of pennies. (TI6, 2)

The most highly able students in math—Jake, Peter, Hope and Shaniqua—were in group two, and found their story problems very easy, shouting out the answers before Ms. Ashton even finished reading them aloud (TI6, 3).

Teacher Conception of Giftedness

Ms. Ashton had not received any training in talent development or gifted education (TI1, 7). She was not sure how to identify gifted learners or service them in the classroom, but expressed interest in learning (TI1, 8).

Pinpointing what giftedness looks like in primary students was challenging for Ms. Ashton. "It's hard, I guess, to explain it," she said, "but when I kind of see it I can say, 'ah ha!' But to actually think about it and explain it is hard" (TI4, 1). Consistent with this "I know it when I see it" view, Ms. Ashton described giftedness as exceeding teaching expectations, as in going above and beyond in answering a question, a difficult task in a classroom with limited opportunities for open-ended or creative learning experiences.

Expressing the belief that students could be gifted or talented in specific areas such as art, Ms. Ashton said gifted children might have more skills or "just something inside" (TI4, 1). She also indicated giftedness might be general ability and something a student is or isn't. Giftedness as effortlessness—not having to try in order to do something well—was also a conception Ms. Ashton communicated (TI4, 1). Recognizing that giftedness may not be an objective, quantifiable construct, Ms. Ashton said, "But I guess it's not like 5 out of 8 things, you're talented, you're gifted" (TI1, 8).

Ms. Ashton questioned whether the students she thought were talented were "really" talented, or if they just looked talented compared to the general population at Carter, whom she said were "behind." She explained that, at Carter, even when a student

knew her letters, she looked talented compared to the other students who do not (TI1, 8). Working above grade-level was not necessarily talent in Ms. Ashton's conception (TI4, 1).

Ms. Ashton repeatedly noted the influence of parent involvement and home experiences, like going to museums. Consequently, she questioned whether the student is then gifted or just advantaged because of parent involvement (TI1, 8). She explained,

A lot of these [students'] parents are sort of parents in name only. Where the kids live with the parent and the parent buys them clothes sometimes but they don't help them with homework even. So they don't really get those experiences to build on. (TI4, 2)

In talking about Hope and Peter, two advanced learners, Ms. Ashton observed that they lived with both parents, always had their homework done, and were in the top reading group. Karrie, she acknowledged, had a similar influence, living with both her grandparents (TI2, 7). Even beyond the context of describing gifted students, Ms. Ashton thought parent involvement crucial to student learning. Her most successful teaching experience involved a student who made tremendous progress during the course of the school year, going from not knowing any letters, colors, or numbers to being in her top reading group. She recognized the impact of his supportive parents (TI2, 1).

At the same time, Ms. Ashton considered students she had taught who had a good vocabulary without an advantaged home life or educated parents, saying she wasn't sure from whence those abilities had come (TI4, 1). Leigh, a student from Somalia who displayed strong talents in art, had parents who did not speak English. Ms. Ashton said, "And, I mean, she's absolutely not getting art lessons at home" (TI5, 3).

Similarly, the abilities of the most talented learner Ms. Ashton had ever taught did not appear to be academically influenced by her parents, as her mother worked two jobs as a waitress and her father was in jail. She was "kind of mathematically gifted" and very creative with answers to math problems, using multiple strategies and daring to try different methods without being prompted. Moreover, Ms. Ashton admired how the student took initiative to challenge herself when the required work was completed and was able to explain an answer to others (TI3, 5-7). This ability to metacognate seemed to be important to Ms. Ashton. In one interview, she cited Jake's talent in math in terms of being able to solve a problem quickly, but said because he wasn't able to articulate his processes for arriving at answers, she continued to give him the same kinds of problem (TI6, 1-2).

Talent development. Ms. Ashton believed the regular classroom curriculum could be used for talent development. She envisioned the teacher instructing the whole group. Afterward, students could work with either one another or with the teacher in smaller groups. In addition, she mentioned doing some higher level thinking skills with students who were more advanced (TI3, 8). When the observer asked her to give an example of using higher-level questions with advanced learners, Ms. Ashton explained:

Like when I'm teaching them Thanksgiving I'd ask everyone, "Well who are these people?" and the average kids can say, "Pilgrims" but then I'd ask the higher kids, more specific questions like, "What year did the pilgrims come over on the Mayflower?" (TI3, 8)

In a similar example, Ms. Ashton told the class during one lesson in language arts that day that they were going to learn about the letter "o." She said, "Well this is kind of a hard question, but what sound do you hear in these words: hog, mob, ox, stop." Peter immediately said, "o" (TO7, 4). Ms. Ashton's conception of what constitutes a challenging question, then, might not have been accurate.

In describing the resources available to her for talent development, Ms. Ashton mentioned a mentoring program started by a fraternity from a local university and a grant the school received to form clubs for music and art, which were scheduled to start at the end of January. The clubs were to be lead by parents, teachers, and community members, and Ms. Ashton was positive about the possibilities they promised (TI5, 5-6).

Despite talking extensively about the influence of home life on talent development, Ms. Ashton could not identify a relationship between cultural background and talent development. Curiously, she said, "I don't know if it [cultural background] would make a difference with this group." She also could not think of other factors that would influence the development of talent in young children that the interviewer had not already asked about (TI3, 3).

The Role of the School in Developing Teachers' Understanding of Giftedness

Gifted programming. Likely due to there being a new gifted specialist at Carter, Ms. Ashton was more informed about the gifted program as implemented in previous years than she was in the year of the study. It was a pull-out program that started in January and continued through May. Students went to the gifted resource room for 40 minutes, twice a week. "And so that would be the only thing that they would get," Ms. Ashton added (TI1, 7).

As of late-October, Ms. Blake the GT teacher had come in to Ms. Ashton's classroom to teach Spanish to everyone. She had also started a post office through which all students in the school could send one another and teachers letters. She mentioned Ms. Blake was going to "start something in January" with the kindergartners when she knew more about them and would be talking to the teachers more about what she's going to do. Overall, Ms. Ashton thought the new program was much improved from the previous program "which wasn't really much—at least not with the kindergarten age" (TI5, 3). She perceived the current pull-out program at Carter for older students was academic and focused primarily on reading and writing (TI5, 3; TO7, 3).

Identification. There was no formal identification of gifted or potentially gifted kindergarten students at Carter because, Ms. Ashton said, in theory the students were still adjusting to school. This did not seem to bother her as much as the policy of not formally

identifying students for special education services, "even though you know that things are not right" (TI1, 9).

Similar to her familiarity with the gifted program at Carter, Ms. Ashton's knowledge about the informal identification procedures for Carter's gifted program was limited to how the previous gifted specialist identified students. In other years at Carter, Ms. Ashton said teachers were discouraged from referring children for the gifted program who were behavior problems. Ms. Ashton did not seem to believe this was valid, and she sarcastically challenged the idea that only good kids are gifted:

Yeah, as if behavior problem kids aren't talented. Or only the good kids are talented. And I mean there are different kinds of talented too, so I don't know. I'm kind of glad that we have a different person this year. (TI1, 7)

Under the old system, Ms. Ashton said, the gifted teacher would come in January and say, "Choose 3 kids that you think would benefit from some outside instruction during their rest time." The behavior proviso influenced Ms. Ashton's choices and, to her knowledge, there were no further guidelines for selection. She expressed uncertainty in how to identify gifted students at all and expressed a desire to know what to look for and, specifically, how to distinguish high achievement relative to same-age peers from giftedness (TI1, 8).

Ms. Ashton described a more formal identification system that began in third grade. The procedure involved three steps: (a) The teacher nominated students she thought might be gifted; (b) the student was tested and their parents notified; (c) if the student was identified as gifted he received services (TI5, 3). Parents, she felt, were not well-apprised of the system, despite notification via phone and mail (TI4, 2).

Because most students at Carter were from diverse and low socioeconomic backgrounds, Ms. Ashton said she did not think students were missed by the identification due to their cultural or economic profile, nor did she believe the process was any more or less advantageous for students from the majority culture (TI5, 3-4). The student Ms. Ashton was most concerned about the system missing was Leigh. She was not gifted academically, like Peter, but she was gifted artistically. Ms. Ashton felt Leigh's limited English proficiency was the primary barrier to her being a good fit for the gifted program because (a) Leigh should not miss instruction in academic subjects and (b) the pull-out program was academically based anyway (TI5, 3; TO7, 3). The clubs, Ms. Ashton believed, were the next best thing for meeting Leigh's needs (TO7, 3).

An Alternative Image: Teacher's Response to an Interdisciplinary Unit on Spring

After extensive study of the context of Ms. Ashton's classrooms, the research team presented the teacher with a series of lessons focused on an interdisciplinary investigation of spring, the concept of change (see Appendix C for model lessons). The five lessons included opportunities for students to explore and create analogies for spring, analyze a variety of poems inspired by spring (e.g., e.e. cumming's poem *spring is like a*

perhaps hand, James Joyce's *Spring*) analyze and interpret Vivaldi's *Spring*, and to develop unanswered questions related to spring leading to independent research investigations.

During the first lesson, the teacher brought the students to the carpet and told them they would spend time looking at pictures and talking about what they saw in the pictures. She then divided the class into three groups, and each went with an adult to look at pictures. Student responses included:

Alexander: There's kids playin' outside.

Karrie: It's sunny.

Grey: There are different colors in them.

Peter: This is a picture, and this is a painting. (TO10, 1)

After several minutes of discussion, the students received a new set of pictures and the discussion continued. Following this second discussion, the teacher assembled the students back on the carpet and asked them, "What season do you think the pictures you looked at showed?" Most of the students answered spring, however one student answered "fall." Next the teacher introduced the term "analogy" and said they were going to try making some. She said that with analogies there are no right or wrong answers, just ideas.

Teacher: Here is one analogy. How is spring like the color green?

Grey: The leaves change color to green.

Kourtney: After they turn green they turn yellow.

Leigh: Because trees' leaves come up and the trees go green.

Peter: Because everything is growing and new things are green.

Hope: Everything is green! The grass is green!

Teacher: How is spring like warmth?

Peter: It's warm . . . the outdoors keeps you warm.

Hope: But it gets hotter in the summer.

Next Ms. Ashton said that she was going to give them a harder analogy. She asked, "How is spring like waking up?" Peter immediately said, "OH!" in an excited tone. Jake said, "We could plant flowers in spring and wake up the bulbs." Peter then said,

"All the animals that hibernate in the winter wake up in the spring." Kourtney said, "You could wake up and go outside and play." Finally, Ms. Ashton asked, "How is spring like change?" Hope said, "Spring changes because it turns into summer." Jake said, "You could plant flowers in spring and they change. Plants and flowers change colors" (TO10, 2-3).

Based on the students' responses, it appeared that the beginning of the lesson, when students were discussing pictures, was appropriate for the class at large, but not necessarily challenging for the most highly able. Based on their responses, the students seemed to enjoy looking at the different pictures and talking about similarities and differences, and expressed interest in continuing the discussion, even after the teacher concluded the lesson. At the core, all students seemed to make the connection between the pictures and spring. The more challenging element of the lesson, the creation of analogies related to spring, resulted in the most able students in the teacher's perception, Peter, Jake, and Hope, with their hands raised virtually the entire time and seeming very engaged. Other students that consistently demonstrated academic potential, such as Leigh, Karrie, and Grey, had their hands raised but were not called upon by the teacher to respond. Ms. Ashton seemed anxious to move through the lesson, and was not as comfortable with giving the class wait time or with calling on more students.

In an interview following the teaching of all five lessons, Ms. Ashton reflected on her students' experiences with the context-based lessons. The teacher recognized that the lessons elicited talent in a wide range of the students in the class, not just the ones that she expected to be successful.

I saw where some of my kids that I didn't really, you know, think would be such good writers were writing good questions and, to see that their questions were on target. They were pretty good and I was pleased. I liked the different things, how all the kids were successful at some point during the week. Whether it was providing insights on a discussion or drawing a picture or being able to act something out. So I think that over the course of the week, everybody felt successful doing something, which was good. That doesn't always happen. (TI7, 1)

Additionally, after seeing the students perform as well as they had, the teacher seemed to recognize that her expectations for the learners were pitched below what they were actually able to handle.

I was surprised at how much they liked the [Vivaldi's Spring] lesson and how they were quiet and actually listening to what was going on. I thought they might like it, but I didn't know that it would catch their attention that much that they would actually be quiet and listen. I thought more of the lessons would really bomb and we'd have to be like, "Okay, get out your journals instead." (TI2, 3)

Patti Ball

A kindergarten teacher for 19 years, the past seven at Carter, Patti Ball was a brown-haired, heavy-set woman with pale skin and a gentle voice. Ms. Ball grew up and attended elementary and secondary school in the same city Carter was located. Knowing she wanted to work with children, Ms. Ball considered becoming a nurse until deciding that taking care of sick children would be emotionally overwhelming. Following 2 years of community college, Ms. Ball worked for another 2 years to earn money to finish at the state university. During that time, she volunteered in a local elementary school and set her sights on teaching as a career. Ms. Ball earned a B.A. in elementary education and said she considered continuing for a graduate degree but would have had to work full time while taking classes to earn money for tuition. Instead, she sought a teaching job. This proved more difficult than she had expected. So, she substitute taught for a year and worked the switchboard at the city school district's central office. After securing a long-term sub position, a permanent post in second grade opened, and Ms. Ball was hired (TI1, 3-4; TI3, 1). Although she enjoyed second grade, she wanted to teach kindergarten. Following her year with second grade, she was moved to kindergarten (TI2, 3). In this first year teaching five-year-olds, Ms. Ball's mentor and veteran kindergarten teacher, Alice Kimmel, proved invaluable. Taking Ms. Ball "under her wing," Alice became the most formidable influence on what the young teacher would do not only that year but also throughout her 19 years in education. The two women maintained personal contact (TI2, 4).

Ironically, kindergarten was not a part of Ms. Ball's own education. She explained, "When I was in school, if you went to Kindergarten it was private. So I never went to Kindergarten, I started in first grade. And I hated it. I absolutely hated it" (TI1, 4). Her antipathy for the classroom at an early age was due in part to how restricted she felt as a learner. Ms. Ball's affinity for verbal communication was not well-received in a school she described as "very much table, pencil, non-movement." Consequently, she made what would turn out to be a very influential decision:

I made up my mind when I was in first grade that when I grew up—I mean, I made this decision then and then I didn't really think about it again until later in life—that I was going to be teaching, and that my kids were going to do whatever they wanted! And of course, that's not true! (*Laughs*) (TI1, 4)

In the same interview, Ms. Ball spoke positively about many strong teachers she was afforded, especially in fourth grade, fifth grade, and high school. Collectively, these teachers allowed engaging physical and intellectual freedom in their classrooms (TI1, 5). Her mother, a nurse and Sunday school teacher, was also a role model for Ms. Ball's own career (TI2, 4). It was through helping her mother that Ms. Ball realized that people learn in different ways. "There, I noticed that some people just don't get it," she said (TI1, 4). The years of watching and assisting her mom comprised some of the most valuable teaching instruction Ms. Ball received (TI2, 4). Paying homage to this influence, Ms. Ball said,

You don't have to have that degree to be a good teacher; you just have to have the degree to get a job! Some of the best teachers don't have those degrees, and some of the worst teachers have those! (TI2, 5)

Teaching challenges and successes. In light of her palpable love for teaching and for children, it is difficult to imagine Ms. Ball ever considering leaving the teaching profession altogether. However, Ms. Ball's most challenging class—in her tenth year rather than her first years—almost led to that decision (TI3, 6-7). The students, 23 kindergartners with a range of emotional issues, proved so taxing that Ms. Ball "would go home and cry every day" (TI1, 3). She said seven of the students were identified with specific emotional problems within the year and a half following kindergarten. Despite the strain of that year, Ms. Ball kept those children in her thoughts:

I worry about those children now, you know, did they make it? I try to keep up with them, but some of them you just can't, and I really haven't heard . . . so, it was a year that I did give second thoughts, because I felt like I was young enough that if I wanted to make a change, I could. It was a tough year! But I made it! And I felt better for making it. And I did see progress with those children, but I knew it needed more than just what I could give and it was very frustrating on that end, too. (TI1, 4)

In another interview, Ms. Ball reflected again on the experience, saying that she tried forget the bad times with that group and remember the students who were good kids and who, like her, had to endure the challenges (TI3, 7).

Ms. Ball's eager reflections on her teaching successes proved more harmonious with the observer's observation over the course of the year. Her biggest success was quite recent: The previous year, a student who came to her with no academic skills or knowledge—including no recognition of colors, shapes, or names—made remarkable progress by the end of the year. Ms. Ball could hardly contain her joy as she spoke:

Just to see that growth! And this child was so thrilled! She knew [consonants] by the end of the year. This was a child who came in and didn't know any of that! And just to see how tickled she was with herself, and that she could do it was just incredible . . . There are so many others, but that little one—just to see how happy and thrilled, and how far she came. I mean, she made over a year's progress in one year! It was incredible to see. (TI1, 4)

Another success Ms. Ball detailed involved an Autistic child who made tremendous social progress. Recounting the story in an interview brought tears to Ms. Ball's eyes (TI1, 4). Ultimately, she said, it was intrinsic rewards of teaching, at the center of which were the children she saw every day, that motivated her to withstand the more stressful aspects of the job, such as low pay and unrealistic expectations. "The kids are what keeps you doing it, because I don't think I would last in this profession if it wasn't for the kids!" (TI1, 5)

Class composition and environment. By the end of the year, Ms. Ball's class was comprised of 15 students, including 9 boys. Twelve students received free/reduced lunch (TI4, 7). Eight students were African American, 4 Caucasian, 2 of mixed heritage, and 1 Hispanic. A student with Down's syndrome transferred into the class mid-year. Ms. Ball was thankful for the small class size, especially because it made instructional planning more manageable (TI3, 5). Many students were language-delayed and closer developmentally to 2- or 3-year-olds, while other students started kindergarten with on grade-level knowledge and skills (TI3, 7; TI4, 10). An early observation reflected this variance. During an independent reading activity, the observer noted students struggling to sound out words phonetically and students reading fluently (TO2, 1).

Ms. Ball viewed the diversity of her group and of Carter in general as an asset not an obstacle (TI4, 6). Alluding to the attention Carter generated in not making its AYP, she said,

We're always under the gun for something. People just don't—these kids are *incredible!* They live lives that I couldn't live, some of these children. They survive things that I don't know if I could handle as an adult, and they're still fresh, innocent, and they want to learn. And people always think, "Well, they're poor. They live over here. They can't be expected . . ." But they *can* be expected, 'cause they're some of the most intelligent people I've ever met. (TI1, 5)

Ms. Ball believed each new class had a distinct personality. She characterized emotional and intellectual climate of this group as "Let's go! Let's go!" (TO2, 2). This particular group of students, she felt, was very bright and very verbal (TI4, 4). "They love learning," she said. "Although they came in with just a little bit of background, they really pick it up quickly as we go!" (TO2, 2). It was the first year all of her students knew their colors at the beginning of the year, which she credited to the high number of students who had attended preschool (TO1, 3).

Kindergarten teachers and Carter had full-time instructional assistants, and Ms. Ball held hers, Ms. Clemente, in high esteem, calling her a "valuable, valuable, valuable person in my room" (TI2, 2). Ms. Clemente had children of her own, and had run a preschool out of her home for 18 years. Ms. Ball typified their relationship as "a partnership" that contributed to a class environment where students felt safe and loved (TI1, 1; TI2, 2; TI3, 5). A strong instructional assistant was integral to any successful classroom, Ms. Ball believed, and she said she felt sorry for schools that did not afford them to their teachers (TI2, 2-3; TI3, 4).

Ms. Ball spoke positively about the staff and teachers at Carter, whom she said were "like a family" who loved the students and cared about making a difference in their lives (TI3, 11). Consistent with this school atmosphere and with Ms. Ball's goal for students to love learning and coming to school (TI3, 5), the observer called the classroom environment "a warm, inviting, family-like atmosphere" that was "student-friendly and learning centered" (TO1, 1). Ms. Ball also modeled this love for learning, affirming the students when they taught her something new (TO2, 3) and, though her students did not

know, was taking a math class to strengthen her instruction in the subject. Related to this choice, she said,

. . . I know it's something I need. I feel like . . . you know, you never stop learning. 'Cause once you think you know it all, you're trouble! You might as well just go on and retire! (TI2, 6)

Ms. Ball felt her greatest strength as a teacher was showing her kids that she really cared about them as well as creating a place where students felt safe to express themselves (TI1, 1).

In observing in Ms. Ball's classroom over the course of the year, three prominent themes emerged: (a) affinity for kindergarten learners; (b) kindergarteners as capable learners; and (c) teachers' conception of giftedness in primary learners.

Affinity for Kindergarten Learners

Teacher demeanor, style, and management. Ms. Ball's teaching demeanor, instructional style, and classroom management reflected her explicit affinity for kindergarten students (TO2, 2; TO3, 5). This formative year of schooling set the tone for students' educational careers, she concluded. "It's pivotal! If they get it this year, they'll be *set*!" (TO1, 4). In first grade and beyond, the social aspects of learning were not emphasized as much, perhaps due in part to the focus on state standards (TI4, 10). Accordingly, Ms. Ball was developmentally responsive and instructionally flexible.

Kindergartners' need for movement and interaction was a primary instructional motivator for Ms. Ball (TI3, 5; TI4, 1). "These kids *need* to move!" she told the observer as they watched the students bounce to their seats for reading time. "They need to move, and have fun and learn to get along while they are learning" (TO1, 4). She testified to how important learning with music was for young children (TI5, 2). Toward these ends, she was strongly influenced by professional development with Dr. Jean Fulton, an early childhood specialist. Many of the songs, claps, and positive reinforcements Ms. Ball used came from Dr. Fulton. "She's just so practical!" Ms. Ball raved. "And that's what you have to be. I mean, I don't have time to do elaborate stuff . . . You've got to be practical and you've got to be meaningful" (TI2, 3). The observer observed Ms. Ball's deft use of these practical strategies on multiple occasions (TO1, 1-4; TO2, 5). It was not unusual for her to stop a lesson to allow the children a stretch break, or to rearrange the day's agenda to accommodate lost recess time due to inclement weather or simply general student restlessness (TO1, 1, 3; FN2, 2; TO5, 1). For example:

Ms. Ball continues with the scripted reading curriculum, changing it wherever she can, but eventually announces, "I can tell it's time to move!" The students cry, with relief, "Yeah! We need to wiggle!" Ms. Ball puts on a tape, "Phoenercise," and students stand up and gleefully act out the sound-word combinations as the song directs them to. (TO2, 4)

Ms. Ball enjoyed that, in kindergarten, children were still eager to please their teacher; peer approval was less important than teacher approval (TO2, 2). Consequently, she praised students often, both individually and as a class. A favorite phrase was "Kiss your brains! You did good!" This prompted students to kiss their palms, and then paste the kiss on their foreheads (TO1, 2; TO2, 3).

Student contributions were welcome, and essential, aspects of Ms. Ball's instructional flow. She encouraged creative responses to open-ended questions and was not "thrown" if student interest took the lesson in a different direction (TO2, 3; TO1, 1 & 4; TI1, 1 & 5). For example, in late-October, during Calendar Time, Marie Beth insisted on assuming Ms. Ball's role in directing the students. Ms. Ball not only consented, but also told the student, "You have to *be me* when you do it, OK?" Marie Beth completed the task with flair, mimicking her teacher's mannerisms and phrases as her teacher quietly prompted her on the side (TO3, 1-2). The observer commented,

Ms. Ball preserved the dignity of Marie Beth's leadership, however, and made sure her directions were quiet—just between the two of them—so that Marie Beth remained "in charge" of calendar time. (TO3, 1-2)

From this day forward, student-led Calendar Time was a part of the daily routine.

Ms. Ball described her students as "the most active class I've ever seen in my life! It's the most talkative, impulsive, active class!" (TI3, 6). The observer likened Ms. Ball's way of managing student behavior to Mary Poppins' spoonful of sugar: "She doesn't spare the medicine, but she makes sure she couches it in techniques that are developmentally, personally, and socially palatable" (TO2, 1). Ms. Ball did not believe in raising her voice with kindergartners; in fact, she said she lowered her voice, changing the tone when she needed students to know she needed them to change their behavior (TI3, 6). Her quiet, sing-song admonitions such as "Show me who is ready," "Use your quiet voices," "Sneaky feet!" "Keep it in your brain" and "If you can hear me, touch your nose" were usually effective (TO1, 1-3; TO3, 3-4). Consistency was important to Ms. Ball's management (TI3, 6). When she needed to scold students more seriously, she referred to making good choices and being in control in of one's own behavior (TO2, 1). On occasion, in response to general class misbehavior, Ms. Ball complimented individual good behavior (TO2, 4). Her claps and periodic "wiggle breaks" also served to manage behavior effectively (TO2, 5).

Ms. Clemente, the instructional assistant, played a pivotal role in behavior management, especially in managing Joseph, a student who experienced frequent behavior challenges and who, eventually, left Ms. Ball's class and transferred to another school (TO7, 1; TI2, 2). Ms. Clemente displayed the "gentle firmness" and natural instincts Ms. Ball felt were so crucial in managing primary students (TI3, 6). An "extra set of hands" was important in ensuring a safe classroom (TI3, 5).

In general, individual disruptive student behavior in Ms. Ball's was handled discretely. For example, when Laheri began crying after the class library trip, Ms. Ball

took her in the hall while Ms. Clemente began Calendar Time (TO1, 1-2). Joseph's behavior was similarly managed, and incorporated a team approach involving Ms. Ball, Ms. Clemente, Joseph's mother, the principal, and the guidance counselor (TO2, 1; TO3, 7).

Kindergarteners as Capable Learners

Planning and implementing curriculum and instruction. Ms. Ball's instructional style and beliefs about students impacted her curricular decisions and implementation. She reported loving to "teach to the moment" and developing ideas based on what the students liked or seemed most interested in, but felt somewhat stifled by the focus on state standards. She thought students could share what they wanted to know more about within the context of the standards (TO3, 1), and in some ways felt the standards had raised the benchmark for the children in the district:

When I first started here, to get out of kindergarten and be promoted students needed to know their letters and sounds. They had to know their numbers to 10. Know simple addition and subtraction and have a rudimentary concept of words and just be ready to start reading. Now, they have to be reading at [the level] just before Primer, which is what you expect before first grade. So, there is a lot of expectations, and it is being driven by the [state standards]. (TI4, 10)

In discussing the social studies standards for kindergarten, Ms. Ball questioned some of the topic choices and suggested that although she did incorporate them into the curriculum, she did not limit herself to those topics (TI5, 1). She also lamented the lack of "integration" in kindergarten, which had been largely replaced in favor of specific instructional times for reading, math, and content (TI3, 5).

Math instruction and content was Ms. Ball's self-reported biggest weakness (TO3, 1). She attributed her math aversion to poor experiences with the subject as a learner in high school (TI2, 5). Not a teacher to give excuses, Ms. Ball was taking a math class and working closely with the math specialist to strengthen her instruction. This self-improvement was motivated by one goal: To better meet the needs of her students (TO2, 3). She felt the math series they used was good, but feared it did not give students a chance to show her what they could really do (TO3, 1). She explained,

People underestimate what [these students] really know in math—and I do, too! And so, now that I'm exploring this further and seeing how they solve them instead of just teaching them algorithms and going through that—I'm really finding out what they know, and then getting that concept in before you teach the algorithm. And it's incredible because then they really understand! And I'm finding out how much I didn't understand! I didn't want to take it; it's not a comfort place for me, and if I had my way I wouldn't be doing it, but you know what? The kids need it, and that's where I've got to put my focus. (TI2, 5)

Like the other primary grades teachers at Carter, Ms. Ball was implementing a new scripted reading program in her class. In early October, she expressed her discomfort with using the systems in the program, primarily because it interferes with her style and routines. So, she was trying to find ways to mesh the new program with her preferences and techniques (TO1, 2).

Throughout the year, Ms. Ball remained positive about working with the program, saying it incorporated many things she would be doing anyway. What it did not cover she infused based on her students' needs. The scheduled workshop time allowed her to focus on helping students with specific reading skills (TI2, 6-7).

Curricular adaptation. What limitations were imposed by the curricular structure and her own weaknesses, Ms. Ball circumvented through connecting the curriculum to disciplinary roots, conceptual thinking, and personal relevance; and through differentiation.

According to her practices, Ms. Ball did not think Kindergarten was too early for students to start thinking about their school subjects in discipline-relevant ways. For example, she insisted that her students refer to people who wrote books and stories as "authors" and the people who drew the pictures as "illustrators" (TO1, 1). Similarly, she had an "author's chair" in which students sat to share their finished writing and artwork. As each student spoke, his or her classmates were allowed to ask one question and make one comment about each journal entry and picture (FN2, 2).

Rather than using a video on Martin Luther King, Jr. to simply commemorate a national holiday, Ms. Ball used it to build a conceptually-based social studies lesson about change, injustice, and fair treatment of others (TO4, 1). At the conclusion of the video, Ms. Ball checked for understanding by asking the class, "So how do you make change happen?" They responded in unison, "By doing right and doing good!" (TO4, 2).

Before Thanksgiving, Ms. Ball's students were learning about the Pilgrims. To give the topic personal relevance, the teacher had each child make a book entitled "My Chores" composed of double-page spreads comparing Pilgrim children's responsibilities to their own, a task in which they invested considerable energy and excitement, the observer noted (TO7, 3).

With each new unit, the scripted reading program called for a different "concept" or topic focus. An early selection was "shadows." Ms. Ball did not stop at the prescribed curriculum, but ensured students "saw" the concept via multiple media. She asked the librarian to read a book about shadows and show a video that featured a shadow puppet expert at work during the class's weekly library time (TO1, 1). Moreover, when Ms. Ball read the shadow story from the basal reader, she paused frequently to relate the story to the students' lives and to the questions they had written for the concept question board (another aspect of the reading program). During this lesson, she allowed the students to diverge by turning off the light and having them use the sunlight streaming through the windows to create shadow puppets on the board. In this way, the observer commented,

Ms. Ball transitioned seamlessly between the potentially disjointed aspects of the scripted curriculum (TO1, 3). If an activity in the reading program seemed too esoteric for the students to grasp, or made assumptions about the prior knowledge students had based their culture or experiences, Ms. Ball quickly covered the segment and moved on (TO2, 4; TO3, 3), or covered the material in a different way, such as using her Phon-o-cize tapes (TO3, 4).

Choice was a powerful motivator for students, Ms. Ball believed (FN2, 1-2). Therefore, she built in center time daily. This was a kind prescribed playtime during which students could choose where to work. Ms. Ball changed the centers periodically (TI4, 10). They might feature the cardboard theatre where students could stage puppet shows; Legos, Tinker Toys, and Play-Dough; art materials; books; or a space to write letters to friends that could be sent via the Carter Post Office (TO5, 1).

Journal prompts were another medium through which Ms. Ball felt she gave choice. For example, "Draw a picture and write about it. It can be about Junie B. Jones, or about something else" (FN2, 1). Sometimes, Ms. Ball said, she used a sight word as a prompt or modeled responses. More often, she left it open-ended because "I was always told what to write, and I didn't like it at all!" (FN2, 2).

Choice time for reading was a part of every morning. Students chose their own books and read them to "friends" (stuffed animals) they brought from home. Following this time, Ms. Ball read to them aloud from one of the Junie B. Jones books, a series her students adored (TO2, 2).

Differentiation

Ms. Ball said it was her responsibility as a teacher, even in the context of curricular restrictions, "to find out where [the students] are and help them grow from there" (TI3, 5). Small class size helped in this regard, as did her instructional aide, a reading specialist for an hour per week, and a math specialist every 3 or 4 weeks. "It gives me the time that I am able to really sit down and figure out 'What does this child need? Where do we need to go next?' And I do have to group them, because you can't do one-on-one" (TI3, 5).

Ms. Ball retained her lesson plans from year to year and used them as a starting point for the current year's plans. She made modifications based on student readiness, interest, and learning style; current educational trends; and her need for change (TO3, 1; TI2, 7). The reading program had its own beginning and end-of-year assessments, but Ms. Ball also used her own ongoing assessments to gauge student needs. Center time was a prime time, she said, to gather information through watching and listening to students work (TI3, 1). The observer was impressed by Ms. Ball's ability to address to student variance:

It is clear that "fair" in this room means that every child gets what s/he needs in terms of all the types of needs. The children seem to know and accept this, and

the class runs smoothly, driven by both Ms. Ball's expertise and the children's enthusiasm. (TO2, 7)

Because she believed, explicitly, that "Children drive your instruction" (TI2, 7), Ms. Ball was frustrated with how the scripted reading program was designed for "the average child." She said, "They include things called 'differentiation,' but it's just NOT enough!" (TI2, 1).

Because Ms. Ball thought all students learned differently, she paid close attention to whether her children were visual, auditory, or kinesthetic learners—or a combination of all three—and discussed with the observer what type of learner she believed each student was (TI4, 1). The differentiation she incorporated based on these profiles may have been aimed at the whole-group, rather than targeted to individual students, as she commented, "I try to do a balance and I guess a lot of it depends on how the children are responding, too, and I just switch up by what I see going on with them" (TI4, 1).

Another way Ms. Ball differentiated was through the use of flexible grouping as part of the reading program instruction. Students rotated through three stations with her, Ms. Clemente, and Ms. Kind, the reading specialist. Ms. Ball preferred this group time to the direct instruction segment because she felt it was "what Kindergarten is all about! It's getting them where they need to be" (TO1, 3). She testified to changing the groups frequently to adjust for student readiness, "Because I don't want to hold them back and I don't want to frustrate them!" (TO2, 3). The observer confirmed that the configurations changed throughout the year (TO3, 5-7; TO8, 2; TO10, 3; Member check, n.p.).

Named after cartoon characters, the Poohs were the above grade level group, the Piglets the on grade level group, and the Tiggers the below grade level group. Since the groups changed often, Ms. Ball had to make sure students knew which group they were in for the class period. She spoke at length to students about how special each cartoon character was and how special that then made each person in each group (TO2, 6).

The tasks each group completed were differentiated in how the highest group represented what all students were striving toward, and the lowest group received the most support. Not as evident, however, was how the highest group was being challenged beyond grade-level expectations. The middle and high groups' activities varied only slightly, if at all. Challenging curriculum for individual students was not apparent either. If a student exhibited high interest, Ms. Ball was responsive. For example, when Lillie exhibited high interest in the Pilgrim's journey to and subsequent landing in the New World, Ms. Ball provided her a simplified primary-age globe on which to trace their route. After completing the activity, Lillie joined her classmates for the assignment on which they were working (FN2, 1-2).

Still, Ms. Ball's effort to attend to the learning styles and developmental needs of her students were noteworthy. Strategies such as using puppets and other visuals to demonstrate making compound words, saving activities or skills the reading program prescribed for large groups for small groups out of concern for student attention, and

going beyond the script during course of discussion were just a few ways she did so (TO2, 4; TO3, 2; TO8, 1).

Teacher Conception of Giftedness

Ms. Ball did not have specific training in the areas of gifted education and talent development, nor was she interested in any, she said, because she believed all students were gifted and talented. She likened children's specific gifts to adults' particular career callings. For example, a teacher is not more or less gifted than a car mechanic or an artist. She elaborated,

I think [giftedness] is different in every person. You know, people use IQ and they test children, and yes, they do show specific areas of strength, and they do show different needs and things, but I think you can find that in everybody if you look for it. It just depends on the tools you use. (TI3, 2)

Accordingly, Ms. Ball was concerned with finding out the best possible ways to find and nurture each child's strengths and ensuring all students were well-rounded, rather than with identifying or singling out specific students as gifted (TI3, 2&4; TI4, 5). Some of her current students evidenced substantial gaps in knowledge or skill, but when given a certain opportunity, demonstrated advanced understanding that caught her by surprise or defied their weaknesses (TI3, 4). Ms. Ball described one former student who had a diagnosed learning disability but manifested strong language abilities. He could not identify colors, remember his numbers, or read, but he was an outstanding storyteller. "He would sit in front of the kids and he could tell a story and everybody would be mesmerized!" Ms. Ball explained. "So that's why I say that [talent] is everywhere; you just have to look for it" (TI3, 4).

Although Ms. Ball's conception of giftedness was broad and she hesitated to define it as a single construct, she identified specific students who were academically talented, seemed to have keen insights or perspectives, or demonstrated natural curiosity and motivation (TI3, 2-4). Considering who might be the most gifted student she had ever taught, Ms. Ball recalled a boy who "talked liked an adult" and who, on a field trip to a local produce store, could add the prices of items in his head (TI3, 3).

In general, language abilities, Ms. Ball felt, were important to students being able to manifest their giftedness (TI3, 7). Some of her kindergartners could read at the third grade level, which she saw as a gift (TI3, 3). Artistic ability was another talent Ms. Ball recognized in her former and current students (TI3, 3; TI4, 6).

Ms. Ball did refer to one student in her class, William, as possibly "truly gifted" (TI3, 2). On another occasion, Ms. Ball said William was a musically talented student who was like "the absent-minded professor" in how his wealth of knowledge far exceeded his common sense (TO2, 2; TI4, 10). Similarly, Ms. Ball wondered about the mismatch between his ability to answer complex questions quickly and his relative inability to articulate why or how he came up with the answer (TO2, 2).

Ms. Ball seemed to be more enthusiastic about William's talents in the first half of the year than in the second half. Compare:

Ms. Ball: ". . . if you look at a kid who's truly gifted, William may be one. I don't know if you've ever really sat down and talked to him . . . but I think he's brilliant!

R: Right. I think you're right; I mean, he comes up with complicated patterns on his own, and he's verbal.

Ms. Ball: (cuts in) –but that's simple compared to what he can do! I mean he's just really—I mean, once you get to know him, he says things and his interpretations of things. (TI3, 4)

Ms. Ball: I think William has a lot of discrepancies. I think he is brilliant, but he is missing a lot of other stuff. He really constantly wants all the attention, especially from women. I think that's because he only sees his mom on weekends and certain other times. I can't tell you what [learning style] William is. He's one I haven't really pegged yet.

R: Right, right.

Ms. Ball: But, I really do think he is probably brilliant but he's got some other problems. (TI4, 4)

Ms. Ball's use of the word "brilliant" in these contexts suggests that she may have had a conception of what giftedness at its highest levels might look like in primary students. She was reluctant to bestow a label on any child that implied he or she was "all-around gifted" but she seemed to use "brilliant" in these interviews as a way of labeling extremely high intellectual ability.

Philosophically, Ms. Ball said she subscribed to the idea of identifying gifts and talents. As related to selecting specific students for gifted programming, however, she thought the process encouraged parents to think of a gifted label for their children as a status symbol, when in fact, if their child were "truly gifted," they would not have to push for identification—it would happen regardless of parental effort to ensure the gifted child was so-labeled (TI3, 2). She was afraid that some parents tended to see what they wanted to see, and that parents valued their child being gifted for the wrong reasons (TI3, 4).

Ms. Ball did not hesitate to say that the current identification system for the gifted program at Carter did not capture everyone who was manifestly or potentially gifted (TI4, 4). For example, she believed it missed students who were not high-performing academically, did not test well or who had a special talent in art, writing, or math—or who were creatively talented. By contrast, the gifted program was looking, she thought, for well-rounded students who had high general intelligence and "outside-the-box" thinking (TI3, 4; TI4, 5-6). These children were likely able to "stay focused" but "get frustrated when somebody else can't keep up with them" (TI4, 5).

Because Carter was so culturally and socioeconomically diverse, Ms. Ball did not believe students from these backgrounds were under-represented in the gifted program. Her view may have also been influenced by the reality that 3 of the 4 students she sent to pull-out were African American. Insofar as whether the identification system recognized students with limited English proficiency, Ms. Ball said she had not thought about it prior to the observer asking her about it. She hypothesized that if the child were "extremely" gifted in the ways the gifted program valued, the language barrier might not make a difference. But if the giftedness was "extreme" it might be easier for the child to not be in the program (TI4, 8).

Overall, Ms. Ball found the gifted program identification problematic because it was exclusionary. She concluded, ". . . a lot of kids here get left out! Fortunately, we have it within our [program] that [the gifted specialist] sees everyone" (TI3, 4).

Beliefs about gifted identification. Consistent with her views on identification, Ms. Ball expressed concern that gifted programs in many schools, possibly Carter included, were being motivated by parent need for status. This was not the intention of gifted programs, she qualified, but reflected, "I think it has become more of a social thing than an actual enrichment for gifted and talented children" (TI4, 5).

Ms. Ball felt strongly that the gifted program at Carter needed improvement. She commented during an interview,

I'll be honest with you: I'm not the most thrilled with the gifted program as it is. It is better than it was because, in Kindergarten, there used to be just some enrichment in the room. Now, they allow us to put children that we feel may be gifted in different areas in which a teacher works with them for at least 45 minutes to an hour, sometimes more if she [the gifted specialist] can, because she is serving the whole school. (TI4, 4)

In addition to the pull-out component of the program, the gifted specialist, Ms. Blake, worked with Ms. Ball's class once a week teaching them Spanish, which Ms. Ball endorsed "because at about the ages between 3 and 11, that window of the brain is so open for language—so do it!" (TI3, 4). If Ms. Ball saw a need for students to engage in further investigation of a topic, she had the option of asking Ms. Blake to work with small groups of children who might be compelled to learn more about a topic—the "Lillies and the Williams" as Ms. Ball put it, who were not content with learning facts (TI3, 4). She recognized several other advantages of the program: It helped identified students explore their strengths, provided a place for students to be responsible for their learning, and set high expectations for students to think and reason for themselves (TI4, 8).

Still, Ms. Ball felt the program at Carter was not all that it could be (TI3, 4), especially because "it misses a lot of kids" (TI3, 4; TI4, 5). Ideally, for her, the gifted program at Carter would be "an add-on, not a substitute." It would be more inclusive, and not impinge on the regular curriculum and instruction (TI3, 4). All students would be identified for their strengths and receive services in some form, preferably in the

classroom, not in a room down the hall. This was important to her because she believed all students learned from one another and therefore needed to see one another (TI4, 6).

Teacher role in talent development. Ms. Ball believed whole-heartedly that talent development was a primary responsibility of the classroom teacher; specifically that the teacher's job was to find and nurture individual student strengths and weaknesses (TI3, 2) because not every child would meet the criteria for being gifted (TI4, 9). A student might be a poor reader but have incredible survival skills (TI1, 4). Sometimes, a teacher might "miss" a talent by not giving a student opportunities or support (TI4, 10). The teacher "has to be on top of it," she said, continuing,

You need to do your best to meet their needs or find something that can, and it is not always there . . . If somebody is really musically inclined, I try to get with our specialist in those areas here to kind of help too. They really offer ideas or they even, at times if they are able; Mr. Isay [the art teacher] has a harder schedule because he serves 2 schools, but they will try to pull them for little extra activities when they can. (TI4, 5)

The librarian and P.E. teacher were additional supports Ms. Ball said she sought when she needed assistance with a student who exhibited a particular talent (TI4, 10).

Center time was another outlet for developing talent. Ms. Ball talked about how William valued the musical instruments at one station because of his musical strengths. Even though he didn't always flock to the station, he protested once when she tried to change it, so it was important, she felt, to leave the instrument out "because it is a need he has" (TI4, 10). Ms. Ball reflected on one of her colleague's former students, whom nobody knew could sing because he was so shy. Only after the music teacher started working with him one-on-one did his talent surface (TI4, 10).

Teacher Response to Talent Development Lessons

After extensive study of Ms. Ball's classroom, the research team presented the teacher with a series of social studies lessons on Pocahontas, framed in an investigation of discriminating between fact and fiction in the historical events of Jamestown (see Appendix D for model lesson). In prior years, the teacher described watching the Disney movie Pocahontas as the primary activity of these lessons but expressed an interest in "beefing up" this particular area of her curriculum. After recent modifications to the state scope and sequence for the social studies curriculum, Ms. Ball expressed frustration at having to teach the story of Pocahontas outside the founding of Jamestown and how she was an important figure in the nation's history.

I wish they would have left Harriet Tubman and not put Pocahontas in her place. Even though the Underground Railroad is difficult, you can teach children about people helping other people who are being treated unfairly, and you can act out travel, and you can map it out. It is just much easier than Pocahontas. (TI5, 2)

The project-based lessons included an investigation of the key events of Jamestown, including Pocahontas' role in the historical events through learning style groups, use of music and drama, and research skills. At the conclusion of the Jamestown and Pocahontas lessons, the teacher reflected on how the experience changed her perception of her students. She was most surprised by how the use of music helped her non-native English speaking students learn the key facts of the time period.

They keep on singing the song, which I didn't expect. And the ones that are singing it are the ones that usually take longer to grasp a concept. They surprised me with what they remembered, the ones that usually aren't attentive . . . So I was surprised that my little ESL child really got it. You know, she is from Rwanda. That song really helped her. She is probably my biggest surprise. Like I said, music transcends. (TI5, 3-4)

While Ms. Ball was somewhat open to the suggestion of new approaches to teaching, such as those provided in the Pocahontas lessons, she continued to hold strong beliefs about the relative unimportance of the social studies content for the children in her class. When asked if she would retain any of the lessons for future years, she replied that she "thought it was good" but that she'd "cut it down" to make it a "bit shorter" (TI5, 1).

Sarah Holden

In her 11th year teaching primary grades students, Sarah Holden was a high-energy first grade teacher with wire-rimmed glasses and brown curly hair usually pulled into a ponytail. After earning a teaching degree at a large Midwestern university, Ms. Holden taught preschool aged students at 2 different schools simultaneously. One school focused on the creative arts, and the other was a "regular neighborhood school" half-day program with 30 students and no assistant (TI1, 1). Initially, Ms. Holden thought she would continue teaching 3- and 4-year-olds, but after moving to first grade, discovered she "absolutely loved it" (TI1, 1). She had also taught kindergarten and second grade, but first grade remained her "favorite thing ever!" (TI1, 2). The observer confirmed Ms. Holden's demonstrable passion for her profession and her students (TI1, 1) called her a "firecracker" (TO1, 1) and a "first grade teacher extraordinaire" (TI5, 1).

Surprisingly, education was *not* a field Ms. Holden envisioned as a career for herself until college. Being from a family of educators, she said, made her adamant about not being a teacher. She explained, "I was bound and determined I was not going to become a teacher. I worked retail as a manager, and I thought I was going to go into business. But those were not the classes for me, so that's why I took the teaching classes!" (TI3, 4).

Ms. Holden's own experiences as a learner were positive. She attended a small rural elementary school where she remembered her teachers using small group work, projects, and drama in the classroom. Despite her affinity for school, she did not recall having a close relationship with any one teacher. Ms. Holden contrasted her perception of her own teachers as authority figures with her students' perception of her as a friend.

Her students felt comfortable enough to hug her, sit on her lap, and share their personal lives with her. Changes in teaching styles, she believed, may have contributed to a shift in how primary students in general related to their teachers. Rather than sit behind a desk or lecturing, she believed today's teachers were more engaged in cooperative learning with students (TI3, 5). Additionally, Ms. Holden wanted students to feel comfortable enough to ask questions when they were unsure of something, especially because as a student herself, she had not felt confident enough to raise her hand in class (TI3, 5).

In describing the joys of teaching, Ms. Holden cited watching students grow and getting to know students for their unique strengths and characteristics (TI1, 2). "The kids themselves are just joys!" she exclaimed (TI1, 2). Sharing her interests with her students also appeared to be a source of joy for Ms. Holden. During an elaborate drama activity, complete with assigned roles and costumes, the observer observed, "It is abundantly clear that Ms. H's students share her joy in this [drama]" (TO4, 6).

However, Ms. Holden felt that teaching at Carter could also be stressful. She mentioned challenges related to Carter not making its AYP, working with parents who were not readily available via phone or email, addressing behavior issues with individual students, and implementing the new scripted reading program (TO1, 6; TI1, 3).

Because she was so committed to her work, professional development was an integral part of Ms. Holden's teaching life. She had taken 5 graduate-level courses on reading and 1 on math. In addition to the current study, Ms. Holden had participated in 2 research studies on writing conducted by a local university. Facilitating professional workshops on reading for teachers and attending conferences were also ways Ms. Holden developed expertise. Of her experiences, she spoke most highly of working one-on-one with an observer or trainer in her classroom (TI2, 2).

Efforts to Foster Classroom Community

There were 16 students in Ms. Holden's class, including 7 girls. Ten students were African American, 5 Caucasian, and 1 Hispanic (TO1, 2). In the year of the study, Ms. Holden was returning to first grade at Carter after teaching kindergarten there. Many students in her class had been her kindergarten students the previous year, which she felt made for an easy transition and contributed to a class that resembled a "close-knit team" (TI1, 2). The observer noted the familiarity with which Ms. Holden interacted with her students, comfortably using humor in an environment that felt "relaxed" and "family-like" (TO1, 1; TO2, 3).

Affirmation. The primary way Ms. Holden established a positive classroom environment was through her use of verbal affirmation. She affirmed the class's intelligence, individual student intelligence, correct responses, and good behavior using compliments like "You were really using your brain!" and "You were doin' your job!" (TO1, 1; TO3, 1; TO4, 1; TO6, 1). On occasion, Ms. Holden used candy to reinforce a job well done, although the observer noted this reward system was used sporadically and did not appear to be an extrinsic motivator (TO3, 1). To reward positive behavior, Ms.

Holden also used a "compliment jar." One cube represented a compliment on the class's behavior. Ms. Holden gave compliments to the students herself, but compliments from the principal, librarian, or other staff members were also warranted cubes. When the jar was filled, the students earned a pizza party (TO9, 1).

The effects of Ms. Holden's affirmation were unmistakable. Clearly, students were more engaged and attentive following her praise. Further, the class as a whole exhibited confidence, was respectful of one another, and, the observer noticed, preferred cooperative efforts to competition (TO2; TO4; TO5).

Behavior management. Although Ms. Holden said she had "some active kids and some kids that cannot focus" in her class, she said none of her students was a chronic behavior problem or had serious emotional challenges (TI1, 3). The school-wide behavior management system of using different-colored cards was a part of Ms. Holden's class (TO1, 2). Additionally, she sent a behavior calendar home weekly. If students had a good day, they received a smiley face stamp inside the box for that day. However, "no stamp" did not necessarily indicate the child had misbehaved. Ms. Holden sent a note home or made phone calls home when students' behavior warranted parent attention (TI4, 1). Occasionally, she used "think time" to redirect student behavior.

Ms. Holden kept her discipline private and positive. Except when two or more students were involved, she did not call attention to misbehavior in front of the whole class; instead, she used one-on-one, brief conversations (TO1, 2; TO2, 3). An incident between Liam and Victor illustrated Ms. Holden's deft skills in deflating conflict in her classroom:

As Ms. Holden prepares for her math lesson, a small squabble breaks out among the ranks putting their math books away:

Liam, faced flushed, eyes snapping, says indignantly, "Victor called me a girl!"

"Say, 'I'm not a girl; I'm a boy,'" directs Ms. Holden calmly. Liam does so.

"Victor, what do you say?" asks Ms. Holden.

"I'm sorry," replies Victor with his head hung low and his face downcast.

"Liam, do you accept his apology?"

"Yes."

"See?" asks Ms. Holden cheerfully, "All better! These are the kinds of problems that you all can solve on your own. You know how to do it!" (TO2, 1)

Some of Ms. Holden's behavior management techniques can be described as preventative. She used affirmation in this way, complimenting exemplary conduct and

encouraging students after having to discipline them (e.g., TO3; TO6). Taking responsibility for one's actions was also emphasized in Ms. Holden's class. For instance, one class she told her students they would be having a substitute the next day. If all their names appeared on the "Excellent List" when she returned, they would receive five cubes in the compliment jar. Quintus, a student who sometimes had difficulty focusing, was worried about this, and said,

"But I'm a little bit crazy sometimes. I need someone to calm me down."

"Quintus, you can calm yourself down! Who is the one who makes your choices?"

"My mom?" Quintus ventures with a grin; he knows he's messing with her. Ms. H simply gives him her knowing "teacher look."

"Me," he answers, this time seriously.

"So who's the one who can calm you down?"

"Me."

"Yes, Quintus. YOU make your own choices about how you'll behave." (TO6, 4-5)

The observer noted this was an example of how Ms. Holden empowered her students and directed them to self-advocate.

Numerous routines Ms. Holden established in her class also served as management tools. Each morning started with calendar time (e.g., TO1). Individual notebooks were distributed at the beginning of math for students to copy the problem of the day (TO1, 2; TO2, 1; TO6, 1). For small group time, students knew how to retrieve their own journals and return to their designated groups in an orderly fashion (TO3, 6).

Teaching philosophy. Ms. Holden articulated a philosophy of teaching and learning that was congruent with her practice. She believed all students could learn, and that they learned in different ways. Accordingly, she viewed as her duty identifying students' strengths and weaknesses and figuring out how they learned best. Teaching in multiple modes was therefore crucial, and considerations for visual, auditory, and kinesthetic learning needed to be integrated consistently not only in how the students demonstrated understanding, but also in how she communicated the information to them. Sometimes, she felt, whole-group instruction was an appropriate method for a lesson; other times, she needed to use small group instruction and modeling (TI3, 3).

Ms. Holden believed that while it was important for her to teach mandated curriculum and state standards, she also needed to attend to what students might require developmentally. Despite the lack of time, she said she used her experiences to make room for things she intuited first grade students should be doing, such as art projects and

creative writing (TI3, 3). In part because Ms. Holden believed time was at a premium (TI4, 5), she used every spare moment for learning, even if it did not "look like" instruction. This was particularly evident when a lesson ended early or when students needed to line up at the door (TO4; TO8).

Ms. Holden had three different kinds of goals for her students: developmental or learning goals, social goals, and academic goals. Developmentally, she wanted her students to become more independent while maintaining a positive attitude toward school and learning. Toward this end, their willingness to take risks, think critically, and be responsible for their choices was important. Socially, her students were a caring, harmonious group; therefore, Ms. Holden expressed a desire for their group disposition to remain kind rather than manifest the tattling and bickering behaviors that tended to surface toward the end of first grade. Finally, in terms of academics, Ms. Holden wanted her students to be able to read at a second grade level by the end of the year. She added, "That will be a struggle because I don't think our reading series helps with that" (TI4, 3). Being able to reason critically in all subjects—especially math and science—and write in a reflexive way about their thinking processes was equally vital (TI4, 3).

To help her students reach these goals, Ms. Holden felt her role should be that of a facilitator. Still, she believed direct instruction also had a place, explaining, "I've found that if sometimes you don't direct, and you don't model straight out what needs to be done and how it needs to happen, [the students] are not going to just figure it out on their own" (TI3, 5).

Effect of diversity. In reflecting on the diversity represented by her students, Ms. Holden spoke positively about how children learned from one another's differences (TI6, 1). "There are times when you have to look at your diversity and figure out what to do with it," she said (TI6, 1). The varied abilities, she said, enhanced the classroom environment, because potentially, students could learn more from each other than they ever could from her. Reading instruction was one exception: Citing research on reading, Ms. Holden said students learned better in same-readiness small groups.

Diversity among students' prior experiences and home lives was also obvious in Ms. Holden's classroom. Because the environment in her class was so familial, Ms. Holden felt it made students more comfortable with sharing their experiences, both positive and negative. Students often did not hesitate to share these experiences with the whole group, so she sometimes had to make quick decisions about how to address the unsolicited disclosure of personal information. For example, one student spoke openly about his father being in jail. Ms. Holden debated whether other students should be exposed to the conversation, but considered: ". . . it's a fact of life. As they grow up, they are going to know these things . . . so, it's not necessarily bad for them to hear it and just let it roll off their backs" (TI6, 2). As a teacher, Ms. Holden felt it was important for her to listen when students talked about their home lives, even if the stories revealed experiences first graders should not have to face. Accordingly, she tried to honor the students' need to share but, when possible, ensure family privacy was not compromised.

The Role of Curriculum

Ms. Holden's grouping practices suggest two beliefs about ability in first graders: (a) Variation in student abilities that necessitated small group or individual instruction was more likely to surface in math and reading than it was in writing, social studies, or science; and (b) lower-functioning students learn from higher-functioning students when they are grouped heterogeneously or when the class is receiving whole-group instruction. These practices were evidenced through her relationship with the curriculum and was seen through three lenses: the state standards, the math program, and the reading program.

State standards. State standards played a central role in Ms. Holden's curriculum planning. She began by looking at the district scope and sequence for first grade, followed by the state standards. From there, she said she "figure[d] out what students need to know" using informal assessments (TI6, 5). "I'm really crappy at assessment," she admitted. Further observer probing revealed, however, that Ms. Holden meant that she did not use formal assessments; instead, she relied on pulling students during independent work time (TI6, 5). This assessment was related primarily to math.

In planning social studies and science, Ms. Holden relied on the standards and on grade-level pacing guides in determining the content and timing. She suggested during an interview that the standards in these subjects were more specific and did not lend themselves as readily to critical thinking. She gave the example of learning about the American flag:

You can't really brainstorm or critically think about a flag except what you need to know about the flag, okay? It's an American symbol; it stands for freedom; Betsy Ross started . . . you know, those things? But those are all facts! And that doesn't mean you can't apply those to something else, like when you see the [state] flag, "What is this flag? How can we have this if we have this?" You know, that's critical thinking about flags, but I just don't know if kids really do that. (TI4, 3)

Because there was no science or social studies text, primary grades teachers at Carter used district binders of worksheets and activities. By contrast, Ms. Holden did not refer to these resources. Instead, she reported seeking the librarian's and gifted resource teacher's assistance to design projects that covered sets of standards in those subjects (TI6, 5).

Although she felt the pressure of working in a school that had not met its AYP, Ms. Holden did not seem to resent the standards. When describing her ideal classroom, she described making more extensive use of centers, but said the centers would still be tied to specific standards (TI4, 5). She recognized standards did not comprise the curriculum in its entirety, and that her students' strengths and weaknesses determined how to fill in the gaps left uncovered by the standards. Good test-taking skills were necessary, she believed, but should not dominate the curriculum (TI3, 3). However, Ms.

Holden did say that "before things like the standards became such huge ordeals," curriculum was more student-centered and left to individual teacher discretion. Teachers could chose topics and themes in response to student interest and real-world events. She explained,

If your kids were really into dinosaurs, maybe you would set up a theme on dinosaurs just because they were so excited about dinosaurs you would expand your curriculum and do stuff like that. There were things about that I liked because you could actually get them to write about things that were exciting to them . . . But, nowadays, you really can't do it because there just isn't time. (TI5, 2)

When the observer and Ms. Holden met to identify a topic for the model lesson, Ms. Holden referred to a printed copy of the state standards with possibilities highlighted (TO9). In some ways, then, Ms. Holden may have felt the standards gave her a *raison d'etre* for the activities she chose. She mentioned singing songs about the state standards and having a clear purpose for why students were doing things, even things like painting and creative writing (TI3, 5).

Math program. By her own admission, math was a difficult subject for Ms. Holden when she was an elementary student. When faced with having to take classes in college on how to teach math, then, she was eager to "get them out of the way." To her surprise, the classes employed hands-on strategies and manipulatives that not only enhanced her own understanding of math, but gave her a new outlook on teaching it. She explained, "I kind of got excited thinking, 'Wow! I will really be able to empower my kids with math because I understand how to teach it because they've got all these new ways to do it!'" (TI3, 5).

The math program Carter started implementing in the year of the study was optimal for Ms. Holden's preferences for teaching math, and influenced the way she thought about how students should learn. "I'm trying new things that I've never done before," she said (TI6, 4). She had not tried multiplication and division with first graders prior to using the new program, and was amazed by the students' ability to move beyond subtraction and addition. The program also allowed her to use manipulatives and accommodate students who needed more support as well as those who required more challenge (TI6, 4). For example, Kaitlyn demonstrated mastery of division during a lesson, so Ms. Holden let her solve a problem that involved a remainder (e.g., 9 divided by 2) (TO7).

Reading program. The enthusiasm with which Ms. Holden approached other aspects of the curriculum diminished when she discussed or implemented the new reading program (e.g., TO2). Comparing reading to math, she said, "I am pretty much handling [math], whereas my reading is kind of managing me" (TI6, 4). Certainly, the program managed her time, first because it required 2 hours every morning (TI4), and second because it required the majority of students be present for her to conduct lessons (TO10).

Toward the beginning of the year, Ms. Holden was optimistic about making the best of the reading program's restrictive approach. Recognizing it was inappropriate for many of her students (TO1), she tried to focus on the aspects she could make relevant for her kids and said to the observer during one transition, "This part isn't so bad because at least it connects to the students' lives" (TO2, 7).

Although her tendency to do so appeared to decrease as the year progressed, Ms. Holden made specific alterations to the reading program to make it more appropriate and engaging for her students. For a word game prescribed by the program, Ms. Holden created additional cards with words not suggested by the manual. Then, she had students engage in the activity not from their desks, but in a hands-on way that employed baskets and the song "A tisket, a tasket" (TO3, 4). The same day, the manual called for Ms. Holden to read sentences, ask students to write them, and collect the students' work. Instead, she circulated the room to discuss the students' errors and encourage them individually (TO3, 4). When "key vocabulary" from a read-aloud story seemed removed from the students' experiences, (e.g., *oxen*, *monorail*), Ms. Holden scaffolded instruction by introducing the terms by first asking students to make inferences about what was happening in the pictures that corresponded with the words (TO3, 4). Because student attention tended to wane during reading lessons, particularly during the whole group parts, Ms. Holden also used her aforementioned instructional cues (TO2; TO3).

The first signs that Ms. Holden was frustrated with the reading program surfaced in late-October. The observer noted,

With each visit, I notice an increasingly "forced" positive outlook on this activity. Ms. Holden has less and less to say about it. She used to address how it could work for her, but I get the sense that she's feeling less and less of that freedom. Students are increasingly inattentive as well. (TO4, 2)

In a December interview, Ms. Holden talked about how reading time gave her few choices. She seemed to struggle with how to assess students formatively, beyond her own observations, although she noted the program's strength in giving teachers a good sense of students' fluency (TI6). During the site visit on the same day, Ms. Holden expressed her frustration to the observer, saying,

I'm so frustrated! They [the reading program] introduce all these things, some of which aren't even related, and they do it all at the same time, and there's no pattern, and the kids are frustrated, and I'm frustrated! (TO7, 3)

Related to assessment, when Ms. Holden tested her students using the basal program instruments and her own PALS-type assessment, she discovered 7 of her students were "way ahead" and 7 were "way behind" (TO7, 3). These discrepancies, Ms. Holden felt, were nearly impossible to address in the context of a reading program that targeted students "in the middle" and left little time for providing challenge or support.

Somewhat contrary to the barriers she believed the reading program created in meeting students' needs was Ms. Holden's description of how it dictated teachers structure the reading time. The workshop time was supposed to be roughly 30 to 40 minutes long, during which the teacher pulled small groups of students based on reflections of what they did earlier in the whole group lesson that day. The teacher would re-teach the lesson if they struggled with it, or give them a challenge lesson if they had demonstrated mastery. Of this system, Ms. Holden said,

I think that that's kind of silly so I don't want to do that. I think that it totally defeats the purpose of pulling them into a small group. Also, how can I really assess them in a full group? Are they really good? I have no idea. (TI6, 6)

Ms. Holden did pull students into groups of 3-4, however, using a modified system on a 45-minute block of time (TI6, 6). How her method of determining groups differed from the one suggested by the reading program, and how the small group activities she used varied from the scripted mini-lessons for challenge and support was not clear.

One specific instance illustrates how the reading curriculum started to affect Ms. Holden's responsiveness. During one un motivating lesson (despite Ms. Holden's valiant efforts), Mya, Tanner, and Kaitlyn were the only students responding to questions. To the observer's surprise, Ms. Holden asked the three girls not to answer any more questions so that the other students could have a turn. Reflecting in astonishment, the observer wrote,

This is *totally* unlike anything I've ever seen Ms. Holden do! The reading program's lock-step procedure ties her hands and doesn't allow her to proactively attend to students' varying readiness levels, so she reacts by telling those students with a high degree of readiness to shut down. It is clear that she is frustrated by her own actions, but doesn't know what else to do. From this point forward, she rushes through the lesson, seemingly just to get it over with! The students respond in kind. I get the sense that they feel cheated; this is not the kind of instruction they've come to expect from Ms. Holden, and they are not used to seeing her frustrated, either. (TO7, 4-5)

This visit excepted, however, Ms. Holden's dissatisfaction with the reading program generally did not dampen her spirits or her ability to remain positive in front of the students about teaching it (e.g., TO8).

The Inter-relationship Between Responsiveness and Reflectivity

Ms. Holden's instruction had two major characteristics: responsiveness and reflexivity. These traits were largely interdependent. To best respond to student needs, she reflected on evidence of student understanding and skill, which in turn drove her instructional decisions and responses.

Responsiveness. Evidence of responsive teaching was manifest in several ways. First, Ms. Holden allowed students to complete tasks and solve problems in their own ways. In their journal assignments, which required drawing a picture and writing a story, students could begin with either the picture or the story, provided both elements were present. On one occasion, when Liam was reluctant to move from working on his picture to writing his story, Ms. Holden gently encouraged him to think about starting on the writing part. Liam did so a few minutes later without further prompting (TO3, 9). During a math lesson, when students were instructed to make a pile of beans, Liam painstakingly assembled his beans into perfect lines of 5 and 10. Rather than redirect him or tell him to hurry up, Ms. Holden congratulated Liam on his technique, even though he was the last to finish (TO4, 1). Another instance related to math involved the problem of the day. On the board was written: *It was snowing! Ms. Holden made 12 big snowballs. How many snowmen can she make?* Students responded eagerly in their journals in different ways: some drew the snowman, some wrote equations, some skipped to writing a multiplication problem, and some wrote an addition problem (TO8, 1).

A second indicator of Ms. Holden's responsiveness was the way she let students direct the course of instruction, especially during whole-group discussions. Provided the response was on-topic, they were allowed to "call-out" instead of raising their hands, as well as to "piggy back" off one another's responses (TO4, 5; TO6). When Quintus offered a torrent of tidbits about the armadillo during a lesson involving the animal, Ms. Holden welcomed his contribution and commented how impressed she was by his knowledge (TO4, 2). Similarly, Ms. Holden encouraged alternate explanations rather than one correct answer (TO2; TO3; TO6).

Third, Ms. Holden was also developmentally responsive in how she attended to needs of, as the observer called it, "the whole child." For example, one morning, Tanner sat on the floor looking tired with her head in hands. Ms. Holden talked with her privately and did not have her complete the dictation exercise required by the scripted reading program, but took her to the corner to let her nap (TO3, 6-7). Ms. Holden's ability to make learning engaging and relevant for first grade students was also apparent during several visits (TO4; TO7; TO10).

Certain instructional cues Ms. Holden used illustrated her developmental responsiveness as well. She prepared students for the next activity or challenge by saying things like, "Here comes that hard money thing!" "Got your brains ready?" and "Move your desks now. You're going to have the chance to make cool fall-patterned headbands!" (TO1, 3). Visual cues such as writing the problem of the day on the white board signaled the start of math (e.g., TO3). To re-group students or make sure they were ready for a transition, she said, "If you can hear me, touch your nose, touch your chin, touch your hair, put your hands in your lap . . ." (TO2, 7; TO6, 1).

Finally, Ms. Holden's use of materials reflected her proficiency in being responsive. This was most consistent in math, and could have been a component of the math program itself. Students were provided various manipulatives such as "magic beans," cubes, and candy canes to help them work problems (e.g., TO2, 7). Over the

course of the year, students were able to make independent decisions about when and how (or if) they used the manipulatives. Beyond math, Ms. Holden frequently ensured students' materials were varied and appealing to use (TO1; TO4; TO10).

Reflexivity. The second major trait of Ms. Holden's instruction was her ability to be reflexive. She articulated during and after lessons what she thought did and did not work for students. After one math lesson, she said to the observer, "You know what I should have done? I should have made two groups: one that needs manipulatives and one that's ready to be working without them" (TO2, 4). Likewise, after giving students directions for a science experiment she had modeled for them, she lamented, "I forgot to have them form a hypothesis before I tried it! That was the whole point!" Sometimes, Ms. Holden self-evaluated in front of the students. When she realized from their oral responses that her students were not grasping a certain concept, she stopped them and announced, "Ms. Holden did a bad job of starting you out. Let's try this again." Then, she adjusted her question accordingly (TO6, 3).

Because of her openness toward thinking about her teaching in new ways, Ms. Holden was not defensive if an observer made a suggestion. When an administrator was visiting, he suggested she have the students work their math problems on the overhead rather than the white board so that their classmates could better see their work. Ms. Holden responded positively to this recommendation (TO3). Honest self-criticism was also part of Ms. Holden's reflexivity. She worried whether she was successful in engaging and providing appropriate supports for Liam, a highly gifted student, and Marcel (TO3; TO5, 2). Following a particularly effective math lesson one afternoon in which students had done a significant amount of inductive thinking, Ms. Holden exclaimed, "I don't know why it surprises me that they can figure it out by themselves [and] discover how to do it! Why do I always think I have to be the one giving them the information?" (TO5, 2).

In the same way she reflected on learning how to improve instruction, Ms. Holden expected her students to be reflexive about how they arrived at their answers. This was especially evident in math (TO3; TO4; TO6; TO8). It is possible the math program Carter was implementing called for frequent metacognition from the students. Ms. Holden spoke highly of the program, saying it had been "a wake-up call" for her to adjust her style (TO5, 2-3).

Despite how responsive Ms. Holden was to her students' needs, and how positively the observer viewed her teaching and the learning environment, Ms. Holden did not think her classroom was as good as it could be for students. Some challenges such as low attendance rates and students carrying emotional "baggage" from home into the classroom were beyond her and the school's control (TI4, 4). Because she wanted students to be excited about learning, she wanted them to have more choices. A longer day, she felt, could accommodate the kind of centers she envisioned, where students could explore and have access to a variety of materials (TI4, 4). Students also needed more recess time (or "run around time," as she called it)—at least more than the late-afternoon 20 minutes they had at Carter in first grade. For her, the scripted reading

program, emphasis on testing, and students being pulled out of class for special services were additional barriers to a more responsive classroom (TI4, 6).

Conception of Giftedness

Ms. Holden's beliefs about giftedness represented both narrow and broadened conceptions. A gifted student evidenced aptitude, functioning, or thinking that was beyond what a teacher would expect from a first grader (TI2). Her description of the most talented learner she had ever taught demonstrated a high degree of insight into different characteristics of giftedness such as creativity, artistic talent, curiosity, and the ability to recognize themes not apparent to others (TO1, 2). To Ms. Holden, gifted students were motivated and worked hard (TI2, 3). Being able to explain new ways of solving problems could be evidence of giftedness (TI2, 3). Ms. Holden expressed the view that a child having a unique idea might be just as indicative of giftedness as his or her ability to execute the idea on paper. She used the phrase "what's going on behind the scenes" to explain this notion (TI2, 4).

Although Ms. Holden believed all students had strengths and weaknesses, she did not think all children were gifted (TI3, 1). She found the term "gifted" somewhat problematic because people tended to use it too broadly. To distinguish her explanation of the construct, she used the term "truly gifted" several times (TI3, 1; TI7, 4). A child who was "truly gifted" was easily identifiable and unquestionably talented in almost all areas of instruction. This idea of general giftedness contradicted another explicitly stated idea Ms. Holden held—that giftedness manifested itself in specific areas, gifted students had certain ways in which they were gifted, and no child had strengths in every area (TO2). At the same time, Ms. Holden worried she did not necessarily recognize students who had a "real genius" in an area:

I'm sure there are kids that go through my room every single year that have a giftedness in something, at least one child that I don't know about, because I just don't know how to tap into or how to recognize it. (TI3, 1)

She speculated that many teachers did not look for giftedness per se in children. If a student performed well, the teacher might note the student's strength but probably would not pursue the possibility of it being a gift, mostly due to time restrictions (TI7). Additionally, she felt a student's giftedness might be masked by having been raised in a disadvantaged environment (TI7).

Ms. Holden also distinguished students who were smart from students who were gifted. She used Mya as an example. Mya, she said, was a gifted reader with "a lot of capabilities" who was a smart child but not a gifted child. "I don't think she excels as a genius in any specific area," Ms. Holden explained. "I just think she is a well-rounded, very smart child" (TI3, 3). Similarly, in the context of describing the kind of activities the math specialist did with the students, Ms. Holden suggested there was a difference between curriculum that was intended for enrichment (which was what the math

specialist was doing) and "gifted curriculum" (on which Ms. Holden did not elaborate) (TI7).

Ms. Holden chose 3 students for the gifted pull-out program: Victor, Mya, and Kaitlyn. Her explanation of why she chose each student revealed how she applied her conception of giftedness (TI2, 5). Victor picked up new information quickly and took pride in himself when he did well. Ms. Holden thought the gifted program could give him "a place to excel and shine a little bit more." She chose Kaitlyn, whom she also taught in kindergarten, due to her hard work ethic and competitive nature. Her oral language was strong; she could explain what she was thinking and follow directions independently. Ms. Holden also taught Mya in kindergarten, and she had progressed very well, especially in reading. Being in the program with Kaitlyn, Ms. Holden thought, might challenge both students.

Ms. Holden was also clear that she chose these 3 students because she felt they could afford to miss science and social studies, the time during which pull-outs took place. Liam, on the other hand, was a gifted student Ms. Holden did not believe could miss content time, so she did not send him to pull-out. She reasoned,

There are pieces to Liam's personality and to his brain structure and how he functions that I feel are really wonderful, and he could benefit from [the gifted program]; however, he's missing a lot of pieces in the regular classroom right now that I feel like I can't take him out for. And that's not really a good choice for a teacher, I don't think, to hold somebody back from that, but on the other hand, I've got to be really aware that I don't want him to be held back in first grade because he went out 2 or 3 times a week and missed all the content. (TI2, 5)

According to Ms. Holden, in addition to teacher nomination for the gifted pull-out program, the gifted resource teacher started testing students in first grade through the use of mini-lessons designed for identification purposes. More formal testing began in second grade (TI7). Certain groups of students might be missed in this process, said Ms. Holden. For example, students who had specific strengths; students who could not afford to miss content time; students who did not "stand out" to the teacher or who tested poorly; low-achieving students with non-academic talents; gifted students who were missed due to teacher attention on struggling learners; students with language deficiencies; and students from disadvantaged backgrounds (TI3; TI7).

Ms. Holden's Response to One Student

A light-skinned African American student, Liam spent the majority of the year with a closely cropped haircut. Ironically, Liam's eyes dominated his face, but he rarely made eye contact with others. The exception was when he was excited about something, which the observer said was rare and usually about one of his drawings or Spiderman. He dressed neatly in loose-fitting clothes—mostly in the reds and blues reminiscent of his favorite superhero (MC).

This was Ms. Holden's second year with Liam, and her third with his family since she had also taught his sister. In her words, Liam was "*extremely intelligent*" but "not on the same page as everybody else" (TI1, 4). His social-emotional challenges seemed to overshadow his abilities. These difficulties were evident in kindergarten, Ms. Holden said, but they were not severe. Just before kindergarten ended, Liam's parents had made the decision with a doctor to put Liam on medication. Ms. Holden disagreed with this decision, although she recognized it was not hers to make, and she did not have the medical expertise to express an opinion about it to Liam's parents. Still, according to her, the medication affected his personality (TO5, 3). She had observed a marked change in his affect from the previous year—he was more "inside himself," "less focused," and "zoned out" (TI1, 4). In kindergarten, he did experience the same anxiety and anger issues, but he interacted more positively with other students, was happy, and liked to go to school. Ms. Holden also felt the medication might be affecting his intellectual abilities:

I thought he was on a higher reading level, and when we got to the end of the year last year, and he started taking his medication, I realized that either the medication was interfering with some of the thought processes or he was fooling me for the whole year. And I'm seeing it again this year, that there are holes in his instruction where it makes it hard for him to do the work. So I'm kind of concerned about that. (TI1, 4)

The observer observed Liam's perfectionistic tendencies, difficulty in getting along with other students, and extreme sensitivity to negative experiences or perceptions that he was being unfairly targeted (TO1; TO2; TO4). Liam also tended to retreat inside his "shell" when he was upset; it was not unusual for him to allow one bad experience to ruin his entire day. Gentle coaxing and encouragement seemed the most effective way for Ms. Holden to convince him to emerge.

Among Liam's talents were advanced artistic ability and dramatic spark (TO1; TI3; TO4). Math sometimes proved arduous and oral language was a weakness (TI2; TO3).

Liam did not participate in the gifted program because Ms. Holden said she worried about him missing content—he had many gaps in his knowledge already. This decision was not easy for her, she admitted, but she felt strongly about his inability to cope with the pull-out (TI2). Liam did receive pull-out services of another kind, though the observer did not know what they were. Sometimes, a one-on-one aide worked with Liam. Again, the observer was not sure why (TO7). As noted in previous sections of this report, Ms. Holden did not feel equipped to address Liam's academic and social emotional needs.

Differentiation Through School Services

A 45-minute, once-a-week pull-out program comprised the gifted program in first grade at Carter, for which Ms. Holden recommended the 3 students allotted to each first

grade teacher for nomination (TI2). Congruent with her distinction between being smart and being gifted, she believed the program was designed for "high-achievers" rather than for gifted students, and that was not geared toward enhancing specific student strengths (TI3). Forty-five minutes, she felt, was not enough time to meet the identified students' needs (TI7, 1). Specifically what the program curriculum entailed was not clear to Ms. Holden. She mentioned that in the past, a gifted reading program had been in place, and that she thought the current program supported artistically talented students after second grade, but she was not sure (TI7, 1).

Ms. Blake, the gifted resource teacher also did a fair amount of "push-in" with Ms. Holden's class, focused on teaching them Spanish twice a week. One student, Victor, was fluent in Spanish already, so Ms. Holden incorporated him as a kind of teaching assistant. This push-in aspect of the gifted program was appealing to Ms. Holden because it gave all students exposure to enrichment rather than just a few who exhibit higher-level thinking (TI2).

Beyond the push-in lessons, Ms. Holden sought Ms. Blake's assistance when she planned a social studies unit on culture and traditions (TI6). Also, Ms. Holden could send students intermittently to Ms. Blake if she saw evidence the student would benefit from the enrichment lesson (TI3).

Differentiating for gifted students in the regular classroom. Ms. Holden did not have any professional training related to gifted education, but she was open to receiving some. Too often, she thought, teachers' focused on helping the struggling students at the expense of advanced students. She included herself in this description, admitting that she was not sure how to recognize latent talent, and even if she could recognize, would not know what to do to develop it or have the time to do so (TI2; TI3). She said,

When you're really focusing on trying to get your kids where they need to be, and you have a [highly gifted student] mixed in, it's a detriment to the child, because no matter how hard you try as a teacher—at least in the climate we're in—it's impossible to challenge him appropriately. (TI1, 5)

In thinking about an advanced student she taught the previous year, Ms. Holden lamented her relative failure to meet his needs:

He was so high, and even though I knew it was one of those things where I knew he was going to be fine in school, I always knew in the back of my head that I should have done more to challenge him, because he had a lot more to go forward with . . . but I also didn't think I had the time to do it, so it just didn't happen. (TI2, 3)

Similarly, meeting the needs of Liam, Ms. Holden's most advanced student during the year of the study, was a concern. She reflected aloud during one site visit that if she could meet with Liam one-on-one every day, he might be able to reach his potential.

Alas, he was not progressing as well as he could have, Ms. Holden observed, and she did not know what else to do (TO7, 2).

This self-deprecation, however, belied the numerous times the observer observed Ms. Holden differentiating for students who demonstrated advanced readiness in math. Through use of flexible grouping, tiered prompts, and informal on-going assessment, Ms. Holden both proactively and reactively allowed students to progress at their own rates (TO3; TO5; TO6; TO7). She spoke explicitly during one interview about not wanting to hold students back in math when they were ready (TO7).

Teacher's Response to Lessons

After extensive study of Ms. Holden's classroom context, researchers presented the teacher with a series of science lessons that were designed to increase the degree of challenge for all students in the classroom, but particularly those with demonstrated talents in a range of domains. The teacher suggested several areas in the curriculum where she sought ideas for improvement, one of which was the sciences as the teacher described having difficulty fitting all the standards in during the day. The lesson series investigated the idea that all animals, including people, have life needs and specific physical characteristics, and that animals can be classified according to certain characteristics to better understand the entire group of animals (see Appendix E). All students selected one animal to research, interacted with fiction and non-fiction texts to gather data, and participated in small group, teacher-directed experiences to form hypotheses and confirm and adjust conclusions based on data. Due to a series of scheduling challenges, the teacher opted not to actively participate in the process of designing the lessons, but worked with the project team prior to implementing the lessons. Ms. Holden described the challenges of teaching lessons created by others.

I thought it was really good. I liked the plan of the lesson. I liked how it was set up . . . I thought it went very well. I think it was hard for me to teach someone else's lessons . . . I think it is hard to read somebody else's thoughts when it didn't come from my head and, it was harder to look at somebody else's set up and think okay . . . When I read it, it sounded find, but when I actually had to teach it, I realized I didn't have enough thoughts in my brain to execute it as well as I might have had I thought of it myself. (TI8, 1)

While it was difficult to teach from a lesson plan that was less familiar than her own, Ms. Holden expressed satisfaction with the students' responses to the differentiated lessons. She noted the responses of Liam, the student whom she initially identified as exhibiting indicators of talent, but who, in the end was omitted from the teacher-nominated gifted identification referral.

Something really cool has come out of this. Every single day, they are getting those books and that stupid encyclopedia out and they are fighting over them and they are making animal noises and they're looking stuff up. The one child who is *so* attached to it and it is causing a huge problem is Liam. I mean, he's got to hold

it on his lap, and he's got to read it, and they all crowd around him. They all want to see it. I have had to put it up at least three times during the day. And I put it back out because I know they love it so much. So, their responses are extremely favorable. (TI8, 3)

While the teacher articulated her initial discomfort with teaching the lessons created by someone else, she reflected on how that process caused her to re-examine her own beliefs about the degree of challenge and level of complexity that the students could assume.

I thought that it might have been a little easier for me to implement as a teacher if we would have planned it together, but I'm not sure it actually would have been. I think you might have busted out a couple ideas and I would have been, "Oh, I don't know. That might be too hard." I might have said no and might not have tried it. Not that I'm usually against trying things, but I think I would have been like, being my kids' expert, like, "I don't think they can do that." Yet, they were all very capable of doing everything we did. (TI8, 6)

Louise Miller

Ms. Miller was an African American woman of large stature in her early 50s. Twenty-seven of Ms. Miller's 31 years in teaching had been at Carter Elementary School. She chose teaching as a career because at the time it was one of the few professional positions open to African American women. "Of course," she added, "I also did it because I do love teaching and I do love children, but the field was not widely open for African Americans back in the 70s" (TI1, 1).

Ms. Miller's personal history also figured prominently in her decision to become a teacher. Her mother did not graduate from high school, but Ms. Miller later helped her earn a GED. Her father dropped out of school to take care of his mother. Ms. Miller reflected,

So, me hearing the history and the hardships, I wanted a better life for myself, and my parents worked so hard. I saw this as an opportunity for me to do something for myself, for my community, and for the children, you know, so I chose the teaching profession. (TI1, 1)

Her own school experiences were a family affair of sorts. She grew up in a small, tightly-knit rural community in southern Virginia and attended a non-integrated elementary school where her uncle was principal and some other relatives her teachers. The presence of her extended family was a motivator, Ms. Miller said, because she knew if she was not doing her best, her parents would find out (TI1, 2).

In the initial months of the study, Ms. Miller was perceptibly self-conscious about the observer's presence. Although she was a confident woman with a commanding personality, the observer detected Ms. Miller's uneasiness through asides and interview responses. On the first visit, she forgot the observer was coming, had difficulty

remembering the observer's name, and forgot to introduce her to the students (TO1, 2, 6 & 9). Before the day began, she said to the observer, "If you get bored and you feel like walking around, that's okay. You can go to the bathroom, too." Catching herself, she added, "I know, I know. You're an adult" (TO1, 6). Over the course of the year, Ms. Miller became more comfortable with the observer's presence, although the observer noted it usually took time for the teacher to warm-up on the observation days and in interviews.

Including 3 students who moved away and 2 students who came mid-year, there were 14 students in Ms. Miller's class. They were racially diverse as a group (7 African American, 4 Caucasian, 3 Mixed Race). Ten students were male. The observer asked Ms. Miller about the demographics of her class, specifically, if she'd noticed it was largely African American boys. Ms. Miller said she had noticed this overrepresentation. She continued,

At first that bothered me. Ordinarily, I pay no attention to color . . . it's just like someone when they walk up to you and say, "How many African American, how many Hispanics, how many Caucasian?" I could not tell you. I could look at my roll. Because after so many years of teaching, I no longer pay attention, I'm not thinking of it. (TI1, 8)

Expectations as a Professional

Ms. Miller had a positive perception of herself as a teacher. She was open and honest about her strengths and weaknesses. Compassionate, loving, fair, organized, and structured were five key characteristics she used to describe her teaching style (TI1, 3). Her expectations for students, she felt, were high, influenced in part by her own experience in school. She believed all kids could learn and that it was important for them to "push past the obstacles that are in the way" (TI1, 2) and make them want to learn. Also influential were her own experiences as a parent.

I wouldn't do something to one of my children here that I wouldn't want someone to do to my own. I always expect the best. And I tell my [students'] parents that, you know, if I think you think you can do better, I'm gonna push. If I think you're doing the best you can, then, you know, I will accept that. (TI1, 2)

In fact, Ms. Miller viewed one of her roles as a teacher as that of parent and nurturer. She also mentioned nurse, guidance counselor, and friend, explicating,

I just feel like people that's not in education that's not here ever have no idea of some of things that our children go through. I mean, we have kids who go here who have not eaten probably since they left [yesterday]. So I think we play many roles. We wear hats, every kind of hat you can imagine. But even after wearing all those hats, they still have to see us as a leader, as an adult, as a provider, as a nurturer, as a lover, as a teacher, and do what's expected. (TI1, 6)

Ms. Miller emphasized her nurturer role, noting her responsibility to provide a stimulating, safe environment for her students—a "safehaven," she called it, for her many students who came to her classroom from disadvantaged situations (TI1, 6). "They have special needs," she said, "They are wonderful, loving, caring children, and they have a special need" (TI3, 4).

In addition to giving her students maternal strength and support, Ms. Miller felt she provided a model for them in how she allowed herself to make mistakes in front of them. Moreover, she believed she was consistent with students. They knew what to expect and how to work within her systems (TI1, 3). She explained,

The kids know what I expect, that the parents know what I expect, and I want it to run smooth, because I believe if you're not organized, if it's not smooth, the kids are not going to do well. Especially with my children who have special needs. They need me to be consistent. If you do something one day, and then do something different the next day and the next day, they do not function well. They need consistency. They need to know what is expected of me, they need to know what is expected of them. You need to have procedures. They need to know that when they walk in the door. (TI3, 4)

In contrast to other teachers in the study, Ms. Miller's interactions with specific parents—positive or negative—did not emerge in observations or interviews. This might be attributed to her perception of her role as a parent to her students (TI1, 6). However, she did express firm beliefs about parental responsibility and the school-home relationship. She felt, to a certain extent, schools enabled certain home situations to continue, elaborating,

I think sometimes we think we're helping because we think, "Oh Johnny is a poor little kid down the block," that we do things that we think are helping, but we're enabling them to do it, and then we create a cycle. And I don't think this is what we intend to do, but I think we're thinking we're helping and we're not. (TI1, 6-7)

She believed the school needed to relate to parents in challenging circumstances in a different way. Making parents take more responsibility for their children and for their circumstances was one change she advocated,

Take responsibility for the things that are going on in your life. Sure, I'm not saying there are not hardships, there are. And there are times when they need help, I need help, you need help, everyone needs help, but what I'm saying is there are times—there is such a thing as tough love. I mean, you pull me out, but sometimes I think we need to hit that bottom sometimes to let us know, you know, you do have to do better, because you can do better. And I think we cut our parents short. I think we don't allow our parents to do what they can do because we bail them out too quickly. (TI2, 7)

Poverty was not an excuse, Ms. Miller said, for not taking responsibility for your children's education. She related her own experience, both growing up and as a parent, to make this point,

And don't tell me that you're poor. We were poor growing up, but my parents had 3 children go to college. My husband and I were not rich, and I might not be the sharpest knife in the drawer, but I read to my son, Richard. I took him to the library. We did educational things together. You can do those things if you're rich or poor. (TO10, 4)

In nearly every regard, Ms. Miller's description of herself as a teacher is supported by the observer's observations and interviews. She ran her classroom in an orderly, no-nonsense fashion, but was motherly and tender as well. She made frequent references to her students' mothers in class by saying things like, "Now, Shariq, his mama cleaned those clothes for him. You gonna go make 'em dirty?" Her speech vacillated between standard English and African American dialect. She was comfortable using endearing terms with her students such as "sweetheart," "honey," and "baby."

Leading by Example

Ms. Miller steered her students' speech toward accuracy. For example, Sean asked her during one language arts lesson, "Why can't I say 'cuz?" Ms. Miller said, "I just don't like the word 'cuz. I want you to say *because*." If students lazily responded to her with a "yeah," she immediately scolded, "Excuse me?" "Yes, ma'am," said the student (TO1, 6; TO7, 1). Speaking in complete sentences, speaking loudly and quickly, and giving answers confidently were also important to Ms. Miller (TI1, 6).

This emphasis on confidence sometimes extended to the way students moved. After calling Mariah to the board to underline words in a sentence, Ms. Miller noticed the student's slouchiness and slow movement and shouted, "Come on, [Mariah], you've got to move like you want it!" (TO2, 3). Later in the year, a similar exchange with Ralph—a student who had difficulty with self-direction—transpired,

By the time Ralph makes his way to the table, all the chairs have been taken. He characteristically stands in place until Ms. Miller addresses him. "Ralph," she says. "It's like I told you: You have *got* to improvise. Nobody's going to do it for you, baby. Now get yourself another chair." (TO7, 4)

Undoubtedly, Ms. Miller had high expectations for students in terms of behavior and independence. Likewise, she expected them to complete work in a timely manner. Her classroom was marked by discipline and routine. Students had specific daily and weekly duties, and they were expected to act independently in those citizenship responsibilities (e.g., washing their desks after breakfast). Respect for others was also highly regarded in room 205 (TO1, 14). Ms. Miller used the phrase, "Let's give him a pal clap," to signal students to encourage one another after a right answer (TO2, 2). Accordingly, the teacher modeled this respect in her treatment of students, saying things

like, "Thank you, sir," and "I appreciate that, ma'am" (TO8, 2). And, although she wanted students to respect her, Ms. Miller said she didn't want them to fear her (TI1, 5).

Despite the reverence Ms. Miller's students had for her—or perhaps because of it—they could detect her sense of humor and loved to hear her laugh. Her bravado and feigned seriousness leading up to the daily timed math quiz made it hard for the students to suppress their laughter (TO10, 1). As a rule, they were cautious in laughing out loud at their teacher, as if waiting for her to smile or laugh to signal it was okay. For example, the observer noted during reading time:

Reading group B makes its way to Ms. Miller's table. She passes out a worksheet, the same one as group A, and instructs the students to put their names and the date at the top. Noticing the fearful way Owen is looking at her, Ms. Miller says, "I told you, Owen, I have a 23-year-old son; I don't eat children. If I did, I would've eaten him a long time ago." The kids, including Owen, suppressed smiles, but when Ms. Miller let out a hearty belly laugh, they joined her with giggles. (TO8, 3)

The Interaction Between Scripted Curriculum and Teacher Skills

Like all the teachers at Carter, Ms. Miller was learning a new scripted reading and language arts program. At the beginning of the year, the two teachers discussed how the students were responding to the curriculum. They believed it was difficult for them. "They don't get it," Ms. Hopkins, second grade teaching partner said. Ms. Miller agreed. "Even our gifted kids—the kids who are good readers—don't get it" (TO2, 9). Ms. Miller admitted that curriculum was a weak area for her and that this year she would need to work hard on learning the new reading program (TI1, 2).

Specifically, Ms. Miller believed the strategies the program asked the students to use were challenging, yet boring, for young children. At the same time, Ms. Miller was open-minded about the program, and expressed willingness to learn it. She explained, "I've found myself putting so much energy into things than I normally do because I don't know the new curriculum, that I'm learning it as well as doing it" (TI1, 4).

Perhaps because Ms. Miller was such a confident teacher, the observer found it easy to discern when she was struggling, however slightly, with the curricular content. She did acclimate to the program, however, sticking closely to the script and to the routines. A particular strength was following the questioning protocol as the class read a story aloud and the subsequent days when she reviewed the story plot. An example follows:

Ms. M: Who can remember? What is Corduroy?

Felicia: It's a bear.

Ms. M: That's not a complete sentence.

Felicia: Corduroy is a bear that talks.

Ms. M: What is he wearing that is so special?

Unidentified student: Overalls—he was wearing overalls.

Ms. M: What are overalls? (She defines them after a few random incorrect guesses.) What has happened in the story so far?

Janie: (Inaudible explanation.)

Ms. M: Then what?

Kenneth: Her mom didn't want to buy it because the button was missing.

Ms. M: Where is this taking place?

Ralph: The toy store. (TO8, 5)

Ms. Miller felt the program stifled her creativity. It did not allow her to modify the 2 hours worth of activities that comprised the reading and language arts block. Still, she felt optimistic about the first year being a trial and error period that would serve to ease implementation in future years (TI2, 2; TI3, 4).

Visits early in the year evidence Ms. Miller's reliance on the "right answers" in the teacher's manual. This dependence sometimes overshadowed students' creative, thoughtful responses, or responses that were as correct as those Ms. Miller read from the manual. Two examples illustrated this tendency.

During one lesson, Ms. Miller solicited the definition of "Librarian," a vocabulary word for the second week in a row. Mariah defined a librarian as "a person that works in a building where there are books." Ms. Miller declined this answer, asking, "Who can help her out?" Owen responded, "It's a person who works in a library." Ms. Miller had been looking for the word "library" in an answer (TO2, 4).

In the same lesson, Ms. Miller prompted the class to look at a picture of a character in a story. "How does Megan look?" she asked. Kelly said, "Sad." Ms. Miller was puzzled. "Does she look sad, everyone?" Shariq then gave an interesting answer. "I think she looks stressed." Ms. Miller asked, "What do you mean?" Shariq said, "No matter what she does, she has to keep going." "Well, yes," said Ms. Miller, but I was thinking of another word." She gave students a chance to answer before saying, "Serious! I think she looks very serious, don't you?" (TO2, 8).

The observer noted Ms. Miller's greatest strength with the reading curriculum was conducting the guided read-alouds. Her enthusiasm and efforts to engage every student paid off in how they responded to her and the story (TO1 1, 2). In an interview, Ms.

Miller commented on how much the children seemed to enjoy the stories in the basal, in contrast to her own disdain for the book (TI3, 5). Considering her animated style of delivery, it's plausible that the students were enjoying the stories due to their teacher's excitement.

Unlike Ms. Hopkins, prior to the second grade reading group reconfiguration, Ms. Miller did not articulate a need for more homogeneous groups to maximize effectiveness of the reading program. Beginning in late November, when the switch took place, Ms. Miller had the group whose students were reading below grade level. There were 4 girls and 10 boys. Although some racial diversity was evident, 10 students were either African American or racially mixed (by the observer's observation). The remaining students were Caucasian.

The reading specialist, Ms. Kind, taught the class with Ms. Miller. Ms. Kind had a classic elementary schoolteacher's voice: soothing, lilting, high-pitched, and marked by simple sentences and words. She had a prescribed way of addressing positive and negative behavior, not unlike a gospel choir director's incessant "sing-songy" direction. She would stress to students how hard a particular book was, especially its vocabulary. "We might not get through [this book] today," she noted during one lesson. "It's long" (TO8, 1). Ms. Kind frequently referred to the level of a book, emphasizing the need for students to read a book that is "on your level" (TO11, 1). One day, when an unidentified student asked Ms. Kind why the grade-level written on the book they were reading in the group was first grade rather than second grade if it was on their level, Ms. Kind explained that the book company did that for moms to tell which books their sons or daughters could read without a problem (TO8, 2).

Ms. Kind and Ms. Miller's routine went through several iterations in response to the students' needs (TI2, 3; TO11, 1). During a class period, Ms. Kind would focus on fluency with one group of students, while Ms. Miller focused on comprehension and phonics, and then they would switch—an arrangement Ms. Miller felt was beneficial to student learning (TI2, 2). These groups—called team A and team B—were not permanent configurations (TI2, 3).

The biggest change to the reading routine came in February. Following breakfast, the students had 20 minutes of sustained silent reading. Ms. Miller circled the room, asking students to read aloud to her. Ms. Kind also listened to the students read for fluency, but at the back table and in a more formal way. In fact, she used a chart to track the progress in fluency, speed, and expression. During Workshop, Ms. Kind continued to work with individual students while Ms. Miller saw reading group A and reading group B, alternatively (TO11, 1). Ms. Miller thought, at 13 students, her class was too large for the amount of support her reading students needed. She was grateful for Ms. Kind's assistance. "I think, you know, we're making it" (TI2, 1).

A few weeks into the more homogenous second grade groupings, Ms. Miller reported seeing improvements in the students' learning and, like Ms. Hopkins, speculated that some students might move out of her class and into the next level altogether (TI2, 2).

However, for the remainder of the year, no students moved from her class into another group.

Despite the improvement, Ms. Miller expressed reservations about the benefits of homogeneous grouping for students who were reading below grade level, especially as compared to the high achievers being grouped together. She explained,

When you have homogeneous high achievers, they have something. They more or less compete against one another to that level. But when you have the lower [achievers], sometimes you have the problem of no one having a whole lot to pull off of another child, which makes it very difficult. (TI2, 1)

She hypothesized that the homogenous grouping might more beneficial for students who were shy or who were easily intimidated by their high-achieving peers. Using the example of Shariq, an advanced learner in her class, and Owen, a student who needed more support, Ms. Miller explained that Owen's self-confidence might be adversely affected by a student like Shariq, who was very verbal in his learning. However, she felt students do need other students to "pull from" or model, elucidating, "I think you do need somebody to be able to sit down and partner read that has a little bit more than you do" (TI2, 1). Two groups, one that combined below average and average readers and one that combined the average readers and the above averages readers, she felt, might work best (TI2, 2).

In February, the observer asked Ms. Miller what she would change about the reading curriculum if she had more time, or if she could make it less structured. She replied,

I would do reading for 2 hours, but I wouldn't do it in the same way. I would not be doing the basal. Next year, I think I will probably be allowed not to; whereas, this year it's new. It's like almost the Bible, even though they say it's not. I think [the reading program series] is the Bible this year. I think next year we're going to wheel away from it, and I'm going to be able to do trade books, and I'm going to be able to supplement the [reading program] . . . I would probably do a little bit more workshop—reading and writing workshop, especially with the lower [achieving] children. (TO11, 5)

Still, Ms. Miller felt she had grown more comfortable with the reading program—a perception corroborated by the observer's observation (TO11, 2). And, despite her belief that the program was not to be altered or supplemented until the next year, when the observer complemented her increased comfort with the program, Ms. Miller was emboldened to articulate changes she had been making,

I'm not letting the book dictate to me as much. And I'm not [doing the] writing [part of the program], because I didn't feel like our kids were getting what they needed, so I'm doing my own thing with writing. I may pay for it later, but I think

as long as I get them from point A to point B, as long as I get the results, I'm doing my own thing. (TI3, 6)

In the second half of the year, the observer observed Ms. Miller in the afternoon, which allowed observations of math class. The curriculum in math was not scripted like the reading curriculum. Right after lunch, the students began with a "Mad Minutes" drill. The students knew to come in quietly, take out their pencils, and wait patiently for their teacher to distribute the 30 computation problems upside-down on their desks. They wiggled in their seats, anticipating the "go" signal from Ms. Miller (TI3, 1). By the time the observer started observing this ritual, the Mad Minutes problems comprised single- and double-digit addition. In March, Ms. Miller increased the number of problems from 30 to 50, keeping the drill timed at 60 seconds (TO13, 1). The children seemed to enjoy the challenge of the drill as well as the satisfaction of knowing their score almost immediately—Ms. Miller graded their work as they completed the next activity, typically a workbook assignment.

Math time was dominated by seatwork. After students finish the requisite workbook assignments, they get worksheets. The worksheets cover the same content as the workbook (and may review content from earlier units), and might ask the students to solve problems and color a picture (TO12, 2).

Reactive Differentiation to Student Variance

Differentiation in some basic, reactive forms was evident in Ms. Miller's classes. Ms. Miller believed that students needed different types of instruction—that some students were more advanced and some needed scaffolding or were lacking fundamental skills (TI3, 2; TI4, 4). In general, she responded to her perception of the class's needs as a whole. For example, when the students took a quiz on China, she gave them a word bank at the top, which she had not done in the past on the quiz (TO13, 2-3). Ms. Miller knew this made the quiz easier, saying, "I made this quiz so easy for you that I'm almost ashamed of myself," she told the students. The observer noted that not all students needed to have a quiz with the word bank. For example, Allison and Shariq at least did not need one because of their previously demonstrated skills (TO13, 3).

By design, workshop might have been the optimal time to differentiate. But, as this example from the field notes illustrates, this did not occur:

Today, the workshop activities for the three reading groups consist of the following:

Red & White Groups: Convene with teacher at reading table to review the story they read during the circle time.

Blue: Retrieve compound books from back table and find all the compound words in the story from circle time. (TO1, 10)

The observer noted that, inconsistent with principles of differentiation where students work with common learning goals, but on differing levels such as varied levels of complexity and abstraction, the Blue group's activity did not correspond with the Red & White groups' option at all. Red & White were focusing on the story plot, characters, and theme, while the Blue group was doing a word search (TO1, 10).

Interestingly, it was *after* the second grade reading switch—which made the classes more homogeneous in terms of readiness—that Ms. Miller's classroom became more instructionally flexible. Referring to her groups-within-the group, Ms. Miller explained,

I mixed it up with team A and team B. And no group is permanent. Like right now, I do have a team A and a team B, but you may come back 3 weeks from now, and I may pull someone from team A. I may have switched the whole groups around. (TI2, 3)

The observer's notes indicate Ms. Miller was true to her word: She and Ms. Kind did group flexibly and for various purposes. However, few times did those purposes involve challenging students who had mastered a concept or skill. When students like Jay (who Ms. Miller thought might eventually move to Ms. Hopkins' room for reading, but never did) finished their required work, they were given a choice of activities. But, these choices were not motivating (e.g., re-read the anthology story), or if they were they had restrictions (e.g., read a book on your level) (TO11, 2) or did not manifest authentic learning goals (e.g., complete a word search) (TO13, 3). Earlier in the year, when Shariq, a talented reader still in her reading class at the time, finished his work before the other students, Ms. Miller reminded him that he had specific alternatives to playing with things in his desk. She asks,

Are you finished, Shariq?"

He responds, "I could only find 11." (*OC—Looking at Sean's paper, I can see that he only has 7. And he was working steadily the entire time. I'd need to see the story and Shariq's answers, of course, but 11 seemed like quite a few!*)

He's not off the hook yet though. "What are you supposed to be doing?" Ms. Miller probes.

"Making up my own," Shariq replies.

"Or going to your library," returns his teacher. (TO1, 10-11)

As advanced as Ms. Miller acknowledged Shariq was (TI4, 5), the observer did not observe instances where she challenged him with advanced work or opportunities to extend the curricular content.

Three factors might explain Ms. Miller's tendency to differentiate more proactively when she had a group of below grade-level readers than when she had a more heterogeneous group that included talented readers like Shariq: (a) there was less variance in terms of reading readiness; (b) Ms. Kind was co-teaching with her; and (c) she was stronger in offering support for low-achieving students than high-achieving. Not having high-achieving readers in the class could have made her support more apparent to the observer and/or could have allowed her to capitalize on this strength.

Although students were not ability-grouped, math was also a subject in which variance in readiness was significant. Ms. Miller would introduce and teach the concept (e.g., subtraction with double-digit numbers using regrouping) to the whole class, and then assign a certain number of workbook pages for individual work while she met with students in small groups at her table. As a result, students worked at different paces, prompting Ms. Miller to circle the room at the beginning of math to make sure each student knew which page he/she was on and which pages he/she still needed to complete. "Everyone is doing something different," she announced one day during this time, indicating that in math, she and the students were accustomed to the kind of flexible pacing and environment associated with differentiation (TO9, 1). However, during observation times, Ms. Miller employed the observer to work with 1 or 2 students on concepts in which they needed reinforcement. Some students, like Max, had considerable trouble with basic one-digit computations. With the regrouping concept—a topic on which Ms. Miller's class spent several weeks—the observer noticed many students had difficulty and thought perhaps Ms. Miller should have re-taught the majority of the group while allowing the students who "got it" to move on (TO9, 2).

Similarly, in reviewing the concept of telling time, there were students who had significant trouble and students who had mastered the knowledge and skill. Still, the high-readiness students completed the same drills and worksheets (TO13, 1).

Teacher's Perception of the Gifted Program and Identification Process

Ms. Miller had a positive, supportive view of the gifted program at Carter. She described it as part collaboration and part pull-out. On Wednesdays, the gifted resource teacher, Ms. Blake, came into Ms. Miller's room during content (science or social studies) to teach a lesson. Then, on Fridays, the identified gifted students from second grade went to Ms. Blake's room during the afternoon social studies or science time. Because the Wednesday time was the intervention block—on that day of the week, a time when students who needed reading support participated in a Book Buddies program—not all students benefited from the collaborative lesson with the gifted resource teacher during the school day. To make up for the lost content time, the principal brought in graduate students from a local university to teach the intervention students in an after-school class. The graduate students had access to Ms. Blake's lesson and were supposed to incorporate it into their work with the students (TO11, 1). Because the observer did not observe these after-school classes, it is impossible to say whether the Ms. Blake's lessons were taught. Four of Ms. Miller's students left the room from intervention on Wednesdays: Nelson, Will, Howard, and Owen (TO12, 2).

Ms. Miller felt the students enjoyed the chance to learn from Ms. Blake during the collaborative lesson. She described the gifted resource instructor's teaching as a different way of teaching. Qualifying the characterization, she added,

Actually, most of the time I won't say that she teaches different, but we [the second grade classroom teachers] have our own curriculum. She doesn't have to follow the curriculum that we do. She has more chances to do things that we don't have time to do, like the hands-on activities. So, I wouldn't say different. But she has the opportunity to do those kinds of things that we don't get a chance to do. (TI3, 1)

Specific to the pull-out component of the gifted program, the observer asked Ms. Miller if she thought the identified students were doing things she thought all students could be doing. The teacher was quick to reply,

No, I wouldn't say that because I don't go there on Fridays. That is the gifted part. The kids do hands-on. She also does that with the kids in here on Wednesday. When we did the continents, the globes that you see hanging up there? She did that with all the kids. Now when they actually—they do research and all that . . . and I don't think all kids would be able to handle that, and even though I'm not there, I know they can't. (TI3, 1-2)

Ms. Miller then equated Ms. Blake's teaching (and by extension, what constituted activities in the gifted program) with hands-on activities and research. As the previous excerpt suggests, Ms. Miller was leery of criticizing the gifted program curriculum and pre-empted any judgment by saying she had not seen enough of what went on to appraise it.

Ms. Miller was more willing to be critical in discussing the gifted program identification procedure. She said students were identified by a test, but knew that in previous years, non-identified students had been permitted to join the pull-out group if they were high-achieving. She had been talking with Ms. Blake about one such student, Mariah, whom she felt should be identified but whose test scores were low, perhaps due to what Ms. Miller characterized as "a lot of commotion" in Mariah's first grade class. She resolved,

I am not satisfied. I think they need to re-test her. And then if they re-test her and she doesn't make it, then I'll be okay with that. But right now I don't feel good about it, because I don't think she got a fair shake. (TI3, 2)

Ms. Miller seemed to have some difficulty reconciling the outcomes of the identification instrument. When the observer asked her if she thought the test did a good job of identifying students for the program, Ms. Miller said, "As far as I know. I'm not gifted, so I guess it does" (TI3, 2).

However, she believed there should be alternative ways to identifying children for the gifted program because not all children have the same prior knowledge, experiences, or ability to express themselves. "I do think they have the innate ability," Ms. Miller said, "but I do think they should be identified in some other way" (TI3, 3).

Wrestling further with identification, Ms. Miller said she did not believe the cultural spectrum of students at Carter was well-represented in the gifted program. Again, she debated the issue with herself aloud:

I don't think special privileges should be given for that, but there should be some way of measuring the ability of these kids. But I do not think they should be put into a program where they simply do not function. That's the last thing you want for anybody. I don't think you want to put anybody in, and make them a misfit. I'm not saying that. But I think there should be with all the modeling things, and all the technology and all the strategies, there should be some way of doing something. But I don't want to second-rate them. I think when we do that we're going back to separation. Segregation and all that. Segregating. I don't know what the answer is. I think that's why we're in the bind we're in. (TI3, 3)

It is not clear from the interview transcript if Ms. Miller's final thought ("I think that's why we're in the bind we're in.") was directed toward the achievement gap in general, Carter's AYP status, or a broader issue.

Insofar as developing student talent in her own classroom was concerned, Ms. Miller felt the school gave teachers the resources to do so, but not the time. Between the new reading program, with its rigidity and priority over the rest of the curriculum, lunch, and special subjects, Ms. Miller felt she did not even have time to talk to her students, let alone set aside time to plan for talent development (TI3, 4).

Another barrier to talent development for Ms. Miller was the state-mandated tests. She was frustrated by the state's pressure on Carter to meet its AYP. "There's only so much the school can do" (TO10, 4), she said, alluding, perhaps, to earlier sentiments about the role and responsibility of parents (TI1, 6-7). Ms. Miller believed the students did not do well on the test because "they don't test well" (TI3, 5). Their readiness for test-taking, she felt, could be improved if they were tested the entire year in exactly the same way the state assessment tested them. She felt this would be more effective than testing the students in alternative ways (TI3, 5). On one occasion, the observer observed Ms. Miller relate a specific test-taking strategy to the students (TO13, 2-3); she may have infused test-taking strategies into her instruction and curriculum throughout the year, but it was only recorded in the field notes once.

In January, the second grade teachers met during lunch to review test data for their students. The observer observed,

I can tell this process [of reviewing test data] is frustrating for the teachers. Their comments and attitudes indicate they may feel belittled having to go through these

motions. They try to make light of their low scores, humorously "competing" with one another as they share their results. (TO9, 1)

Teacher Conception of Talent and Giftedness

In describing giftedness, Ms. Miller spoke mostly in terms of specific students, making few generalizations. She did feel many of the gifted students she had taught at Carter had been aggrandized by their parents, to the detriment of their school motivation and achievement (TI2, 6). She reflected on a former student who was a highly talented reader. His obsession with reading concerned Ms. Miller because, she felt—unlike his mother—that he needed to socialize more with other children and that he was isolating himself, hiding in books (TI2, 6). This is interesting to compare with Ms. Miller's reaction to a character in a short story the class was reading. The character did nothing but read all day. Ms. Miller told the students she thought this was unusual.

In general, Ms. Miller's conceptions of giftedness can be viewed through her perceptions of and interactions with four students, two of whom were identified as gifted, and two of whom were not identified as gifted.

Attributes of identified gifted students: Allison and Shariq. When Ms. Miller described what she believed talent looked like in primary-age students, she began with Shariq, a mixed race student with demonstrable verbal and mathematical talent. "Shariq is from a whole other—I mean, his conversation is completely different" (TI2, 6). She noted his critical thinking skills in math, adding, ". . . not all the gifted kids show that [ability]" (TI2, 6).

Then, she mentioned Allison, a 7-year-old girl with masses of tight curly hair usually styled to match her outfit. Allison was also a mixed-race child. As part-time model and actress, she traveled frequently, but never missed more than a day of school at a time. According to Ms. Miller, Allison's parents ensured her modeling did not interfere with her schoolwork (TI2, 7). She admired them for their emphasis on education.

In contrast to Allison, Shariq was not a teacher-pleaser. He finished his work quickly and accurately, but he was not motivated to find something else intellectually engaging to do. Ms. Miller observed,

He will do what you ask him to do, but he never goes beyond that. Like I told his mom the other day on the phone, if he doesn't know something, he's not a child who likes a challenge. He doesn't want a challenge; he wants to know it. He doesn't want you to have to challenge his brain for him to know it. He wants to already have it. And if you give him something, he's finished. He's not going to pick out a book. (TI2, 6)

Ms. Miller believed Shariq was self-confident to the point of thinking himself better than the other students. Because other high-ability students were in her class, she felt he had

realized other students were just as smart as he. She discussed his lack of drive and attempts to avoid any extra work:

Shariq never goes to the computer to take an AR test. I said, "Shariq, you need to go and get a book on your own." He never takes the initiative. He does what he has to do, and you have to stay on him. He asks to go the bathroom, he gets a drink of water. (TI2, 6)

By comparison, Ms. Miller praised Allison for her broad knowledge, initiative, and intrinsic motivation to learn (TI2, 6). She also thought Allison a very humble student whose willingness to help other students, positive attitude, and sweet personality were additional characteristics contributing to well-roundedness (TI2, 7).

Ultimately, for Ms. Miller, Shariq and Allison were two indisputably gifted students who represented different attitudes toward learning. She concluded, "But if you put Shariq and Allison's knowledge together, you would have this perfect child" (TI2, 6).

Attributes of talented non-identified students: Mariah and Nelson. Ms. Miller was able to articulate attributes of talent in students who were not formally identified as gifted. She cited critical thinking abilities, but also spoke in terms of hindrances to these students being identified, suggesting socioeconomic background may prevent a student from demonstrating talent.

Some of them just do not take tests well . . . I tend to think (I could be totally wrong), some of it also I think deals with exposure—lack of anything to connect to. If you have nothing to connect anything to, how can you have an experience? You need experiences. And it's so hard to explain and verbalize and articulate anything when you've done nothing. (TI2, 6)

Similar to her descriptions of giftedness, Ms. Miller illustrated her perspective with specific students: Mariah, whom she felt should be in the gifted program, and Nelson.

Mariah was a soft-spoken mixed-race girl with dark strawberry blonde hair. She expressed particular interest in the researcher on the observation days. One day, as the researcher was leaving, Mariah hugged her and asked, "How long does it take you to get here?" (TO7, 6). During a lesson on letter-writing, the teacher directed the students to write letters to the researcher. In her prose, Mariah asked the researcher to write her back; to Mariah's delight, the researcher obliged (TO5, 8).

Because Mariah was a high-achieving, motivated student who reveled in challenge (TO2, 1), Ms. Miller could not understand why she was not in the gifted program. Expressing her confusion, she said,

Look at Mariah . . . Mariah is as smart as any kid in this room. But she did not do well [on the test used to identify gifted students], and I cannot see that. And, um,

I just don't know . . . again, we can call it the environment she's in. I can see the environment she's in [at home]. She is a wonderful student. She's in the top reading group. She does well in math. She's a critical thinker. She does lack exposure because of her culture or her life. But, I just can't see her not doing well on that test, and I want her re-tested. And if she bombs, then I've done the best I can do. I've given her that opportunity. (TI3, 3)

True to her word, Ms. Miller did insist Ms. Blake have her re-tested. Following the testing, Ms. Miller reminded Ms. Blake that they needed to talk about Mariah's scores (TO11, 2). However, Mariah's scores were much lower than the identification criteria mandated. Ms. Miller was disappointed but acquiescent (TI4, 5). Born in a Rwandan refugee camp, Nelson had been in United States for several years prior to Ms. Miller's class. Ms. Miller had taught his sister, Ophelia, and knew some of his older siblings by sight. She believed his father was either dead or otherwise absent from the family's life (TI2, 4).

Nelson was a Title I student who spoke English fluently, in addition to his native language. According to Ms. Miller, he did not take responsibility for himself, either academically or hygienically. He regularly left permission slips, school supplies, and even his book bag at home. He walked to school in cold weather without a coat, wore socks and underwear infrequently, and donned too-big soccer cleats on several occasions (TI2, 4; TO4, 1). Ms. Miller perceived Nelson was an intelligent student who, like Shariq, did not take initiative (TI2, 4).

In the classroom, Nelson was mischievous and opportunistic. He loved making other students laugh; he took any chance he could find to entertain his peers (TO3, 6; TO12, 3). Perhaps due to his behavior, both Ms. Miller and Ms. Withers sometimes did not allow Nelson to contribute to a discussion or answer a question, even when he was desperate to do so (TO10, 3; TO3, 8). If he became angry at the teacher, he promptly disengaged from the lesson, refusing to look at anyone or anything but his desk. He did not easily offer or accept apologies, but preferred to sulk and avoid work, seemingly out of "revenge," the researcher felt (TO12, 2). If he was angry enough, he would cry (TO 12, 2).

However, Nelson was not afraid to joke with his teachers, or even play tricks on them. For example, during reading one morning Ms. Withers was not sure how to pronounce the author's last name. She started, "John . . ." Nelson shouted enthusiastically, "John Kerry! It's John Kerry!" knowing well it wasn't, but enjoying his classmates' giggles all the same. On another day, when Nelson was misbehaving, Ms. Withers sent him to Ms. May, in the speech pathologist's room. Nelson returned 3 minutes later with Ms. May in tow. To avoid punishment, he had told Ms. May that Ms. Withers wanted to see him (TO3, 6).

Nelson did also not shy from engaging a teacher in a debate if he disagreed with her. He challenged Ms. Miller in this regard one day after reading class. His

interpretation of the character's behavior differed from hers. Ms. Miller discussed it with him briefly before leading the class to library (TO1, 8-9).

In her final interview, Ms. Miller reflected on Nelson's abilities in attempting to define giftedness:

I don't think he's gifted, but he does have something. There's something there. You know, he came from another country; he learned a whole other language. The students, they really accept him now. They always want to be his partner. And he's funny. He can get angry though, and I can see—I can see how people might think he's disrespectful. But once you get beyond that, you can really see that there's something special. You know, that's a gift. (TI4, 5)

Teacher's Responses to the Lesson

After extensive observation and analysis of Ms. Miller's classroom and the students who inhabited it, researchers presented the teacher with a series of lessons on a topic of her choosing that was designed to provide an outlet for students to demonstrate their talents. Ms. Miller and Ms. Hopkins opted for a unit on Egypt as they described social studies difficult to fit in at all given the extensive time spent on the Open Court reading. The lesson series looked at the purposes of pyramids and mummies in ancient Egypt (see Appendix F for model lesson). Through the series of lessons, students formulated theories about pyramid construction and mummification, simulated the process of mummification with plastic dolls, analyzed Egyptian tomb paintings, and created a tomb suitable for a fictitious pharaoh. Like many of the other teachers in this project, Ms. Miller expressed a sense that the model lessons were too challenging for the students in the second grade at Carter Elementary.

I think the lessons were well-organized and the kids were very excited and emotional. I think with the hands-on part they learned a lot. I think some of it was too detailed, too complicated for the level of second graders here. Even though you had input from . . . well, you told us to go over it and look at it. I should have looked at it in-depth. And even though you talked to other second grade teachers and experts, I think parts of it were over their heads. (TI4, 1)

Paramount to the successful implementation of the lessons was teacher understanding of the content, particularly the larger generalization that customs of any culture are influenced by many factors, including religious beliefs and geography. In previous years' teachings of this unit, both Ms. Miller and Ms. Hopkins lectured to the students, watched a video, and colored reproduced masters of pyramids. Lessons primarily focused on factual-level information about Egypt and pyramids, and both teachers expressed satisfaction and comfort with these traditional methods. The alternative lessons seemed to push the teachers beyond their level of understanding of the content, which may have contributed to their lack of enthusiasm for lesson implementation.

Porter Elementary School

Porter Elementary School was built in 1990 to accommodate the growing population in the semi-rural, semi-suburban county in the mid-Atlantic region. Named after the school superintendent who guided the county school district through forced integration, the school was home to the district's largest population of English Language Learners (28%) and the highest percentage of students who qualified for free or reduced lunch (40.7%). The school served 499 students in grades K-5 and had 27 general education classroom teachers. The average class size in the primary grades was 18.2. The student body reflected the following demographics: 66% Caucasian, 18.8% African American, 12.5% Hispanic, 2.1% Asian/Pacific Islander, and 0.6 % other races. Eighteen percent of students at Porter were identified as gifted and talented during the year of the study.

In addition to the general education program, Porter Elementary offered services for students with Limited English Proficiency (LEP), migrant families, a remedial program, cross-categorical special education services, a pull-out talented/gifted program, and Title I with targeted assistance. According to the state report card data, 12% of core academic teachers did not meet the federal definition of highly qualified; 47% of teachers held master's degrees. The school made its annual yearly progress goals (AYP) in the years prior to the study, and was a fully accredited school. In the year prior to the beginning of the study, the school-wide passing rate of the state-mandated test was 85% for English/Language Arts, 74% for Mathematics, 85% for Science, and 81% for History.

The stated vision for Porter Elementary School was to: "Provide a stimulating and positive learning environment that will encourage the student to reach his/her maximum potential. Through technology students and educators will acquire information as well as generate creative products, using a wide range of sources. Porter students and educators will be empowered to become independent, lifelong learners in a rapidly changing society."

According to the school's parent handbook, Porter's language arts program included daily small group literacy instruction, word study (defined as the study of phonemic awareness, letter recognition, phonics, spelling, and vocabulary development) differentiated in every classroom according to the developmental spelling levels of each student, and writing. The school did not adopt a basal reading program in the primary grades, but instead used a combination of Words their Way (Bear, Invernizzi, Templeton, & Johnston, 2003) and Guided Reading (Pinnell & Fountas, 1996) with leveled books for individual student skill needs. Porter adopted the Investigations math program (Scott Foresman, n.d.).

Judy Grand

During the year of the study, Ms. Grand had been teaching for 24 years, many of those at Porter Elementary School. She was an African American woman who was married and had 2 children of her own. She cited kindergarten as her favorite grade to

teach because "I like the newness of it, for the children—and just how they come in at the beginning of the year with what they know, and how much we see them grow and learn and progress towards the end of the year. It's just awesome!" (TO2, 1). Ms. Grand was a self-professed structure-a-holic; she needed structure—craved it—and when she felt that she was losing it, she became physically ill—her ulcers and nausea acting up. She therefore was always completely planned and organized—everything was set up for every class day. Indeed, Ms. Grand planned her entire year—curriculum-wise—very far in advance. She always liked to know what lay ahead.

Four themes emerged from observations in Ms. Grand's classroom: (a) her perception of herself as nurturer; (b) her efforts to foster a classroom community; (c) her attitude toward English language learners; and (d) the evolving nature of her perceptions of giftedness, as well as the degree to which her professed beliefs coincided with her classroom practices.

The Role of Teacher as a Nurturer

But the praising part is a big part of what's in here. When they come up and show something that they did, especially if they've been struggling, and like I was working with a child and Ms. Alexandra [teaching assistant] was working with a child, and you can just see their faces get excited, and big hugs, and then I would say, "Oh, go show Ms. Alexandra what you did," and immediately she will respond by—her face just lights up and she gives them a big hug and tells them how proud she is and what an accomplishment it is, because they really tried so hard. And then you can see their faces light up and feel good about themselves. (*Pause*) And sometimes we'll catch it before it happens so we'll say, "Oh, I like the way so-and-so is doing such-and-such," right when you see that they're getting ready to do the opposite—and then they snap back into what they're supposed to be doing. (TI4, 4)

The quote above revealed Ms. Grand's perception of herself as an encourager and nurturer. The quote reveals the seeming contrast to her observed lack of praise or positive reinforcement to students in her classroom. For example, in an activity in which Ms. Grand asked students to find words in a poem (TO4, 3), George found the word, "at;" Ms. Grand responded to his answer by simply saying, "Yes, what other words are there?" and moving on. The observer consistently noted that Ms. Grand seldom gave praise; she usually either nodded or simply said, "yes," and moved on—often without a great deal of eye contact with the students. The few instances of praise witnessed in observations were usually in response to a child performing in a manner that greatly exceeded her expectations: "I never noticed that before, Janey! I learned something new today and you taught me!" (TO2, 3), and "Well congratulations, Joel—you just did second grade math!" (TO7, 4-5).

Ms. Grand asserted that she went into teaching because she wanted to encourage students and give them a better experience than she had in first grade when she had a rather unkind teacher, an episode to which she attributed the origins of her stomach

problems. While it was clear that Ms. Grand cared about her students and her job, this concern seemed to manifest as high expectations, communication of those expectations, and a dedication to having things together for them in order to allow them to fulfill those expectations. Other evidence of encouragement for students, through words, expressions, smiles, or touches (e.g., she adopted a strictly-followed "no touching rule") was rare. She was not cold or cruel; she just did not present as overly nurturing as evidenced by the following vignette.

9:00—We return from art class and Savannah's mother, a very warm and encouraging woman who has served as the parent helper during art class . . . says good-bye to Savannah and leaves. Savannah begins to cry—quietly but intensely. Ms. Grand is frustrated and tells her to "dry it up." This only serves to cause Savannah to cry harder.

Savannah continued to cry almost up until lunch. . . . whenever there was lag time, she fell into silent but intense weeping. Ms. Grand finally pulled her over to her desk and spoke very sharply to her, pointing frequently to the phone. Later on, Ms. Grand told me that she had been telling Savannah that if she did not stop crying, she would call her mother and tell her that she couldn't come back to help at the school, and that she would not be allowed to chaperone the field trip. Apparently, Savannah had cried through the first 2 weeks of school, and Ms. Grand said that she would "not put up with it again." Whatever she said worked, because Savannah shed no more tears that day. (TO5, 6)

This seeming lack of warmth was actually quite deceiving. Ms. Grand held her students very close to her heart, although she did not often demonstrate this openly. During one interview, Ms. Grand cited her most challenging experiences as those in which students come to school with difficult backgrounds. It was clear during this conversation that Ms. Grand's care and concern for her students ran far deeper than her affect would indicate. Ms. Grand's warmth was especially apparent when she discussed and interacted with students with whom she could identify:

Teresa . . . was very shy and very nervous. She was . . . a "*me!*" She wasn't going to let you know what she knew! You could just see it in her face whether to answer or not. And so again, I would say that statement: "Don't be like me; don't be like Ms. Grand—say it!" . . . And so after she relaxed, you can see she has more confidence in herself because she's relaxed about saying, answering, expressing. And she's gone a little bit further—'cause she was just your basic average, and now I would say she's high average. (TI14, 6)

Teresa's mother whispered to me that Teresa had gotten very upset over the weekend because she couldn't . . . she was counting to 100, and she skipped over some numbers and she couldn't do it . . . and they could not calm her down for anything. And, her godmother was trying to calm her down, who was a fifth grade teacher here. They couldn't calm her down. And, so I said, um, I would say something . . . because I said, I don't want her to be the way I was . . . or,

could still be. . . . And that's just getting upset over little things or feeling, "Oh, I can't do it!" or feeling too anxious . . . or just getting yourself worked up, and, stomach messed up. And that's the way I was. (TI15, 1)

Clearly, it was easier for Ms. Grand to overtly nurture her students when she could empathize with their struggles. It was also clear that certain students responded better than others do to her "style." Rachel (labeled "Emotionally Disturbed") responded very well to Ms. Grand. Her behavior and performance in the classroom with Ms. Grand was productive and positive in contrast to her experiences in the art room without Ms. Grand's structure and steady presence. Sonia, on the other hand, a recent immigrant to the US seemed to shut down around Ms. Grand. Because of her LEP she relied heavily on non-verbal cues to let her know how she was doing, and she did not get these from Ms. Grand.

Classroom Community

Ms. Grand was committed to creating and fostering a safe learning environment for the students in her classroom.

I have high expectations for the children, but I also like for them to give to me, so it's not like I'm just there, um, and I'm just lecturing all day, and you're just listening to me, but I want them to join in, and we just kind of share, and just kind of learn from each other (TI1, 4)

Hopefully, we try to say that we're a family of friends so we're helping each other, and using the word family, so they can relate to their own family and this is the way you act in your family so this is the way you're going to act in class—that we're going to help each other out. And there have been times when I would hear children say, "We're a family of friends, so let me help you!" (TI4, 4)

And I just want it to be a relaxed atmosphere for the children and not feel stressed at 5 years old, in Kindergarten. (TI15, 1)

She felt that talent would not appear unless children felt that they had both the opportunity and the freedom to "shine" (TI6, 1). Perhaps the most poignant example of how Ms. Grand fostered community in her classroom was the following conversation between the teacher and a student:

Teacher: You are all just sweet hearts!

Aleia: That means you love us!

Teacher: Yes, I do!

Toby: (normally, a shy, quiet outsider says solemnly) "Cause we're a family of friends!"

Teacher: That's right, Toby, we ARE a family of friends. And friends love each other and take care of each other! (TO9, 5)

Academically, Ms. Grand attempted to foster this type of environment by running social-studies instructional time in an open-forum manner. "I have an idea in my head, but I want to hear your ideas. It's good to have a lot of different ideas!" (TO9, 4).

One example of such a manner occurred in the fall of the year of classroom observations (TO6, 4-6): "Tell me what you know about the world and maps, and then I won't have to teach as much, because you'll already have taught the class yourselves!" Students responded enthusiastically to this—many hands were raised, many students were "off their bottoms," which drew a reprimand quickly: "I'll only call on you if your bottom is on the floor!" Responses included:

Chris: "That's a compass and it's an imaginary direction finder that points to North (Ms. Grand responds enthusiastically to that: "Yes, wow!" and explains the compass further.)

Teresa: "All the blue is water." (Ms. Grand affirms this and distinguishes between lakes and oceans, naming the oceans, and explaining that they go to the ocean when they go to the beach.)

Julio is suddenly alert, happily repeating, "Go to the beach! Go to the Beach!"

(Ms. Grand ignores him.)

Gus: "All doe tate hab tar." (Ms. Grand looks confused, so Joel translates, "He said that all the states have stars on them." Ms. Grand concurs enthusiastically, explaining that the stars represent the capitals. She tries to explain what a capital is, mentions "government," and moves on.)

Bette: "The globe and the map both have South America on them." (Ms. Grand agrees and indicates the continent on all the maps.)

Christina: "All the globes and maps have water on them." (Ms. Grand agrees.)

Joel identifies the South Pole and the North Pole. (There's some confusion in the exchange between Ms. Grand and himself. She apologizes, and he responds quickly, "Oh, that's alright, that's alright!")

Chris: "All of the dots are islands." (Ms. Grand asks him to explain to the class what an island is; he does so and she extends the definition.)

Bette: Goes up and points to (tiny) Connecticut on the US map and says, "My Grandparents live in the state of Connecticut." (Ms. Grand says that she is impressed, as is Gus who exclaims, "Dat toe mall I don't eben dee it!")

Janey: [who has had her hand up the entire time]: Goes up and points to Florida and says, "That's where I went to Disney World!" A lively discussion ensues about who has and has not been to the Magic Kingdom.

On another day, the class discussed clouds in science. Ms. Grand ran the activity by asking students what they "wonder about the clouds;" the children had a lot to say:

Tyler: Why are the clouds white?

Jermaine: Why does it look like clouds are in the shapes of animals?

Domenic: Why is the sky blue?

Domenic: Rain evaporates, but does snow evaporate?

Ms. Grand fielded these questions, but answered none of them except the last one, indicating that they may discover the answers in the book they are about to read. She talked Domenic through his last question, helping him to discover that snow was really frozen rain and that when it melted back into water, it could evaporate. She then asked the class, "How do clouds move?"

Darius: They move when you're driving!

Ms. Grand: It may seem like that—that things are following you when you're driving, like the sun or the clouds or the stars—but they're not. Maybe the book will tell us how clouds really move.

Kaley: Maybe it's because the world is moving so it looks like the sun is.

Ms. Grand: That's exactly right, Kaley! The Earth rotates and it looks like the sun is moving, but it's really us that's moving!

Ms. Grand then read the students a book about clouds and drew attention to the parts of the book that addressed the questions that students' raised earlier. There was a great deal of engagement during the reading of this book—which lent support to their degree of investment and engagement with this style of questioning (FN2, 4). For the most part, students enthusiastically responded to this type of instructional technique; all that, is, except for the English as a second language students who were silent, non-participatory, or when challenged to take a risk such as Julio above, was ignored when the answer offered was not specifically what was sought. In this area, particularly, observers noticed a breakdown between what Ms. Grand professed and what actually happened with her instructional practices.

English-Language Learners

Ms. Grand asserted that she welcomed cultural diversity in her classroom: "I think it [academic diversity, social diversity, ethnic diversity] enhances. I think it's good that children are exposed to the mixtures. And that's why I like teaching in this school, and I like having the differences" (TI3, 2). When asked about how she attempted to draw in her English Language Learners (ELL) students, to help them learn as well as to be part of the classroom community (TI4, 2) she replied,

Ms. Grand: But within the class, it's kind of a lot of pointing and modeling, and the children looking over at what another student is doing. Basically, when we're doing something—like when it's handwriting, or if I'm showing them how to do a game, we just basically kind of give them a straight point, and then they're picking up on it quickly. What was interesting was that, about 2 weeks ago when we were in the computer lab, one of the non-English speaking children was leaning over helping one of the English-speaking children in the computer lab. So there was a lot of pointing. But they pick up!

R: Hmm?! How do you see the other students responding to those English Language Learners?

Mr. Grand: Well they . . . (*Laughs*) Sometimes I think they "no Hable" English—those English speaking children! I really don't think—they really don't look at them differently, or anything. They just continue on; now, they might point or show in play when they're doing something, but they just go right on as if there is no language barrier. (TI4, 2)

In classroom observations, however, observers noted behaviors that directly contradicted that perception that other students enjoy helping them and respond well and accept them. Earlier that same morning as the above excerpt, Charese told an observer that she didn't need to help Sonia because she "didn't speak English." Joel said that he couldn't help Jose with a task because "I can't speak Spanish." The task under question did not require spoken English language, and the observer showed the student how he could help his classmate. Darnell told the observer that Jose and Sonia should not be allowed to sit together because, "they talk." When the observer explained that they don't talk any more than Darnell or his other classmates do; it's just that he notices it more because it's in a different language, the child shrugged (TO6, 3).

In contrast to her spoken words about nurturing ELL, these students' attitudes reflected, at least in part, the attitude that Ms. Grand seemed to display. She seemed to hold low expectations for their academic achievement, and seldom checked their work. One crystallizing example of this occurred (TO2, 6) when Ms. Grand was sharing student's work with the rest of the class. Students had gone on a "shape scavenger hunt" in their homes, and in some cases, Ms. Grand was reporting their findings for them, because some of their parents had written the answers for them, (as many kindergarteners in the class could not yet write). When it was Sonia's turn, Ms. Grand dismissed Sonia's

paper because it was ". . . written in Spanish." Sonia, who observers noted rarely paid attention in class discussions, perked up when she saw that her paper was next, and then visibly slumped at the teacher's dismissal of her efforts. This behavior on the part of Ms. Grand may have resulted from the belief that underlies the following statement: ". . . if they don't understand the culture that we are using, then it affects [learning]—like Sonia and Jose they don't understand the culture (TI6, 2). Perhaps, in spite of her assertion that cultural diversity enhanced community, Ms. Grand seemed to feel that her ELL students detracted from it.

Julio

Julio was the focus of much attention and conversation on the topic of both culture and giftedness. He began the year with almost no language recognition, let alone language skills, letter recognition, counting, and other basic skills. During the beginning weeks of school, he—like the other two ELL students—participated little (if any) in class discussions; "Sonia, Jose, and Julio (all ELL) are not participating at all; they look around the room, at the other students, and at each other (especially Sonia and Jose)" (TO2, 3).

Julio was at an even further academic disadvantage because of his identified learning disability; yet, Julio demonstrated a spark, an excitement in learning, which emerged at unexpected times and in unique ways:

Julio (ELL with other learning disabilities) keeps running over to me, striking curious poses, and saying what I think is "See?" before running back to the other side of the room. I finally discover that he has a book on the other side of the room that contains illustrations of children forming letters with their bodies. Julio is mimicking these poses, and he is indeed saying the correct letter that corresponds to each pose. Sam helps him form the letters that require two bodies, and a small group gathers, intrigued. (TO6, 4)

On the way back into the classroom, Julio stops me and says, "Look at my 'I'," while he stands up straight with his hands at his side. (TO7, 1)

As Ms. Grand moves on with calendar time (which consists mostly of Ms. Grand talking and pointing to things on the bulletin board), she loses her ELL students. Jose and Sonia sink back into themselves; Jose's head is down, and he plays with a chain on his belt, while Sonia looks around at her other classmates occasionally, but mostly fusses with her clothing, the carpet, etc. Only Julio is still interested. He is on the opposite side of the room, and wiggles around to see. He actually begins scooting over to the calendar at one point; another student reprimands him, and Ms. Grand stops and tells Julio that he has "lost a smiley face." This means that he will lose recess time. The result seems to send the message—at least to the ELL students—that you are better off if you don't pay attention than to try and have negative attention brought to you. (TO7, 2)

This spark—this interest—seemed resilient, even in the face of discouragement such as that described above. It served Julio well, for he grew and grew academically:

During center time, I conducted word screenings on all of the children. This screening is supposed to help the teachers reshuffle their literacy groups . . .

Julio—21 out of 50 words. This puts him slightly above the class average—even with his language (ELL) and learning disability barriers. (TO15, 3)

At the end of the day, Julio recited his new literacy-group book for me from memory. (TO16, 3)

Julio . . . was completing his tasks at lightening speed. The special education teacher told me that they had been working on this for 2 weeks, but also noted that "Julio is smart!" (TO18, 4)

Julio does an excellent job [reading] *Hop on Pop*. He only needs help with words such as "Mrs.," and "gown" which are either unfamiliar or impossible to sound out. (TO19, 3)

Julio seats himself in the reading corner (he is all alone there) and begins to read *The Cat in the Hat*. I wander over and sit down to listen. He has to ask me only a few words (e.g., "gown"—words he doesn't know or that don't follow a pattern). I am amazed at his fluency. He even responds to the content and punctuation by reading with expression! This child is identified special ed., has a speech issue, and is ESL and yet I believe that he can read better than most of the children in this class. He's been drawn to letters and words since Day 1. (FN2, 3)

However, despite these episodes of resilience and growth, Julio could not seem to escape his labels:

I noticed today that Julio is still in the Lions [Low] word study group. He can read much better than the others in that group, and I wonder why he is still there. Today he was playing a picture game (matching pictures to words), and he ran into some difficulty; he was holding the word, "jam" and pronouncing it correctly, but had no idea what it was. I pointed out the jam jar on the game board and explained that it was like "jelly." He didn't know what that was either—not part of his culture, I guess. (TO24, 1)

The above scenarios suggest that cultural barriers—like those described above—kept Ms. Grand from seeing Julio's progress and promise. Periodically, when asked about this directly, Ms. Grand's answers seemed to indicate that Julio's spark was not going unnoticed:

Ms. Grand: He's [Julio] shown a lot of improvement—a lot of growth—like in letter sound, letter-recognition. He's understanding more than what you think he

is. He's not attentive, but it's going in. And that's what the ESL teacher's been saying. You would think that he's not paying attention what so ever, but it's sinking in. And he's doing as well or even better than some of the children in one of my groups, and he is identified as special education. So he has more letter recognition and sound recognition than some of the children in here, and he's been identified as special ed. (TI7, 2)

Ms. Grand: Julio has just come an exceptionally long way. Now, Julio is in special ed; Julio has a language barrier because of his culture . . .

R: Uh huh . . . ?

Ms. Grand: Julio could not read—I mean it took a while! And now Julio is reading at like the second-top—second or third top of the highest reading group with the others. I think he is at the third from the top reading group.

R: That is amazing! Wow!

Ms. Grand: Now, I don't know what you're going to call that! That would be . . . that has to be a gift! (TI14, 4)

In spite of Ms. Grand's seeming recognition of all Julio overcame to get to where he was, her enthusiasm seemed to wane as the school year came to an end. Less than a month after the interview described above, Ms. Grand essentially rescinded her earlier recognition of Julio's special gift of language acquisition, and instead focused on his deficits and ignored his rapid acquisition of language skills when compared to other peers from similar circumstances:

Julio is just reading, reading, reading, but as I was doing QRI's with him, he comprehends nothing. . . . So, it really made him in his testing continue to go back, instead of ahead. . . . In the reading part, he could have kept going up. But with the comprehension, they would have to go back. (TI15, 6)

Perhaps this "wavering" was due in part to Ms. Grand's lack of consistency and clarity on what she felt it meant to be "gifted."

Conceptions of Giftedness

In the initial project interview (TI1), Ms. Grand referred to static characteristics such as "high IQ," "ability" and "prior knowledge" as indicators of giftedness. As time in the project progressed, she began to refer more to other conceptions of giftedness, such as creativity and insight, and began to talk more and more about how narrow definitions of giftedness (such as the one she gave at the project's outset) cause many students to be missed for gifted-identification because of socioeconomic, ethnic, or behavioral factors. Additionally, there seemed to be a continual tension between the roles of "nurture and nature" in Ms. Grand's perception of talent. She compared different students from the

same home (one of them hers) to show that giftedness can be found in one child but not in the other when they were both from the same background.

I think they're kind of born with it, because a student in particular that I'm thinking of—he, as we would say, was "gifted." But then we had his sister last year and she was just as scatterbrained, you know . . . totally completely opposite. But they both come from parents that are very highly educated and they do—they did—expose them to a lot. We kind of look at them and say, "They must be born that way." (TI3, 2)

At the same time, however, she frequently mentioned the role of "encouragement" in developing talent and continually referred to "exposure" and the important role of parents in the development of talent. She seemed torn when her theories about the origin of talent was contradicted.

You see you can have it both ways, because some children are just naturally born with a talent, and they have no outside or parent support. But overall, I think children who have a strong parent-support system are going to be ready to shine more—that have that ability. I guess you have to have both nature and nurture. If you are born with the potential and it take the nurturing to make it come to life. (TI6, 4)

Ms. Grand's conception of giftedness was still "emerging," and she expressed frustration with this shift in her thinking:

I guess I need to be better informed on what giftedness is, because I talked to the gifted teacher, and she kind of said, like with Joan, um, how quickly she picks . . . or how quickly she learns, and how she obtains . . . how she started at this reading level and how quickly she moved up. So that was a form . . . of giftedness. So, I think I need to be enlightened . . . and I thought, doing this study . . . I guess that I thought that you were all gonna say, "Well this is giftedness!" (TI15, 6)

Perhaps this confusion was partly to blame for the fact that Ms. Grand failed to recommend anyone for the gifted program. She expressed frustration with the gifted program at Porter Elementary as one reason for this; she felt that the services offered were no "better" than what went on in the typical classroom. She also subscribed to the belief that Kindergarten was too early to have to worry about gifted identification—that the first grade teachers would take care of this process:

T: Um, in first grade they will recommend folks . . . and (laughs) it's not like the services are really going to . . . I mean, once you get into this program, it's really going to make a big difference.

UVA: Uh-huh.

T: Um, they're trying. Um, sometimes they don't get to the kindergartners. They don't get to the first graders. Um, so it's not like it's a big issue that we push now.

UVA: Ok, ok. So you don't see the urgency of recommending them because you don't . . . because you're feeling is they're not going to be getting any services.

T: Right, they're not going to be missing out on anything.

UVA: Ok, ok.

T: Um . . . and, like in first grade, the teachers will do whatever needs to be done. I mean, they do a lot of differentiation, so they're going to target in. (TI15, 5-6)

Teacher's Responses to Model Lesson: Measurement

After extensive study of the classroom context, including Ms. Grand's teaching style, the kindergarten students in the year of the study, and the availability of resources, researchers prepared and presented lessons to the teacher in an area where she described feeling less confident in her ability to challenge all students. The resulting mini-unit on measurement was comprised of 5 lessons, each designed to build toward the understandings that "we use measurement to describe things, compare different things, help us make decisions, and then communicate those decisions with others" (see Appendix G for model lesson). The research team designed and administered a performance-based pre-assessment to gauge students' existing understandings (and misunderstandings) related to the unit objectives and skills. Ms. Grand seemed adamant that her kindergarten students were not ready to use a ruler for measurement, and were not ready to do calculations to solve measurement problems. Pre-assessment data revealed that several students had the general concept of how to use a ruler as a measurement tool, while others had no prior experience or knowledge of rulers' use, but were ready to begin that investigation. A third group of students demonstrated consistent difficulty with the measurement tasks. In response to the teaching of the talent development lessons, Ms. Grand expressed hesitation and anxiety. "Maybe we should just forget this" (TO20, 2). At one point, she asked the team to "take it easy on me. Can you just write the lessons like you're writing them for a sub?" (TO20, 2). In response to her need for structure and hesitation with this component of the project, the research team designed the lessons to build upon what Ms. Grand previously did in measurement lessons in the past and built time to speak with her often about the development of the lessons and how they reflected the specific needs of her students.

Ms. Grand expressed surprise at the groupings of the students for the varied tasks, and like many of the other teachers involved in this study, held lower expectations for student achievement, particularly students from diverse ethnic and cultural groups.

Warren kind of surprised me, because when we were reading the book, *How Big is a Foot?* he came out with what were looking for as far as it not being the correct size as non-standard. Because he's not the one to participate as often as

the others, but he was the first one to come out with that response. And it surprised me . . . in your pre-assessment, that Warren was up with the high group which, let's face it, he usually is not. (TI13, 2)

As the lessons continued, Ms. Grand demonstrated less hesitation and anxiety, and suggested additional improvements to the lessons to make them more constructivist and exploratory, in stark contrast to her typical teacher-directed approaches.

I'm going to give them more time to have free exploration with measuring and going around the classroom measuring things—just having more free time to use the balance scales, use the Inch Worms to measure . . . Tyrone was the one that said with the yard ruler that you made, that he thought if we hooked up all the Inch Worms, we would have enough inches to make the yard . . . That would have been a nice exploration for them to have tried to see how many Inch Worms were there, enough to see what it would equal to. It was very exciting that he made that connection and hypothesis and was thinking about it. You know, just looking at that container [of Inch Worms] and saying, "I bet," or "I wonder if would equal out to be the same." (TI13, 3)

William Bond Elementary School

Background and School Description

William Bond Elementary was an urban school with approximately 350 students in grades pre-K through 5. In its second year of operation at the outset of the study, Bond was located in a high-crime, high-poverty city neighborhood in the southeastern United States. Ninety-eight percent of students were African American, and about 90% received free or reduced lunch. About 20 students were identified as ESL learners.

As the second year of the study began, the school's population expanded by almost 100 students after the attendance zone was redefined. The principal noted that this expansion appeared to change the make-up of the student body, with the number whose families lived in a nearby homeless shelter up from 28 to around 60. The average class size at Bond was 15 students. Full time teacher assistants or shared teacher assistants furnished additional classroom support. Students in need were regularly removed from class for speech therapy or ESL instruction. Two days a week, a talent development teacher provided pull-out opportunities for identified gifted students. Although there were few volunteers among the parent body, volunteers from the local business community served as lunch buddies or reading helpers. Two classrooms were dedicated to students with identified emotional challenges. Bond was also the home school for a local non-profit organization that supported homeless children and their families.

As a categorized "Equity Plus" school, Bond was required to participate in a city-sponsored program that provided schools in high-poverty areas with resources and supports to accelerate their students' learning. Among these provisions were reduced

class size, instructional supplies and materials, teacher incentives, summer enrichment programs, Saturday school, and increased district attention and guidance. In accordance with its equity plus status, Bond was promised highly experienced teachers to address traditional high teacher turnover rates in urban schools serving low socioeconomic student populations. In reality though, Bond counted quite a few first-time "Teach for America" teachers among its faculty. The school also failed to receive adequate textbooks for all of its students, such that many students were required to share resources, and teachers were sometimes unable to follow the mandated curriculum because they did not have the required texts. Despite these hiccups, the principal held the belief that for the most part, the school was well resourced and that students benefited from a range of support services. She added, "but it's not about the money, it's not about the stuff—it's about those big people that stand in front of those children every day" (TI2, 3).

Like Carter, prior to the first year of the study, Bond had not met its annual yearly progress (AYP) target. Yet, the principal remained positive, noting the school had met its own student achievement goals and received monetary recognition from the school district for doing so. Changes to lesson plan templates, teaching planning time, and teaching personnel represented several administrative efforts to ensure the school continued to progress. The principal described the staff as receptive and hardworking. "What makes the difference is what we help them to believe," she said. "It's not about years of experience: they need heart and common sense" (TI2, 4).

School Vision

The principal, Tina Benka, had arrived at Bond the previous March in the midst of state testing "crunch time." She described the school's vision in terms of working against the barriers and expectations students face as they grow up in a culture of poverty:

What I'm trying to do here is not create a fantasyland but a land where the teachers and the kids and the parents know that they're not different. It's not impossible. It's not something that's beyond them that they succeed. What we have is a culture we're trying to defend against. (PI2, 3)

Ms. Benka expressed the hope that by third grade, the school could have every student at or above grade level.

Classroom Structure and Routines

Every classroom at Bond was organized according to the same arrangement. Desks and chairs were arranged in "U" formation, with additional desks placed in the center of the "U" for students who needed special attention due to learning or behavioral issues. These ancillary desks were also used during "carpet time" for students who had difficulty managing their behavior or attention while sitting closely in a large group. The mandated reading program implemented at Bond suggested that "carpet time" for these students be used minimally so that behavior did not inhibit learning (e.g., Baker TO2, 1).

A daily schedule written in large print was always displayed prominently in each classroom, as required by the school district. The principal was instructed to monitor these schedules for visibility and accuracy, lest the school receive a negative write-up from the monitoring committee. In fact, the principal did receive a written reprimand during an initial visit by central office monitors because the displays of a few of her upper elementary teachers were not in compliance with district regulations (Baker TI2, 1). Each classroom's schedule included periods allocated to "Morning Work," the Open Court literacy program, writing, math, physical activity, and "IWT" (Independent Work Time). "Specials" time was used in a variety of ways, while social studies/science was sometimes included.

Each classroom's display also included a math board with information about days of the week, weather, money, and time. These were incorporated into the daily 10-15 minute "math meeting" engaged in by each class. A "concept/question board" was also displayed, with an "essential question" shown in the center and surrounded by branching questions and student responses. In the first and second grade classrooms, identical alphabet displays comprising cards with letters and an accompanying picture, and cards depicting consonant blends and varied vowel sounds, were on display (TO2, 5-6). All classroom displays were representative of the core reading and math curriculum at Bond, which comprised two highly structured programs: Open Court and Saxon Math. The school also used a supplemental software program to reinforce reading skills, in addition to Corrective Reading, Reading Mastery, and Accelerated Reader.

Displays of student work were common in the classrooms. These always showed responses to standardized prompts, worksheets, and questions. Although they might have varied in word choice or quality, there was rarely evidence from individual student work that advanced or differentiated assignments had been offered (FN2, 9).

Overall, Bond presented a clean and child-friendly environment that was characterized by a strong sense of consistency and structure in layout, curriculum, and daily routines.

Participants

Bond participated in this study for two consecutive years. The participants were Diana Evans, a first grade teacher, and Mae Baker, a second grade teacher. Data were also collected from the principal, Tina Benka, and the part-time talent development teacher, Janet Harvard. Ms. Baker discontinued participation in observations during the second year of the study.

Diana Evans

Teacher Background

At the commencement of the study, Diana Evans was beginning her third year of teaching. She was the youngest study participant, and had been nominated because she

was considered to be the strongest first grade teacher (TO1, 1). Diana had recently moved to the area from interstate. By the second year of the study, she had begun working toward her master's degree, capitalizing on the opportunity to receive financial assistance through the school (TI1, 3). Evans attended graduate classes for 3 hours every Monday to Thursday evening after school, as well as on Saturdays from 8 to 5 (TI2, 9).

Ms. Evans identified the transient nature of Bond's student population as one of the greatest challenges to her teaching. She felt that the students were difficult to discipline, and she often struggled to manage behavior and instructional time in her classroom, despite the plethora of management strategies she tried to implement (TO1, 1). Ms. Evans often grew frustrated when students did not behave quietly during group work, and she typically ended her lessons with a lecture about good behavior. "I know you can make good choices," she said on one occasion, "but you never do . . . You know how to do this. We have been doing it the same way since the first day of school" (TO1, 4). The researcher observed a pattern of frustration, disappointment, and eventually anger in Ms. Evans' responses to students when they would not behave (TO1, 3). Both the principal and district officials were aware of Ms. Evans' struggles, and assigned her a mentor in Year Two of the study in the hope of helping her develop effective management strategies (TO2, 1).

At the same time as she was frustrated by her struggles with classroom management, Ms. Evans demonstrated a genuine care and concern for her students. She gave and received many hugs from the children in her class, and at times she displayed a personable, friendly demeanor (TO1, 3). She made the most of the school's volunteer program to provide additional attention to her students, many of who lacked parental support. She was genuinely thrilled when her students performed well on state tests or otherwise demonstrated solid progress.

Much of the professional development Ms. Evans attended before commencing her master's degree was in the area of technology. She learned *Teachscape*, a computer program that qualified her for a laptop for school use, and *Imagination Station*, an individually-paced program that she often had students work on during IWT. Ms. Evans had also attended the school-mandated diversity training workshops.

Although she readily agreed to participate in the study, Ms. Evans often expressed frustration at what she felt was the change in her students' behavior caused by the researcher's presence. During one visit the researcher noted, ". . . each observation I have conducted with her has ended up with the students being disruptive, and Ms. Evans has had to finish her lesson with a lecture on appropriate behavior while visitors are in the room" (TO1, 1). However, further observations and reports from the principal indicated that similar behavioral difficulties were common in Ms. Evans' classroom with or without the presence of visitors.

Class Composition

There were 19 students in Diana Evans' class in Year 1 of the study, including 10 girls and 9 boys (TO1, 2). In Year 2, Evans' class had 18 students; 10 boys and 8 girls (TO2, 2; TI1, 4). The majority of these students were African American, with several Hispanic students and 2 Asian students. A teacher's assistant was in the classroom part-time, and community volunteers sometimes served as reading buddies (IS, 3).

After extensive observation in Ms. Evan's classroom over the course of 2 academic years, three prominent themes emerged: (a) prioritizing behavior management over learning; (b) low expectations for urban children in poverty; and (c) the inverse relationship between the school's scripted curriculum programs and the systematic development of talent.

Classroom Environment and Management

Ms. Evans' classroom was often described as "chaos" (TO6, 8). She provided different stations for small group work, especially during reading time and IWT, but struggled to facilitate smooth transitions to and from these stations and between different learning activities. As a result, much instructional time was lost while she repeatedly prompted and waited for students to move from one place to the next and ready themselves for the ensuing activity (TO3, 1). Ms. Evans spent considerable time making comments such as, "You better get it together this afternoon so you can get some recess time. You have used a lot of learning time with your behavior" (TO1, 11).

Like every classroom at Bond, Diana Evans' room was organized with desks and chairs forming a "U" shape, and a carpeted area at the front of the room. The daily schedule was displayed on the board and the concept board from the Open Court reading program was also prominently displayed (TO6, 1).

Ms. Evans rarely began a lesson by explicitly setting up learning expectations or objectives, or by walking students through the plan for the lesson or the day. She did not refer to the classroom schedule as a means of helping the students predict what would happen next. Rather, she often began a new lesson with some form of warning about behavior, such as "Don't do this activity like you did yesterday," or "I know you can do better than last time" (TO6, 8).

Ms. Evans also had a tendency to give a combination of behavioral and learning objectives together, thus mixing instructional directions with behavior management. For example, "Boys and girls, we are going to start reading the goblin story. BOYS AND GIRLS, ENOUGH IS ENOUGH. You know we don't act like that and we aren't going to start" (TO1, 6).

Students in Ms. Evans' class were mostly energetic and enthusiastic, but they were not adept at working independently. As a group, they took considerable time to gather their materials and get started with new work, and had trouble maintaining a

productive noise level and staying on task during IWT. Ms. Evans did not spend any of her instructional time explicitly teaching students skills and work habits conducive to independent work, or putting routines in place to foster increased independence. During a reading lesson, the researcher noted: "When students were misbehaving during 'stations,' Ms. Evans tried to direct students she'd been working with at table to independent work, but the students were not sure how to do it" (TO3, 1).

At the end of her lessons, Ms. Evans rarely provided a sense of 'closure' by bringing students together as a larger group and helping them reflect on what they had all been working on and what they had learned. Instead, she simply gave the instructions for the next task, or asked students to line up ready to move out of the classroom; a process that was very time consuming (TO6, 8). Where she did bring students together at the close of a lesson, it was invariably to give them a lecture on good behavior (TO1, 1). Managing transitions was a major area of struggle for Ms. Evans throughout the study, although she persevered and showed signs of improvement during the second year under the mentorship of a senior teacher (TO4, 1).

Behavior Management Strategies

The difficulties in managing transitions and maximizing instructional time led to frustration for Ms. Evans and a continued cycle of behavioral problems among the students. Most instances of inappropriate student behavior were not severe, but involved students simply not listening to their teacher. For example, during one visit the researcher noted:

Ms. Evans attempted to implement many strategies to manage her students' behavior, ranging from praise to threats to sending children out of the room for "time out." Unfortunately, the multiple systems of management Ms. Evans put in place created considerable inconsistency in her responses to students, sending mixed messages to them about behavioral expectations. Among the strategies she employed were:

- (a) *Lectures to students on good behavior.* For example, Ms. Evans consistently made comments such as, "We don't need to talk out and we WON'T talk out" (TO1, 6), and "You are being very rude and I am very disappointed" (TO1, 6).
- (b) *Verbal redirection.* For example, "Now you all know the rules, so let's get on with our math lesson" (TO1, 2).
- (c) *Auditory cues to regain students' attention.* The researcher noted during a classroom visit: "Students became unruly . . . the teacher does a pattern of claps with her hands that the students are supposed to repeat back to her. This is an attention getting device to refocus student attention" (TO1, 8).
- (d) *Tendency to blame behavior on something else* such as an observer, a visitor, or a new student. Ms. Evans often attributed students' poor

behavior to the observer's presence (TO8, 2), and one observer noted, "I got the distinct impression [Ms. Evans] was excusing bad behavior due to my presence" (TO8, 3). On one occasion when students started to misbehave during an Open Court lesson, Ms. Evans reminded them they needed to be good for the new student (TO5, 1).

- (e) *Consequence: Students sent back to their desks.* When individual students had trouble managing their behavior on the carpet and during calendar time, they were sent back to work at their desks (TO8, 1; TO5, 1). During one visit, the observer entered the classroom to find 6 of the 19 students at their desks while an Open Court lesson was taking place on the carpeted area (TO1, 2).

- (f) *Consequence: Time out or loss of activity time.* Time out was usually instituted after Ms. Evans had made several attempts to redirect students from poor behavior, as illustrated in the following example:

Three students kept consistently getting in trouble for moving around on the carpet. They had time taken off PE (Physical Education). A minute later, the teacher stopped the class. "We talked to Ms. Herriot about this already. If I need to speak to either of you again . . . I'm telling you for the fifth time, stop." One of the children continued to play with scraps of paper on the carpet and another was rolling around and sitting up and down. She sent him to time out. (TO6, 1)

On another occasion, Evans told students before she left the room momentarily, "Stop, hands down, have a seat. I do not want a list of names when I come back. If your name is on the board you will not have all of your recess" (TO6, 8).

- (g) *Consequence: Call home to parents.* Ms. Evans sometimes threatened to call a student's parents if they continued to misbehave. During one lesson, she called the mother of a student, Charlie, on her cell phone to report his behavior. It appears that this call followed a series of minor incidents of uncooperative behavior which the observer did not believe warranted a call home (TO8, 1).

- (h) *Reward: Assigning "points" for good behavior or "pulling tickets."* Ms. Evans sometimes referred to "points" when commenting on student behavior. "I have given out lots of class points this morning, but not now," she said on one occasion. In this case, the observer noted that one student, Tamara "goes back to her seat and puts her head down because she did not get a bonus point" (TO1, 8). Frequently, Ms. Evans made a comment like, "Remind me to give you a bonus point" when a student was acting as he should (TO1, 6). However, there was a lack of follow through with this system, which appeared to be characterized by arbitrary rewards and consequences. The way that points were assigned and to

whom did not appear to be consistent, and it was unclear how these points were tallied or used by the teacher (TO7, 3). At other times, Ms. Evans mentioned "tickets" in response to poor behavior, as in, "I'm going to count to three and if you are not finished, I will have to pull a ticket" (TO6, 1). Once again it was unclear how this fit into a broader behavior management strategy.

- (i) *Verbal reinforcement of positive behaviors.* Although outweighed by references to consequences for poor behavior, Ms. Evans did make efforts to acknowledge positive behaviors to reinforce these in her students. She would use phrases such as, "I like how you are sitting on the floor" (TO1, 11) when students were sitting quietly. When two students raised their hands to offer an answer during a lesson on verbs, Ms. Evans said, "Look at my two superstars," although the observer noted that neither of these students provided the correct answer (TO1, 9).

Overall, Ms. Evans had a difficult class characterized by inattention, distractible behaviors and lack of consistent co-operation among many of her students. An observer described the students as "squirmy and uncooperative," and noted, "It's hard to believe this is all a teacher issue. She has a difficult class. A more skillful teacher could have done a better job of diverting class attention back to task, but the students at their desks continued to talk out and disrupt everything" (TO5, 1). However, it appeared that Ms. Evans used too many management strategies, of which she was inconsistent in her application, and this contributed to unclear expectations among her students. Towards the end of the second year, Ms. Evans appeared to be making progress with her behavior management techniques, and reported feeling more comfortable with certain sessions that had previously been chaotic. She seemed somewhat more able to regain control of the class using a stern voice without threats or promises attached (TO2, 2), and more ready to acknowledge students who were working and behaving appropriately (TO2, 8).

Curriculum

Like all teachers at William Bond, Ms. Evans strictly adhered to the mandated curriculum prescribed and monitored by the district. The reading curriculum centered around Open Court and Accelerated Reader. Math was taught according to Saxon Math. All students worked from the same worksheets and textbooks, and followed a set pacing guide that was mandated by the district.

Ms. Evans followed the mandated curriculum almost to the letter. During Open Court lessons, she was sometimes observed to read instructions verbatim from the teachers' guide (TO3, 2). These lessons began with all students on the carpeted area, where they used the alphabet/phonics chart to recite letter-sound relationships in unison. There was a focus throughout on low-level questioning and choral responses. Students then completed work at their desks from the Open Court workbooks (TO4, 5).

When a new concept was introduced, it was the teacher who created questions to place on the "concept/question board," and not the students as intended by the program. This change had been instituted by the district officials, who felt that students were not initiating adequate questions on their own. Ms. Evans indicated that she had experienced greater success with the board at her previous school, where students initiated the questions:

You know, at the beginning we would brainstorm, we would think of questions. And it was helping them think of questions. And with me just giving it to them, it doesn't seem as effective as it was . . . and maybe if it's introduced like this at the beginning of the year, next year then they'll catch on. But since I changed it, no one has brought anything in. Pictures, or drawings. (TI2, 11)

Saxon Math lessons followed a set routine involving teacher-led, group instruction, again with low-level questioning and an expectation for choral responses from students as a group. All students worked from the same worksheets according to the same pacing guide. There was no evidence of additional curricular development beyond what was mandated or provided in the set materials (TSS, 1).

Ms. Evans expressed mixed feelings about the set curriculum. She reported that she liked components of Open Court, which she had used at her previous school, but she did not feel that William Bond allowed her the same flexibility in implementation of the program (TI2, 8). She would have liked to include a greater emphasis on writing. She also felt that there should be a greater focus on developing students' social skills, which the current curriculum left no time for (TI2, 8).

Academic Expectations for Students

It appeared that Ms. Evans began the year with low expectations for her students, and came to revise these as each year went on, especially as students were able to demonstrate advanced skills during IWT or on tests. Ms. Evans sometimes used qualifiers in her language, such as when she would say, "average- I mean average for *our* school" to describe a student's level of functioning. This tendency is illustrated in the following excerpt from an interview transcript:

Ms. Evans: . . . I have one little girl—she's still pretty low, but I think she will be fine. She was actually in a Cambodian jungle 2 years ago—She was at a school last year. And then this is her second year . . . So to see her sit in a chair and just be able to learn—and I gave her a spelling test today, and she only missed one word. And I was just amazed because she still doesn't verbalize a lot. And her sounds are coming along great. And I'm hoping she'll be able to read at the end of the year. I really am hoping. . . . I'm hoping she's reading at the end of the year. I have a middle group that are average, or maybe slightly below average—average for our school. (TI1, 7)

As reflected in the above comment, Ms. Evans often expressed surprise at the high test scores or considerable progress evidenced by individual students. In another example, Ms. Evans described a student who had struggled in reading all year and was a "pretty average, slightly below average student," who had "really taken off" in math, which was "kind of a surprise" for the teacher (TI1, 8).

Ms. Evans highlighted the lack of parental support as a barrier to learning for her students:

Parental support is the key to reaching these children. They have to know that the parents and the teacher are a team. They have to realize that what happens at school is important, but I realize that whatever happens at home totally influences their mood or ability to learn. (TO2, 9)

Based on this belief, Ms. Evans worked hard to involve parents in the education of her students. She referred on several occasions to phone calls she had made home to parents, or in many cases to other relatives of her students to offer strategies for supporting their children's learning at home (TI1, 7). Where children made significant progress, she often attributed this to increased parental or family involvement (TI2, 8; TI1, 7).

Conceptions of Giftedness and Talent

Although she did not explicitly discuss her definition of giftedness, evidence suggested that Ms. Evans primarily used information from test scores to judge whether individual students showed particular promise. When describing her "top" students, Ms. Evans frequently referred to the kinds of core academic skills emphasized by the Open Court program, or in math. For example, Ms. Evans said of her student Dane, "I mean, he would be one of my top six just because of his vocabulary and comprehension skills" (TI2, 3). Tamara was described as a top student because "she's reading maybe 135 words a minute, and 40 I think 45 is a CMS goal for first grade," "she loves writing books," and she "will come in and get her work done and everything she needs to do" (TI2, 2). Catherine's progress was characterized as ". . . she's another one, her fluency rate is above grade level now" (TI2, 3).

During the second year of the study, Ms. Evans continued to conceptualize talent in terms of academic performance in relation to grade level:

UVA: Describe "average." Like on grade level or—?

Ms. Evans: I'd say on grade level. I really don't have anyone this year that is just "out there." I know four last year that were just fluent at the end of the year, maybe reading 120 or 130 words . . . and I just don't have anybody like that this year. (TI1, 7)

There were a couple of notable exceptions to this focus on academic skills. Ms. Evans talked about one student, Jose, who showed leadership potential, saying, "... that's what I try to focus on and pull out in him as much as possible ... I say ... I need a leader. I need you to be my leader in here" (TI2, 2). For a graduate school project during the second year, Ms. Evans chose to focus on a student with probable attention difficulties "because ... I want to look at and really see if I can come up with an intervention to help him. Because I really think he could be my top student if he would stop and slow down and listen" (TI1, 2). Although this student was not yet a high achiever, and exhibited many distractible behaviors that interfered with his learning, Ms. Evans cited his capacity to pick up concepts quickly as potential signs of talent. She explained, "... if you sit down and actually have a conversation, there's a lot in there. But he's so busy worrying about the next person, there's times where he doesn't even complete his tasks" (TI1, 2).

In keeping with her belief in the importance of parental support, it appeared that Ms. Evans sometimes incorporated a supportive parent into her conception of giftedness:

UVA: Tell me, what indicators do you see that he could be your top student?

Ms. Evans: Well, he definitely has the support from home, which you don't see a lot. I mean, she never makes excuses and is in denial or anything. And she works with me at home. She kind of has a hard time. She's a single mother, and the grandparents are in the house. And so, of course, they're more lenient with him, and they've also let him—she says he's just a little wild. (TI1, 2)

Differentiation and Talent Development

Ms. Evans felt that IWT provided the most promising opportunity to meet the academic needs of her most advanced students (TI2, 6). However, although she stated a rationale for differentiating instruction, explaining that she provided different activities because some students "get it and some don't" (TI1, 11), observers noted that her willingness to differentiate did not translate into meaningful differentiation in the classroom (TI1, 3). That is, Ms. Evans did not appear to be able to apply the differentiation terminology she knew to offer challenging tasks for her most advanced learners. Barriers to effective differentiation for Ms. Evans' most able students included (a) a focus on whole-group instruction, (b) a focus on the needs of struggling students, and (c) classroom management difficulties.

Observers noted that the great majority of class time was spent in whole group instruction, characterized by low-level questioning and choral responses (TO8, 6) or completion of the same workbooks by every student in the class despite a broad range of reading levels (TO3, 2). These workbooks did not appear to motivate students, and on many occasions the more capable students were able to pay little attention to a task while still completing it in the allotted time (TO5, 2). One student, Charlie, was observed during several lessons disrupting other students and fidgeting with a variety of objects, and yet he "always was able to answer correctly" (TO8, 1).

During Open Court lessons, Ms. Evans was observed to read the instructional directions and conduct the lessons entirely from the teachers' guide, and the lessons followed a predictable pattern of whole-group instruction and question and answer interactions (TO3, 2). There appeared to be little incentive or expectation for individual students to finish early during whole-group tasks. The researcher noted during one visit:

Students were told to read the story to themselves twice. Then they were given 3 pages in their workbook to review what they had just read. The workbook pages were increasingly difficult; beginning with the first one that merely had them identify words with the sounds progressing to a page where they had to write a sentence with a word that had the sound. Students stayed fairly on task and no student sparked any enthusiasm for the assignment. Nobody even finished early. (TO3, 2)

Math instruction similarly followed a predominantly whole-group approach. During a typical lesson, a researcher noted that every student was working on the same worksheet with addition facts up to 10 (TO3, 3). In the second year, Ms. Evans reported that she had 3 students who were ready for second grade math, and she was finding it difficult to enrich these students. The prevailing strategy was to tell these students to do the "back page" of the worksheet (which contained additional problems) if they finished early, and to offer "center" activities for these students while others also worked at centers (IS, 3). These activities were offered in a reactive manner if the students finished the required first grade work, rather than as part of a strategic, deliberate enrichment plan.

Ms. Evans noted during the same year that she did not differentiate instruction at all during writing time, because "I just don't have a lot of outstanding writers" (TI1, 9). Thus, it seemed that differentiation for advanced learners sometimes happened when students were obviously ahead of their peers or finished early and required additional work, but it was not regularly implemented as a proactive means of extending students beyond the "norm" or allowing their talents to emerge through challenging tasks. She did not use pre-assessments before introducing new material, and although she felt that the assessment information provided by Open Court and the other mandated programs was not always helpful to her in gauging students' readiness levels (TI1), she did not introduce any additional forms of informal or formal ongoing assessment.

Ms. Evans reported some frustration at having to follow a whole-group instructional model for much of the day. She acknowledged that some of her students were not challenged during these times:

I'd say IWT- you know, especially for my high-flyers, that's been one of the biggest growth areas Those are the children that- doing that whole-group instruction, it's like, "Okay, is it ever going to get over?" (TI2, 7)

Although it was not challenging for more advanced learners, the whole-group instruction and mandated curriculum was considered to be beneficial for struggling learners, who Ms. Evans felt were better able to concentrate in the context of direct

instruction (TI2, 7). Where modifications were made to assignments or differentiated activities were introduced, these were almost always designed to support struggling learners rather than to provide opportunities for enrichment or accelerated work for advanced learners.

During IWT, students were often removed from the larger group for ESL support or for remedial work with a speech therapist, they received extra help in reading from an assistant, or they worked independently on the individualized "Imagination Station" computer program (TO3, 1). Ms. Evans acknowledged that these times should have represented her best opportunity to work with her more advanced learners (TI2, 4). However, even with a smaller group of students in the room, Ms. Evans struggled to manage classroom behavior and instructional time when more than one activity was going on simultaneously (TO3, 1). Early in the second year, Ms. Evans said:

IWT is a confusing mess this year. No improvements in making it run smoothly or maximizing the potential for differentiation. My class this year has a wide range of achievement from recognizing three words to on or slightly above grade level, recognizing 200 words. (TO2, 3)

Comments such as this one revealed Ms. Evans' frustration at having to respond to various levels of readiness and her difficulty in doing so. While it appeared that the Open Court and Saxon Math centers were easier to monitor, the writing and IWT and AR proved very difficult for Ms. Evans to manage without an assistant. Both IWT and AR demanded individualized time with students, and Ms. Evans expressed great concern about implementing AR without an assistant because most of her students were non-readers who struggled with the independence level of the program (IS, 5). Ms. Evans used AR as enrichment for the "high" reading group, and these students spent much of their IWT working from AR books and tasks independently, or acted as "teacher helpers" whereby they assisted less able readers with their work (FN2, 9):

UVA: Now you use that AR as part of your IWT time, don't you?

Evans: Well, my—the higher groups. The children are able to read independently—they do. But my non-readers aren't using it. And I just—I see AR—and maybe it's how I was originally introduced to it—as "read the book; take the test." Me reading the whole book to them and then reading the whole test to them and having them—that's more listening comprehension to me. And I thought AR was more reading comprehension—yeah, more independent and reading comprehension. So, you know, if I sit down with a group of 4 kids, my non-readers, and read it to them, of course, that leads the rest of the 15 kids sitting in their seats. And then trying to go over there and read the test to them. And then if I have one of my students help, will they help too much? (TI2, 4)

Thus, more advanced learners were often left to work independently or were used to help struggling learners.

Where Ms. Evans did provide "differentiated" instruction during IWT, the activities offered were often "different" rather than differentiated. That is, the individual tasks were either unrelated to each other, such that they were not designed to allow all students to access common understandings or meaningful content by responding to different readiness levels, interests, or learning profiles. For example, a researcher noted during a typical IWT session that 4 students were working with the speech pathologist, 3 were working on the computers, 6 were working with the teacher on Open Court work, 1 student was sitting on the floor reading independently, while 2 students were choosing books from the library. There was no sense that these activities were related to a common central concept or set of goals, or to the Open Court theme that had been introduced (TO6, 1). During another class period involving separate stations, an observer noted that, "all of the tasks were on the same level, and all groups will rotate through the learning stations throughout the week, completing the same task at each station" (TO2, 4). Thus, the tasks were different, but not differentiated to cater to different readiness levels.

Mae Baker (Second Grade)

Teacher Background

Mae Baker was in her second year as a second grade teacher and grade-level leader at Bond when the study began. For over 20 years, Ms. Baker taught primary grades students in both public and private schools. Kindergarten, first grade, second grade, and first/second grade combination classes comprised Ms. Baker's experience, but she considered first grade her specialty (TI2, 1). She enjoyed the challenge of teaching at Bond and felt the school was making a difference in students' lives (TO14, 5). An interest in second language learners prompted her to pursue a graduate degree in teaching English as a second language. By the end of Year 2 of the study, she was completing her final degree requirements (TO12, 3; TI4, 11).

Ms. Baker demonstrated many characteristics associated with experienced teachers. The observer noted her "passion for her students," respectful demeanor toward children, and her nurturing spirit (TO13, 1; TI1, 2). When a student spilled his cup of Cheerios on the floor, Ms. Baker did not scold him but told him in a calm, measured tone that she would give him more once he picked up those scattered on the carpet (TO7, 1). She offered students individualized guidance when an assignment proved difficult or confusing (TO8, 1-2). If students answered a question incorrectly, Ms. Baker framed her response positively ("You're on the right track."). During one lesson, a student took longer than expected to respond. Ms. Baker did not prompt him to hurry but allowed sufficient time for him to organize and articulate his thoughts (TO7, 1). She was sensitive to students' home challenges as well, but did not let them use a problem as an excuse. When Devonne was not working on his story, for example, Ms. Baker asked him why he had not started. Devonne replied, "Because my sister . . ." Ms. Baker replied, "Okay, we already talked about that. You can't worry about that at school. You need to focus on your work" (TO8, 1).

At the end of the first year of the study, Ms. Baker expressed interest in knowing more about the project itself and about differentiated instruction (TO10, 1). By early October of the next year, however, she had decided to discontinue participation in the study observations (TO11, 4). In a later interview, Ms. Baker cited several reasons for withdrawing from the study, including what she called "many disruptions and distractions" from visitors coming to her classroom (TO11, 4). District personnel, school administration, and researchers from another university's project (one focused on remediation), in addition to the University of Virginia observations, affected Ms. Baker's sense of control over her classroom. Ultimately, she decided the talent development study gave her the flexibility to pull out. "I have to have power over something," she said, "and this research project allowed me to have some power to say no and take back control over what was happening in my classroom" (TI4, 15).

Class Composition

There were 17 students in Ms. Baker's class in Year 1, although this number changed throughout the year as students moved in and out of the district. Ten students were African American, 4 were Hispanic, and 3 were Asian. A teacher's assistant was in the classroom on a part-time basis (TO13, 1).

Early in the second year, Ms. Baker's classroom comprised 22 students: 14 boys and 8 girls. This number exceeded that allowed in an Equity Plus school. The following week, an additional second grade teacher was added and Ms. Baker's class size reduced to 16 students (TO11, 1).

Classroom and Behavior Management

Classroom management was Ms. Baker's greatest strength. Students had specific responsibilities, both for housekeeping and for assisting with academic routines such as calendar time and helping to check math quizzes (TO13, 1; TO10, 2). Ms. Baker consistently and clearly stated her expectations for behavior and task completion (TI1, 2). She structured procedures purposefully and consistently reinforced them. As a result, students transitioned to new activities smoothly and quickly (TO5, 1; TO10, 2).

The researcher also observed Ms. Baker's excellent behavior management skills, describing her style as "no nonsense" (TO2, 1; TI1, 2). In addition to the school-wide behavior modification program, she used a rewards and consequences point-based system focused on encouraging positive behavior in small groups of students as well as individual students (TO13, 1). When students needed to sit on the carpet for instruction, they were grouped by row and competed for behavior points during the lesson (TO2, 1). On one visit, the researcher observed a "Good List" on the chalkboard. Ms. Baker wrote checkmarks next to the names of students who were exhibiting exemplary behaviors. Throughout the lesson, students reminded their teacher to maintain the list, which the observer commented was a somewhat arbitrary and time-intensive process (TO10, 3).

Ms. Baker also used praise liberally to reinforce positive behavior with phrases like "I love how you're waiting patiently," "Thank you for your good listening," and "You're welcome! Such good manners!" (TO9, 1). She encouraged students to consider the consequences for choosing to behave a certain way. "Think about it," she told students, "Am I making a good choice?" (TO9, 2). A teacher should not have more than five rules for students to follow, Ms. Baker believed, in part because fewer rules made for easier, more consistent enforcement (TI2, 6). Although Ms. Baker solved most behavior problems in the classroom, on occasion she chose to send a student to the office (TO9, 1).

Academic Expectations for Students

Ms. Baker insisted that all Bond Elementary students were capable of succeeding behaviorally and academically. "I wouldn't be here if I didn't believe that," she said. "That's why I came to Bond. I came and interviewed. I purposefully picked out a school. If I didn't believe it, I wouldn't be here" (TI2, 7). Ms. Baker recognized a general need for all teachers at Bond to challenge students. "This is a concern school-wide. Grade level wise, we've talked about it [too]. They need still more challenges, they need to be pulled for more positive activities, more positive challenges" (TI2, 3). She described how one of her students, Jamal, had excelled in the Accelerated Reader program but had not been recognized by the school in a public way. This was important, Ms. Baker believed, because Bond students needed to see that academic accomplishments were positive and desirable.

In her own classroom, Ms. Baker reinforced positive academic achievement and progress through a bulletin board of student work called "Tales of Great Work." Similar to her way of managing behavior, Ms. Baker chose student work that exemplified what she wanted all students to do. Worksheets and writing samples were organized beneath categories such as "Sparkling Good," "You Made a Leap," "This Looks Just Right," and "This Blows Me Away." She also posted work that had earned 100% (TO8, 1).

Despite her positive outlook, Ms. Baker's academic expectations for her students were not as high as were her expectations for student behavior. She did not think her students in the first year of the study were particularly talented as a group and described them as "very difficult and much lower academically" than any class she had ever worked with (TO12, 4). In November, she said about 8 of her students performed close to or on grade level, and no students were functioning above grade level. To illustrate, she used the example of the Open Court concept/question board, which served to help students generate questions about new unit themes. In the past, Ms. Baker said, she had used the concept board successfully, but her current students were just "too low" and had not learned how to elaborate on their questions. They continued to ask simple questions and were not motivated to discover the answers (TO12, 4). By year's end, Ms. Baker was acknowledging the progress many of these students had made. She spoke admiringly of Aisha, who had come from Jamaica in November reading 30-40 words per minute and had progressed to reading 125 words per minute by May (TI2, 1&4).

Ms. Baker felt many of the challenges to learning her then-current students faced were attributable to a lack of parent support for education (TI1, 2). Similarly, she felt it was important for children to see their parents involved in the school (TI2, 8). Because many of her students and students at Bond in general did not have parents who offered this kind of support, many children were not "prepared to learn," Ms. Baker said. Likewise, they had little reason to persist with a task and did not have strong coping skills (TI2, 6-7). Few parents attended formal conferences the first year of the study and none attended Open House. Undeterred, Ms. Baker persisted in contacting parents and eventually met with or talked via phone to all but three parents (TO1, 5). At the end of the year, Ms. Baker talked about how one goal for her next class was to increase parent involvement. As a school she felt Bond did not maximize its resources to empower and connect with parents (TI2, 8).

When Ms. Baker told the researcher the following year that her students were stronger academically as well as better behaved, she credited the improvement in part to increased parent involvement. She had been able to make more phone contacts, every student was represented at parent-teacher conferences, and all but 2 parents had attended Open House (TO15, 6). Student familiarity with the Open Court reading program and a more moderate gap between student abilities also affected the differences between the 2 groups, she believed (TO15, 1).

Conception of Giftedness and Response to Talent

Ms. Baker said the following traits indicated giftedness in primary students:

- Having the ability to solve problems
- Giving creative answers to questions
- Possessing a "stretched" vocabulary and broad general knowledge
- Being creative in art
- Demonstrating high capacity for learning
- Being interested in a variety of topics
- Having "natural" knowledge (i.e., knowledge that is not learned from a book). (TO1, 4)

Consistent with her impression of their abilities, Ms. Baker did not think any of the students in her class in the first year of the study were gifted. The population at Bond likely harbored gifted students, she said, but she did not see evidence of giftedness in any of her students. In her exit interview at the conclusion of Year 1, however, Ms. Baker was able to identify several students as highly talented (TI2, 2-4):

Marcelena [an ESL student] is doing fantastic. Her reading has improved. She's also doing well with comprehension. It takes her longer. She's not as solid, but her fluency is good. (TI2, 1)

Destiny is very intelligent, creative, a good reader. She's a good solid student. She did not make TD, she did not qualify, but she is a good, solid, student: a very good student. (TI2, 2)

Savrin is very bright, intelligent little boy. Has some behavior issues, but he's settled down very well. His parents got in there and have been very supportive this year. (TI2, 2)

Jamal, of course, is pretty sharp. He's got a lot of street smarts. So, that helps him with math and reading. His reading has not progressed. He probably could have just really bloomed in reading, but now it is rush, rush, rush. (TI2, 3)

Notably, Jamal's misbehavior eventually exempted him from the gifted program. Ms. Harvard, the gifted program teacher, said she could not handle him, and after sending him back to class several times, it was decided Jamal should not go to TD during Independent Work Time (IWT). Ms. Baker said she sympathized with Ms. Harvard:

She said, "I can't handle him," and "I understand why. I'm sorry. I mean, I understand. Really, with the others in there. There are a couple of others that just, the mixture, she just didn't have enough time to have to deal with behavior issues. And [Jamal] is a challenge." (TI2, 2-3)

Similar to her opinion that good behavior is a legitimate prerequisite for gifted program participation, Ms. Baker believed her students' misbehavior and limited abilities trumped would-be opportunities for talent development in the regular classroom. She told the researcher that the time she had devoted to behavior modification and remediation had not allowed her to extend activities for students who might be ready for advanced learning. When the researcher asked about what talent development strategies Ms. Baker might try to employ the next year, the teacher's response focused on the importance of good discipline, which, contrary to the researcher's observations, Ms. Baker thought she struggled with all year (TI2, 5).

Possibly because she perceived that her students the following year were stronger academically and behaviorally as a group than her students the previous year, one might expect Ms. Baker to identify more students as talented. The sole interview Ms. Baker granted after ceasing participation revealed several emerging beliefs she had about talented students and reinforced perspectives she had already shared.

Joshua, who was new to Bond, went to third grade for math and reading instruction. Ms. Baker said he was not only the most talented second grade student at Bond, but also one of the brightest students in a third grade classroom (TO15, 2). Describing his parents as "intelligent and well-educated" (TO15, 3), Ms. Baker said Joshua's home situation had been challenging at the beginning of year but had since stabilized. His father was recently retired from the military, and 3 out of 4 children in the family (including Joshua) had been identified as gifted. Due to his advanced abilities, Ms. Baker felt Bond was not the best possible educational setting for Joshua. She concluded,

"A better fit for Joshua would be a better school" (TO15, 3). In fact, she had been encouraging Joshua's mother to transfer him to a magnet or gifted school in the district, reasoning:

He would benefit from being around other [gifted] children. He just thinks in a whole different level and plane than these [students] do because he's very creative, very imaginative. He doesn't even think like the boys and girls here. He really doesn't! (TO15, 2-3)

Ms. Baker's description of and response to Joshua's talent was congruent with her belief in parental support and influence on a student's readiness for learning. It also divulged her view of Bond Elementary as an inappropriate setting for students who demonstrated advanced abilities. Outside the context of discussing talented students per se, Ms. Baker said later in the interview, "[The second grade at Bond] is like first grade in any other school. I hate to say it, but that's the truth" (TO15, 9).

More positively, Ms. Baker's decision to send Joshua to third grade for math and reading spoke to her willingness to recognize his talent and respond in a way she felt would immediately meet his academic needs. Another talented student, Daryl, compelled a somewhat different response. Ms. Baker acknowledged Daryl's gift for math, calling him "a math whiz" (TO15, 6). But, unlike Joshua, Daryl did not complete his work regularly or on time. Consequently, his performance was inconsistent. Ms. Baker said:

Daryl thinks in numbers—he told me that. He says, "I think in numbers," and he does. He can pretty much solve for-come up with the answers for any math problem. He's very bright. On a day when we did Saxon, you would see his numbers and equations are just out of this world. (TO15, 6)

Ms. Baker said Daryl "challenge[d] himself," and that she tried to challenge him verbally by asking questions because he rarely turned in anything written. He enjoyed the math programs on the classroom computers, his teacher reported, but did not finish work in time to do computer activities.

Dravius, a third student who demonstrated advanced math aptitude, was likewise not putting forth enough effort, in Ms. Baker's estimation. She met with his parents to address the issue and had not seen improvement. "He doesn't even want to show me that he can do more," she said. "I would send him up for third grade reading if he attended more in class and gave better answers. He doesn't really stretch for the answers like some other kids do . . . and he's not consistent" (TO15, 7).

Ms. Baker's view of these 3 students indicated that talent needed to be stable and predictable as well as demonstrated by completion of teacher-given tasks and high motivation in order for her to consider an instructional or administrative response.

Other beliefs Ms. Baker held about giftedness and talent development also manifested themselves in her curricular and instructional decisions. Ms. Baker believed

all students needed to work with high-ability children but also needed to work with peers of similar ability to improve their own skills. IWT, she said, was directed toward this effort and the second grade teachers had seen fluency improve as a result (TI2, 4). Contrary to what many other teachers in the study reported, Ms. Baker believed that Open Court and Saxon math were not only good for her students, but also provided many opportunities for enrichment that she could extend to all students (TI1, 6). Observations revealed that Ms. Baker used enrichment activities, but the researcher characterized them as "misguided." For example, students might be asked to think abstractly without the teacher giving explicit directions or support (FN2, 2). In this way, Ms. Baker did not make a distinction between enrichment from which all students could benefit and enrichment appropriate for students with advanced abilities.

In math, Ms. Baker adhered to the math program's definition of challenge. She typically announced to students that she would be posing a challenging question or giving them a challenging task. This instructional cue may have been prompted by the curriculum's script. For example, she characterized the following activity as "higher-level math":

Ms. Baker wrote a 2-digit number on the board. She called this "Kindergarten level." Students were individually called upon to read the number and identify it as odd or even. The pattern went like this:

88 (Kindergarten)
472 (first grade)
12,393 (second grade)
983,261 (third grade)
etc.

The object was to keep going until they reached high school. The kids seemed to enjoy this tremendously. Marcelena was the student who went the highest. When a mistake was made, the game was over. The students will try to beat their record the following day. (TO2, 3)

To identify a number as odd or even, a student needed only to identify whether the last number was odd or even. In another lesson, during which students were telling time according to 5-minute intervals, Ms. Baker announced a "challenge time," and set the demonstration clock to 7:27. Aisha correctly identified the time (TO9, 2).

Sometimes, the challenging task did push students to think more conceptually, as with the following prompt: "You have 7 students ready to play a game and you need to divide them into two even teams. How many are on each team?" (TO6, 3). Many students answered "three" but Ms. Baker wanted the class to grasp the concept of having a remainder, so she continued to take answers. When Marcelena said, "Three and a half!" which was technically correct, her teacher joked, "You're gonna cut a child in half?" Confused, Marcelena guessed three. Ms. Baker questioned, "What about that poor child [seventh child]?" Neither Marcelena nor the other students understood this, their

teacher's way of trying to elicit understanding that one child would be "leftover" and needed to sit out the game. A second attempt using the number five instead of seven fared no better. When Ms. Baker used a more specific line of questioning, however, the students understood the concept.

Differentiation

Overall, there was little evidence of differentiation in Ms. Baker's instruction, especially for students working above grade level. When asked about how frequently she taught the same skill or concept to all students using varied levels of tasks or resources, Ms. Baker said:

Very few lessons are taught in that way. There might be some activities during IWT that, for example, while the gifted students were pulled, I might do a similar activity with the next high group left in the classroom. Or, more likely, I would suggest the higher-level activity to the teacher of the gifted and I would do the recommended Open Court activity. (TI1, 4)

She added that the majority of the time all students did all activities with no variation except for additional reinforcement for students who did not master the objectives. She also described differentiation in her classroom as the "tie-in" art activities she did with many of her units (TO1, 2).

Ms. Baker suggested in Year 1 of the study that she did not need to make as many adjustments to her curriculum and instruction because her class' characteristics did not warrant them. For example, she had used learning contracts in the past, but felt her then-current students could not work well with contracts because they needed constant guidance. They would therefore be frustrated with an independent contract or group work that differed significantly from the rest of the students. Contrary to students she had taught in previous years, Ms. Baker did not feel that her students represented different levels of independence, but that they could all be characterized as in need of constant support (TI1, 4). A Year 2 observation during which students were working independently at stations suggested that she did plan for more flexible instruction when she felt the students could self-manage (TO11, 2).

Students in Ms. Baker's class were grouped in various ways for instruction. This act *suggested* differentiation was taking place. Students were paired for read-aloud time; each pair comprised a strong reader who would assist the weaker reader (TO1, 1). In math, Ms. Baker reported she used small group work to let more advanced students direct the game or problem-solving activity for the struggling learners.

IWT required an additional grouping configuration. During IWT, students were clustered according to skill level to work with classroom teachers, teaching assistants, and literacy facilitators (TI1, 2; TO13, 1). Teachers retained at least one group of their lowest students in their classroom while other students did Accelerated Reader and Open Court-designed group activities (TI1, 2). The within-classroom group configurations

were based on achievement and assessment data. Ms. Baker said the groups were fairly fluid and changed when prompted by assessment data from Open Court and district test results. In general, IWT was used primarily to remediate students who needed support rather than to provide advanced learning opportunities to students.

Ms. Baker *did* recognize differences in student readiness and that some students might be ready to continue to the next concept or skill, but this recognition did not motivate her to let students learn new material as they demonstrated readiness. For example, to begin one math lesson, Ms. Baker announced that the students were now ready for their first lesson on a new topic. She acknowledged that although this was their first "official" introduction, they had talked about this topic before, and that "some students have been trying to do it all year!" (TO10, 3). After revealing they would now begin division, the students responded enthusiastically. Indeed, several students had been ready for division all year, but had not encouraged the further development of this talent.

A later interview, however, suggested Ms. Baker did take steps to provide advanced opportunities in math the following year. She mentioned having 3 or 4 students who consistently completed their required math work before everyone else. To address the "leftover time," she assigned them a computer program that focused on specific math topics such as time and money. Ms. Baker viewed this as her way of providing math enrichment and specific skill development. "Whatever we're working on, they can go work on that and kind of reinforce the skill at a higher level. And I know I don't have to worry about challenging them. They'll get their challenge" (TO15, 7).

Two additional observations in Year 2 suggested that Ms. Baker could respond to student differences, albeit reactively. During a letter-writing activity, for example, she prompted some students to use more sophisticated vocabulary or to elaborate on an idea with more details (TO11, 2). Also, prior to administering a test, Ms. Baker designated an area of the room for students who could read and complete the test independently, and read the test to the rest of the class. As students finished the test, they could either read a book of their choice or an Accelerated Reader book provided by Ms. Baker (TO11, 6).

Teacher Response to Mandated Curriculum

Ms. Baker's overall attitude toward the district-mandated curriculum and programs was positive. She believed the structure, skill reinforcement, and opportunities for remediation they provided were necessary and good for her students. Ample resources were paramount to implementing these programs, Ms. Baker insisted, and as long as the district provided enough materials for her to use, she did not mind the restrictiveness of the curriculum itself (TO14, 5).

Open Court. Bond Elementary incorporated several reading programs into its curriculum, including Open Court. Bond was not the first school at which Ms. Baker worked that used Open Court, and her familiarity with the program seemed to influence her positive attitude toward it. The aspects she did not like were not program-imposed but district-imposed:

I don't mind Open Court because I used it, and most private schools use it, but there are elements that you still incorporate teacher judgment. And here, we are put on a pacing guide. You are told to be on this lesson. That's not what it was designed for. (TO15, 14)

Similarly, early the following year, Ms. Baker complained about not having enough Open Court textbooks, and she criticized the school district for this shortcoming without implying that she resented the curriculum altogether:

We were promised that this [shortage of textbooks] would not be a problem—that we would always have the supplies available for our students, but once again it didn't happen. Open Court demands that certain books be used with specific activities and is dependent on the workbook activities. It is difficult to implement a prescribed and scripted lesson when students don't have access to the resources. (TO11, 2)

Still, Ms. Baker praised Open Court for the consistency she believed it gave students as they moved through the curriculum from year to year. Coupled with increased parent involvement, she credited this uniformity with how her students in the second year of the study were more academically prepared than her students the previous year (TO15, 1).

Ms. Baker also felt that Open Court was good to use with gifted students. She cited extensive writing experiences, vocabulary lessons that developed comprehension techniques, and opportunities for student discussions and higher-level thinking. At the same time, she liked how the program allowed her to hear all students' responses during a lesson, not just those who were highly verbal or spoke loudly (TO14, 4).

Despite her satisfaction with Open Court, Ms. Baker thought the routines could be monotonous. Accordingly, she made modifications that incorporated kinesthetic learning and music. She elaborated:

I get restless having to sit so long for these OC lessons and I know they do, too. I try to tap in to their sense of rhythm and energize them through our little movements. And yes, I do feel that they make a huge difference in the learning. These kids need repetition more than any class I have ever taught and they need tight discipline, but they are still children and we can't forget that. This is the age of multi-media learning and they respond to it. (TI1, 5-6)

Overall, Ms. Baker's fidelity to the Open Court curriculum and instruction was high. Her instruction was marked by a quick, yet controlled pace that ensured students did not move ahead or fall behind. For example, during one phonics lesson, Ms. Baker noticed several students not pronouncing and spelling the words on the board with the rest of the class. She asked these students to pronounce and spell the words individually. The pace was also moderated when the class read stories from the textbook. Ms. Baker directed whole-group read-alouds, and students later read the story in pairs (TO11, 3;

TO13, 1; TO2, 1). Likewise, vocabulary lesson followed a prescribed, regimented routine (TO2, 1; TO3, 1).

Students also completed assignments at a similar pace: Ms. Baker modeled the follow-up workbook pages before allowing the students to begin working on them, and students were not allowed on to the next page as they finished. When workbook assignments could be completed independently, students had to wait for Ms. Baker to check their work before they could retrieve their books from the Accelerated Reader baskets (TO2, 1; TO3, 1&3).

Ms. Baker used the frequent tests characteristic of the Open Court program to control pacing as well. These tests comprised comprehension tests with multiple choice, fill in the blank, and short answer questions and dictated spelling tests. When students were going to have a 3-day weekend or other time off school, Ms. Baker made sure she administered the test before the break (TO14, 1; TO8, 1).

On several observation days, some activities during Open Court time were more open-ended. For example, students wrote reports on dinosaurs for which they had to take notes from books. Notably, although it was the first time the students had ever written a report, Ms. Baker did not give directions about how to take notes or how to organize the paper. She circled the room to offer individualized guidance, however (TO8, 1). The next day, the researcher observed other dinosaur-related activities as students worked throughout the room simultaneously on multiple activities such as creating dinosaur books and creating dinosaurs from clay. Other students were working on computers and doing seatwork quietly during this time (TO9, 1). Ms. Baker's fidelity to the previously described aspects of Open Court suggests these activities were also part of the program rather than teacher-created.

Accelerated Reader. Accelerated Reader (AR) was part of the reading curriculum in all second grade classrooms at Bond. Ms. Baker implemented it faithfully during the first year of the study (TO3, 2), but her perspective on the program was more positive in Year Two. "I'm loving AR this year!" she said (TO15, 8). The primary reason for her affinity was a set of new books she changed every quarter. She noted how easy the program was to manage in the classroom: She scheduled AR for the same 30-minute slot each day; the books were labeled and arranged according to reading level; and the students could move through the program independently. Because the students finished books at different times, she said, student access to the computer-based tests was not a challenge. According to Ms. Baker, all of her students, including those reading below grade level, found AR motivating (TO15, 9).

Teacher Response to Math Curriculum

Ms. Baker said that she and the other second grade teachers liked the math program, Saxon Math, due to its consistency and repetition (TO1, 5). The "spiral" nature exposed students repeatedly to the same concepts and skills throughout the year. For example, students frequently addressed the question, "How many ways can you get [e.g.,

87 cents, \$1.22]?" (TO2, 2; TO10, 1). As the students added new skills to their repertoires, they demonstrated more ways to arrive at the given amount. Ms. Baker thought this structure was a good fit for "these students" (TO1, 5).

Two central features of the math curriculum were a "Math Meeting" and timed math facts worksheets. The math meeting was co-led by Ms. Baker and a rotating student helper. Together, the class learned about the yearly calendar, seasons, time, money, and temperature (TO2, 2). During timed math drills were one of several types of tests given to assess progress in math (TO5, 1). In one observed lesson, students took three different tests, including the timed drill and two district-mandated tests (TO4, 1).

Similar to her reading instruction, Ms. Baker made sure students learned and worked at the same pace during math. The pace of the lessons themselves was fast because the program required rapid instructional delivery (TO10, 1). However, when students were using manipulatives to solve problems, Ms. Baker required them to check their answers individually with her (TO2, 1; TO7, 1). The scripted questions she used elicited creative and inductive thinking, and no doubt influenced the demonstrable enthusiasm that characterized her math instruction. But, her misuse of follow-up questions prolonged the lesson for certain students. For example, in one lesson she asked the students if they would prefer a dollar or a quarter. Responses included, "A quarter 'cause you can put in it your bank," "A dollar cause it's more," and "A dollar so you can get ice cream." Instead of using these answers to guide individual students to understanding, Ms. Baker sought additional responses. Jamal replied, "I want a dollar cause it's four quarters," she said, "Okay, what if you could choose between a dollar and three quarters?" Jamal followed, "A dollar, 'cause then I could get candy *and* chips." Without acknowledging his understanding, Ms. Baker continued soliciting ideas for 10 minutes (TO9, 3).

Students like Jamal and Marcelena (another talented student) were both excited about math and learned the concepts more quickly than their peers. While Ms. Baker acknowledged their advanced thinking, her typical response was to praise the students rather than to modify the curriculum for them. Or, Ms. Baker used advanced students as models for other students by having them write their procedure and answer on the board. (TO10, 4). Notably, she also had these students explain and defend their answers as well.

Ms. Baker deviated from the prescribed curriculum when she applied the same kinds of developmentally responsive techniques she periodically used in reading. For example, students practiced counting by snapping and using their "cool voices," a la beatnik poets and counted by fours while doing aerobics (TO9, 2; TO10, 2). And, during one observation, Ms. Baker pitted the boys against the girls in a multiplication facts contest, which doubled as review for an upcoming quiz (TO10, 2).

One exchange with the observer revealed that Ms. Baker feared the observer thought the math lessons too restrictive. Somewhat defensively, the teacher noted that the district supplied additional materials for meeting the needs of advanced math students; these materials were not observed during any site visits. (TO2, 1). As

previously mentioned, in Year 2 of the study Ms. Baker did accelerate one student, Joshua, to a third grade classroom for math as well as allow students who finished early to use a math computer program that reinforced skills associated with various concepts such as time and money.

Talent Development Program and Teacher

The talent development (TD) program at Bond was based on a pull-out model. Students were formally identified beginning in the fall of second grade for services. Second graders met with the TD teacher twice a week for 30-minute sessions. The curriculum was flexible and largely determined by the TD teacher, Shelley Harvard, and grade-level needs. Ms. Harvard divided her time between Bond and another elementary school in the district (TI2, 1).

Rather than being a catalyst for talent development, the gifted services at Bond floundered under Ms. Harvard's direction, primarily due to four factors: her beliefs about students at Bond, her curricular decisions, her relationship with the principal, and her relationship with classroom teachers.

Beliefs About Students at Bond

Ms. Harvard's comments about and responses to students at Bond indicated she harbored a narrow view of their abilities. She was explicit about her beliefs during an interview as she described how the students responded to laptop computers. She said she did not "expect them understand" what to do most of the time, and that in general the students could not excel because they lacked "understanding, skills, and higher level thinking" (TO1, 4).

Ms. Harvard's classroom at Bond did not appear student-friendly. The walls featured neither student work nor materials that would suggest current topics of study. The furniture was adult-sized, which, the researcher observed, prevented the students from sitting comfortably (TO1, 1).

During lessons, Ms. Harvard's demeanor was cold and business-like. She assumed a formal tone with students, addressing them collectively as "students." This remote disposition might have been due in part to her limited contact with the children: Although students were identified for gifted program services in September, in both Year 1 and Year 2, services did not begin until January (PI2, 4). The observer characterized Ms. Harvard's classroom behaviors as "critical toward students" and "abrupt" (FN2, 2). She also appeared concerned with student behavior at the expense of instruction when she spent the first 10 minutes of one class warning the students she would no longer tolerate their poor behavior. Upon noticing Jamal was not in attendance, she added, "Well, Jamal is not here today, and you 4 [students] almost always are good" (TO1, 2).

An incident during one observation revealed Ms. Harvard may not have been sensitive to her students' non-academic needs. The teacher had planned an activity for

the day that relied on students having read a book for homework. To her surprise, only 1 of the 5 second graders had done so. Explanations from the students included, "I had to go to church. We have had revival every night this week;" "I left my book at grand mamma's house and I couldn't find it," and "I had to go to my auntie's because my mamma was sick and I forgot to take the book." Ms. Harvard was not sympathetic and said:

Then I don't see how we can do this lesson. We were going to talk about how the boy made up the word *quizzle* and how people figured out what it meant. You have to read your books before coming here or we can't do what I had planned. All my other second grade students at the other schools do their homework. (TO1, 2)

Notably, the "other schools" to which Ms. Harvard referred enrolled students from more advantaged backgrounds than Bond. After the above incident, Ms. Harvard commented to the observer, "This is not how it's supposed to be" (TO1, 2).

Several students' comments indicated they did not look forward to going to talent development class. When Ms. Harvard arrived one afternoon to escort some of Ms. Baker's second grade students to her class as they were working on a poetry activity, they groaned, "Are we going to TD today?" "Can we finish before we go?" and "Do we have to go today?" (TO1, 1). Also, at the end of one class period, Ms. Harvard said, "[Next week], if you haven't read your book, you will not be able to come to my class." An unidentified student mumbled, "Good!" (TO1, 3).

Curricular Decisions

Not surprisingly, Ms. Harvard's low expectations for Bond students yielded curricular decisions that restricted talent development. The most formidable challenge was her unwillingness to recognize that she could not use the same curriculum in the same way across the 3 schools she served. She deemed her implementation of particular novel-based units and units from The College of William & Mary unsuccessful (i.e., she started units but did not complete them) and blamed the failed attempts on the students. The units had been "too hard for kids," she said. They did not complete their homework and were "missing the deeper understanding" typical of gifted children, she said. The little time she had spent with the third grade students indicated to her that they were not making any connections to logic or to what she was trying to teach (IS, 1). In essence, Ms. Harvard expected students to conform to the curriculum, and did not see any reason to modify her delivery or the content according to the student population's needs. Responding to her frustration, the researcher attempted to give Ms. Harvard resources she could use to extend the second grade curriculum, but she was not receptive and, the researcher speculated, may have felt threatened by the suggestion (TO1, 3).

Ms. Harvard's perception that Bond students lacked some of the skills necessary to complete challenging tasks was partially rooted in reality. For example, many students did not have prior experience with using computers. So, before beginning a web quest

activity, Ms. Harvard spent a class period teaching them how to use a laptop (FN2, 5). Why she did not similarly prepare them for the skills and concepts they needed for the units she wanted to implement was unclear.

There was also evidence that Ms. Harvard spent inordinate amounts of time teaching a particular skill. Observations within 2 months of each other found the teacher assigning students similar activities focused on using dictionary guide words (TI1, 1; TO1, 2). This repetition and focus is logical, given her belief that her students could not do challenging work. Ms. Harvard spent about 90% of her instructional time in a lecture format.

Relationship With Principal

Ms. Harvard's relationship with Bond Principal Tina Benka was strained during both years of the study, primarily because their visions of what the talent development program should be were not aligned (TO1, 4; TI2, 1). In addition, Ms. Harvard felt the principal did not like her, did not support the gifted program, and prevented her from assuming more autonomy (TI2, 4). These sentiments were not unfounded. Ms. Benka did not approve of how Ms. Harvard handled the program or how she perceived students at Bond. "[Ms. Harvard's] perception of the program has been very limited," she said, adding that the teacher did not have a talent development orientation and was interested only in students who were identified as gifted (TI3, 5). In Year 2, Ms. Harvard was attempting to align the TD program curriculum with the general education curriculum, but the principal still believed Ms. Harvard was not genuinely invested in the program: "She has all the books, and she'll go on the Internet and do the search for other strategies, but her heart isn't there. She doesn't believe that there is a real need" (PI, 7).

Poor communication also affected the relationship between Ms. Harvard and Ms. Benka. For example, Ms. Harvard said the principal told her she had to spend class time preparing students for the end-of-year grade level tests, while Ms. Benka maintained she never told TD teachers any such directive (TI3, 4). But, the principal admitted she had not closely monitored Ms. Harvard's planning time with teachers or instructional time with students and that she had not done all that she could to help Ms. Harvard broaden her conception of talent (TI3, 5). At the beginning of Year 2, Ms. Harvard planned to start sharing her concerns with Ms. Benka via email rather than face to face, in hopes of improving communication (TI2, 2). According to the researcher, this did not happen (Member check, n.p.).

Relationship With Classroom Teachers

Defensive about and frustrated with her role at Bond, Ms. Harvard complained about the overall lack of communication at the school. Her relationships with teachers, she said, made her feel isolated (TO1, 1&4; TI2, 1). Although these relationships improved during Year 2 of the study, the potential for Ms. Harvard to provide talent development services to as many students as possible through collaboration with classroom teachers was not high. By her own admission as well as Ms. Benka's

estimation, she had difficulty communicating with the teachers at Bond. She would plan to meet with a particular grade level but not schedule a specific time with them. Predictably, going to these meetings unannounced negatively influenced the teachers' willingness to work with her (PI2, 3; TI2, 3).

Year 2 saw improvements in the teachers' perceptions of the TD program. Ms. Baker, for example, noted that compared with the previous year, her students were excited about going to TD (Baker TO15, 2). However, Ms. Baker was concerned that services had not started until January and that by the time the students reached Ms. Harvard's room, instructional time was reduced usually to 20 minutes (Baker TO15, 4). According to Ms. Benka, Ms. Harvard's rapport with teachers had also strengthened in Year 2, possibly because she pulled students during IWT, thereby decreasing the number of students in the classroom (PI2, 8). She still faced challenges with individual teachers, however. One fifth grade teacher, she said, made considerable efforts to limit her collaboration efforts (TI2, 3).

In contrast to her beliefs about the abilities of Bond students, Ms. Harvard said in September of Year 2 that she wanted to (a) convey to teachers that talent development was not just on Thursdays and Friday or when she was in the classroom, and (b) work with students who were not identified for the talent development program but who needed differentiation (TI2, 2). Ms. Benka suggested later in the school year that this was happening to some degree, but that Ms. Harvard's perception of the students was still getting in the way:

UVA: Are you seeing any improvement with the talented and gifted area?

Ms. Benka: Not really. [Ms. Harvard] has been more open this year, has given more to the teachers and to the A Team about her progress. But just today when we were talking, we had to talk about developing a plan for parallel curriculum—that's what she said—where she's working with the teachers who teach the high children, second through fifth. She really kind of said, "Well, I didn't see that there was a real need for that at this school." But if we're going to change the way we do things, which we have to, then there is a need. (PI2, 7)

Ms. Benka also indicated more students had been receiving services in Year 2 because teachers were encouraged to nominate students who showed potential for talent. However, Ms. Harvard did not view the increase positively. According to Ms. Benka:

She [has] four, I think, this year identified second graders. And she was telling me, "I have a group of 14 in second grade because teacher judgment has been used to include those children." So she's kind of sad about that. (PI2, 8)

CHAPTER 6: Discussion

In an attempt to better understand the problem of under-representation of specific groups in formal gifted programs, this study was guided by the following research questions focused on primary school teachers' current philosophies, expectations, and practices related to gifted education:

1. What beliefs and attitudes do primary teachers hold about the manifestation of gifted potential in all students, including those from traditionally under-represented groups?
2. To what extent are teachers' philosophies about giftedness consistent with their reported and observed classroom practices related to talent development in diverse populations?
3. What are teacher and student responses to context-based intervention efforts such as model lessons?

The study employed a mixed-method design; Phase One used survey research targeting a disproportionate nationally, stratified random sample of primary grade teachers about their beliefs and practices related to talent development in young children and their suggested responses to students—one easily identified as gifted from a traditional paradigm, the other manifesting talents masked by some other factor—poverty, language status, or concurrent social/emotional needs. Phase Two concentrated on an in-depth investigation into the beliefs and practices of 24 "successful" primary grade teachers in 6 schools representing varying metropolitan areas and underserved populations. The mixed-method design facilitated triangulation of findings to better understand the contextual factors that influence primary grade teachers' perceptions and behaviors.

Summary of Findings

The findings of both phases of the study reveal consistent patterns of teachers' beliefs and attitudes about giftedness and talent in primary grade children. The findings from the second phase of the study help to situate and explain the specific patterns identified in the survey responses by describing the context of diverse, public school classrooms and by explicating the complex web of factors that influence the teachers over time and which may contribute to their resulting beliefs and attitudes about talent development in children.

A summary of the findings of this research represented visually (see Figure 1) examines how four major areas, (a) factors internal to the teacher, (b) forces on the teacher outside the self, (c) teacher behaviors, and (d) observable student behaviors and verbal responses, operate in concert to shape the course of talent development for typically underserved children in primary grade classrooms. Each of the major areas will be examined in the context of these study findings, linking findings from both phases of the study together, noting areas of congruence and incongruence with the related literature.

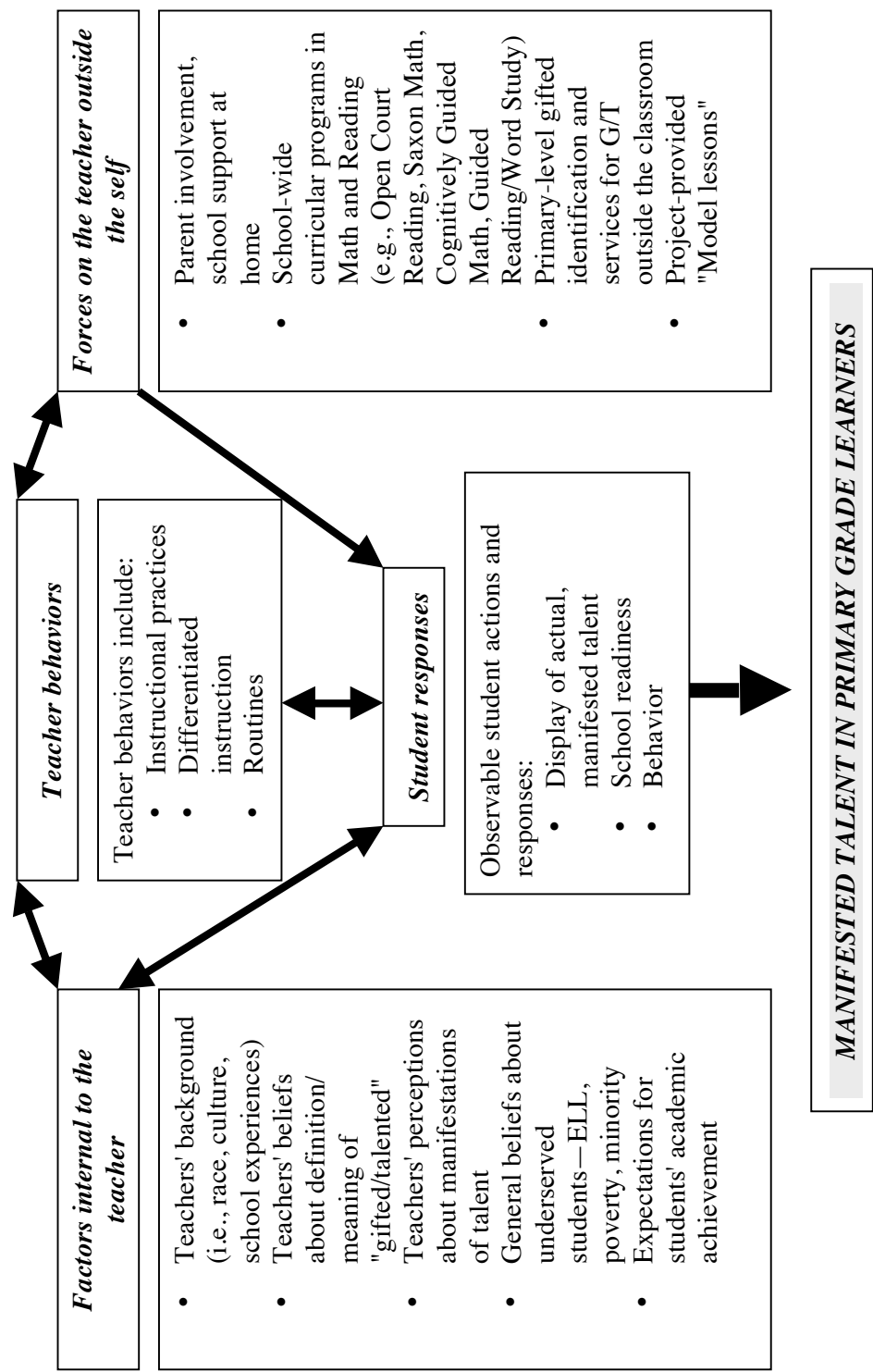


Figure 1. Factors influencing teachers' beliefs and attitudes about talent development in primary grade children.

Factors Internal to the Teacher

Background of the teacher. The data presents clear patterns about how the background of the teachers shape their approaches to their classrooms, their role as teacher, the types of instructional approaches they employ, and their degree of comfort with varying content areas. One common pattern across several teachers is the tendency to teach as they were themselves taught, often incorporating traditional instructional approaches such as lecture and textbook-driven teaching. "I remember the manual being chained to the teacher and all the answers to the workbook were in red" (TI2, 2) described Ms. Ashton, a teacher whose classroom could be characterized in much the same way. Conversely, there are teachers that consciously approach their role as teacher as purposely antithetical to ways in which they were taught. For example, Ms. Ball described the powerful feelings she experienced as a primary learner when learning tasks were limited to pencil and paper activities. Consequently, she set a course to change that experience for the students in her classroom, a place that could be described as oriented toward movement, song, and conscious of varied student learning profiles. These findings align with researchers that suggest teachers' instructional styles are informed by two predominant factors: teachers' own preferred modes of learning, as in the case of Ms. Ball, and the ways in which they experienced instruction as a learner, typical for most of the other teachers in the study, which was characterized by content-oriented, formal teaching methods, and structured activities (e.g., Brown, 2003; Goodlad, 1984; Tyack & Cuban, 1995).

Teachers' own racial and ethnic backgrounds shape their approach to the classroom, particularly when the teacher's race and culture was common to the students she taught. For example, Ms. Miller, an African American teacher who described growing up in poverty and taught in a classroom filled predominantly with poor children of the same race, described her role as teacher as similar to that of a parent. In that role, she spoke to the students in varied ways—occasionally as a parent, at other times in the formal tone of teacher. In other instances, when the teacher's cultural and racial backgrounds are dramatically different from those of the students in her class, there is a noted mismatch in the tone and effectiveness of communication between the teacher and the students, such as Ms. Harvard, the gifted resource teacher who frequently expressed frustration and dismay at the urban children from poverty that she served. Delpit (1995) suggests that creating matches between the cultural, ethnic, and class levels of the teacher and student is an effective intervention strategy to offset the dissonance such as that experienced by students of Ms. Harvard. While teacher/student matching may be an unrealistic response in the increasingly diverse setting of contemporary public schools, it may address the issue raised in Alexander et al.'s (1987) study of first graders from low-SES backgrounds, which found that teachers from higher socioeconomic strata held generally less positive beliefs about students' academic abilities, school maturity, and readiness to engage in high-level tasks.

Beliefs about the meaning of "gifted" and "talented." A major finding from both phases of the study strongly suggests that the vast majority of primary grade teachers hold traditional conceptions of the constructs related to gifted and talented learners.

Survey respondents seemed comfortable with the description of a gifted learner as possessing strong reasoning skills, a general storehouse of knowledge, and facility with language, including a strong vocabulary—characteristics strongly associated with children with rich preschool experiences. At the same time, survey respondents had more difficulty conceptualizing gifted students as those without strong early reading skills, including a limited vocabulary, those with the inability to work independently, or those who lacked internal motivation and persistence—characteristics frequently used to describe children from impoverished family backgrounds. These findings related to the teachers' predispositions toward traditional conceptualizing of giftedness were echoed in the open-ended survey responses when many more suggested that "Brian," the student from the dominant culture and a middle-class family be referred for gifted services, than the other students "Alexis," "Cory," and "Maria" who were more frequently offered counseling programs, mentorships, tutoring, in-class instructional modifications, referral to school-based services, or suggestions for medications to ameliorate attention deficit or impulse control issues. Teachers participating in Phase Two also wrestled with the meanings of the terms "gifted" and "talented" as they pertained to primary grade children. Ms. Ashton and Ms. Grand struggled to put their feelings into words but both concluded with a "know it when I see it" approach to identification. Others, including Ms. Grand and Ms. Ball held the notion that there were levels of giftedness, from "above average" to "gifted" to "truly gifted" or "brilliant" as ways of distinguishing between these very capable children and the rare instance of a child with extremely high intellectual ability. Many teachers struggled with which was "more or less gifted"—those students with strong skills, talents and abilities in only one area and those "all around gifted" children who seemed equally capable in multiple domains.

Perceptions about the manifestation of talent. Teachers in both phases of the study quickly assigned value to students who possess strong work habits, effective verbal skills and the ability to read and equated these observable behaviors to either strong parent/home support or innate ability. The items on the survey that most strongly resonated with respondents as observable characteristics of giftedness aligned with these traditional conceptions, and included items such as "has a large storehouse of general knowledge" (98%), "can successfully carry out multiple verbal directions" (95%), and "works hard" (94%). From the in-depth classroom investigations, a clear dichotomy was noted between teachers who were more traditional in their philosophy and/or classroom behaviors and those that researchers described as more constructivist in their beliefs and approaches, employing Developmentally Appropriate Practices (DAP) the majority of the times observed. The traditional group of teachers (e.g., Ms. Ashton, Ms. Miller, Ms. Evans, Ms. Harvard) frequently used descriptors of talent to include general ability, strong reading and math skills, high IQ scores, and the ability to persist with problem solving, all of which was usually attributed to strong parent involvement in the child's academic development. Those teachers who were more constructivist in their teaching philosophy and classroom practices (e.g., Ms. Ball, Ms. Holden) more often described broader conceptions of talent domains including creativity, leadership, artistic areas, demonstrated resilience, and the ability to negotiate varied academic and social situations to their own advantage. These findings are consistent with work in the area of early childhood DAP that suggest that teacher's beliefs about children predict the degree to

which their resulting instructional practices will reflect developmentally appropriate practices (Maxwell, McWilliam, Hemmeter, Ault, & Schuster, 2001). Given these findings, it stands to reason that teachers who are inclined toward beliefs and practices that are sensitive to the whole child (including systematically addressing the individual differences that will necessarily exist among a classroom of students) would be more inclined to see the individual talent possibilities of each learner beyond merely considering the *traditional* indicators of talent.

However, the majority of survey respondents and the majority of case study teachers seemed unable to consider students who deviated from these textbook indicators of giftedness. These pervasive beliefs seemed to most significantly disadvantage students from poverty and those students whose first language was not English. For example, 75% of survey respondents found it *difficult to imagine* or *could not imagine* a gifted student as one with a limited vocabulary; the two most recognizable signs of giftedness that participants noted were that primary-age students would be more likely recognized as gifted if they had "lots of books in the home" (81% of respondents) and "had lots of experience from family trips" (78%). Further, greater than a third of the participants replied that the potential for academic giftedness was not present in equal proportions in all socioeconomic groups in our society, a belief that seriously disadvantages young students in poverty from being considered for gifted programs and services.

Teachers in Phase Two of the study also believed that parent involvement either contributes to or hinders the development of giftedness.

I think it's very clear to see [as gifted] the kids that have experiences at home. For example, like Peter, they go to museums, they read encyclopedias, they go out and do things. They hike, they go on trips to foreign countries and I just think that if parents help foster their interests . . . You know he's [Peter] really interested in dinosaurs and they get him models of dinosaurs and books about dinosaurs and they take him to movies about dinosaurs. . . . But a lot of these kids don't have that. A lot of these parents are sort of parents in name only. Where the kids live with the parent and the parent buys them clothes sometimes but they don't help them with homework even. So they don't really get those experiences to build on. (Ashton, TI4, 2)

This idea is consistent with their earlier beliefs that gifted children possess large amounts of general information about topics of interest. Taken together, these findings suggest that teachers believe that some degree of wealth is a necessary condition for academic giftedness to be manifested and recognized. Hauser-Cram et al. (2003) found that when teachers' and parents' values differed, such as in regard to appropriate parenting and child-rearing as described by the teachers in this study, teachers rated the children as less academically competent and held lower expectations for their academic success, which has obvious implications for their ability to recognize and nurture budding talents.

General beliefs about underserved students. By and large, the teachers in both phases of the study held a deficit-oriented framework when considering the

characteristics of the primary grade learner. For example, the case study scenarios in Phase One revealed overwhelming responses to students' negative characteristics and suggested remediation for these deficits before suggesting any enrichment, acceleration, or other gifted intervention strategies for their evident strengths. For example, a common response to address Cory's needs included something such as:

He needs to spend less time in the physics lab and more time with the learning thoughts and ideas about his own age learning. He is not developed in his own age social skills because he spends too much time with older people. (27SD)

Two teachers, Ms. Ball and Ms. Holden, defied these patterns. These two teachers were identified by the researchers as most inclusive in their conceptions of giftedness and talent of the set of teachers studied in Phase Two and provided the most insight into the relationship between teachers' conceptions of students and the students' demonstrated talents. Ms. Ball recognized the positive aspects of the diverse student population in her class and in the school in general.

People just don't understand—these kids are *incredible!* They live lives that I couldn't live, some of these children. They survive things that I don't know if I could handle as an adult, and they're still fresh, innocent, and they want to learn. And people always think, "Well, they're poor. They live over here. They can't be expected . . ." But they *can* be expected, 'cause they're some of the most intelligent people I've ever met. (T11,5)

These teachers did not entirely overlook the students' evident academic deficits, but more than other teachers in the study, these two teachers began with the perception that the students were capable and balanced tasks focused on building strength areas as well as with supporting deficits.

A third teacher, Ms. Miller whose classroom practices were more accurately described as traditional than constructivist, held similar educational beliefs to the more constructivist teachers. Perhaps due to her own background as an African American woman growing up in a poor family and segregated school system, she communicated expectations about students growing up in poverty that communicated a "tough love" philosophy.

I think sometimes we think we're helping because we think, "Oh Johnny is a poor little kid down the block," that we do things that we think are helping, but we're enabling them to do it, and then we create a cycle. And I don't think this is what we intend to do, but I think we're thinking we're helping and we're not. (T11, 6-7)

Expectations for students' academic achievement. Academic expectations form the cornerstone of this study's findings. The concept of expectations should be viewed from multiple lenses to fully understand the degree to which it affects the development of talent in diverse primary learners. One pattern evident in the Phase Two data was that some teachers (e.g., Ms. Ashton, Ms. Evans) considered and determined expectations

largely from the group as a whole, rather than considering individual students' strengths and weaknesses. In the instances when the school was populated with large percentages of students in poverty or representing large numbers of underserved groups, such as in the cases of Bond and Carter Elementary schools, some teachers shaped their expectations from the collective experience level of students and these expectations were generally low. It was common to hear qualifiers in teachers' language when describing the students, collectively or individually, such as "*these* students here are tough" (Ashton, TI1, 4) and "I have a middle group that are average, or maybe slightly below average. Average for our school" (Evans, TI1, 7). When constructing learning tasks in these teachers' classrooms, the degree of challenge was often pitched to the lower end of the learners in the class, even when there were students who were capable of much more challenging learning tasks. For example, when teaching a social studies lesson on China, Ms. Miller constructed a quiz with a word bank of responses saying, "I made this quiz so easy for you that I'm almost ashamed of myself" (TO13, 2). The observer noted more than a few students who were capable of completing the quiz correctly without the word bank.

Other teachers, such as Ms. Ball and Ms. Baker spoke frequently and passionately about their students' great potential and communicated to researchers high expectations for all the students. "If I didn't believe the students could be successful, I wouldn't be here" (Baker TI2, 8). Unprompted, Ms. Baker described the children in her class from a strength-oriented approach.

Margarita, of course, has math, a gift in math. And she also is talented artwise. Very creative, very, *very* creative. D'asia is very intelligent, creative, a good reader. She's a good, solid student, and she's the one that goes for TD Enrichment. She did not make TD, she did not qualify, but she is a good, solid, student; a very good student. Uh, Savien is very bright, intelligent little boy. Has some behavior issues, but he's settled down very well. His parents got in there and have been very supportive this year. Jordan, of course, is pretty sharp. Jordan is sharp in that he's got a lot of street smarts. So, that helps him with math and reading. (TI2, 3-4)

From either perspective, seeing the class as a whole and pitching the degree of challenge too low or conversely, seeing the individual strengths and needs of students, the necessary response is to provide appropriately differentiated learning experiences that are at an appropriate level of challenge for all the students' needs (Tomlinson, 2001, 2003, 2005). In almost all instances, these did not occur.

A second noteworthy pattern related to teachers' academic expectations related to the idea of "earning" such high expectations. There seemed to be a pattern about "reserving judgment" about the need for gifted education services until the basic needs were fully met and all existing deficits were corrected. In response to the Phase One Maria case study, teachers generally recognized her talents but these were overshadowed by her emerging English and resulting below-grade level reading achievement.

She shows gifted tendencies, however I would not refer her. With our testing procedures, her reading problems would hinder her. Since she couldn't be retested for 2 years, I'd give her another year to adjust and recommend testing in third grade. (27RD)

This hesitation was equaled in the Alexis case study. "It is clear that she demonstrates skills, but some of her basic skills are not developed. I would recommend her for any tutorial programs in the school" (96UD). Aligned with teachers' prevalent deficit-oriented belief structures, teachers seemed to believe that gifted education services were earned academic rewards when all areas of relative weakness—academically, socially, or behaviorally—were ameliorated.

These findings raise the question that has been debated for decades in the expectancy literature: do the students' behaviors inform teacher expectations about their achievement, or do the teachers' behaviors (toward certain individual or sub-groups of under-represented populations particularly) shape students' reactions to align with the teachers' expectations? Recent literature suggests that, particularly in the earliest years of formal schooling, teachers' expectations have more direct effect on students' achievement outcomes than almost any other variable besides parent expectations (Gill & Reynolds, 1999; Hauser-Cram et al., 2003; Rubie-Davies, 2006). And, coupled with the work of Jussim et al. (1996) that suggests teachers' expectancy effects are strongest among stigmatized groups, including African American, children from poverty, and recent immigrants, who are most vulnerable to seeing themselves as others perceive them, it follows, then, that the teachers of the fictional "Maria" and "Alexis" will not hold academic expectations on the same level as they do for the fictional "Brian," which will result in these students behaving in the ways that the teachers expect them to, meaning that they will continue to be seen as having deficits more than strengths. Likely these children will also be overlooked for talent pools, talent identification, and gifted education services.

Forces on the Teacher Outside the Self

Parent involvement. Teachers in this study believed in the importance of parent involvement in the successful school experience of young children. Every teacher in Phase Two described systematic procedures for communicating with and involving parents in the classroom. Many of the parents of the children in the classrooms studied came from challenging circumstances—most battled some degree of poverty, some worked several jobs, others continued to seek housing for their families which frequently resulted in relocation, others were described by teachers as disenfranchised with the school experience and largely ignored the teachers' requests for involvement. Teachers came to believe that some parents were entirely aligned with the teachers' goals for their children, such as reading to children at home, working on homework together, and taking their children to community and cultural events to provide them with experiences.

His parents were really supportive and did all the homework I sent home and I worked with him during rest time and he just caught on. And I was so proud of

him because when he first came in and we did the initial testing, I was really worried. (Ashton TI2, 1)

Teachers described other scenarios where parents worked *against* their efforts such as failing to sign important school papers, attend meetings and conferences at the school, or support the child with school assignments.

That was the reason why they were challenging—because the parents were not involved, and the parents' home life lead the child to be this way. We would call them in for Child-Studies and IEP meetings, um, but you weren't getting much support there, and they were just going home into those situations. (Grand TI2, 2)

This external factor of parent involvement also influenced teachers' academic expectations for diverse groups of children. The intersection between teachers' initial academic expectations, particularly for children from under-represented groups and the parents' pro-academic interactions (or lack of interactions) with teachers resulted in different academic experiences for children in the classroom and reinforced their initial beliefs of the children's capabilities. For example, if children demonstrated certain behaviors consistent with the teachers' traditional conceptions of giftedness coupled with parents who were involved in the educational experience of their children, this resulted in an academic expectation of success and potential giftedness. Conversely, if a child exhibited none of the traditional gifted behaviors and at the same time lacked an involved parent in the educational experience, these children were often overlooked from talent development experiences. The degree and quality of pro-academic parent involvement then explained and reinforced teachers' deficit-oriented views on their children.

Some teachers persisted in their attempts to involve families; including phone calls, letters, and notes home; and even conducting home visits and going to the parents' place of work. This group of teachers was described as sympathetic but unrelenting in their expectations of the parents as role models for their children.

I think we need to make some of our parents be more responsible. Take responsibility for the things that are going on in your life. Sure, I'm not saying there are not hardships, there are. And there are times when they need help, I need help, you need help, everyone needs help, but what I'm saying is, there are times—there is such a thing as tough love. I mean, you pull me out, but sometimes I think we need to hit that bottom sometimes to let us know, you know, you do have do better, because you can do better. And I think we cut our parents short. I think we don't allow our parents to do what they can do because we bail them out too quickly. (Miller TI1, 7)

These findings are consistent with the work of others who have concluded that teachers' perceptions of the teacher-parent relationship is a stronger predictor for teacher expectations of students' academic performance than parents' actual level of school involvement (Hughes et al., 2005) or even the students' actual performance (Hauser-Cram et al., 2003). So, in other words, if a teacher perceives a high quality teacher-parent

relationship, then she is more likely to hold higher expectations for the child's ability than for a student whose parents do not engender positive teacher-parent relations. This has tremendous implications for students in the schools studied, as many of the parents felt disenfranchised from the traditional school experience, having not been successful in school themselves, and therefore manifested behaviors that teachers perceived to be uninvolved or even oppositional to the mission of educating their children.

School-wide reading programs. A formidable external influence on all teachers in this study was the mandated literacy and mathematics programs in place in most of the schools in Phase Two of this study. In all sites, teachers were required to follow specific reading programs; in all but 2 schools this was the scripted *Open Court* basal program (McGraw-Hill/SRA). Porter Elementary school (the school with the lowest percentage of free and reduced lunch in the Phase Two of the study), used a combination of *Words Their Way* (Bear et al., 2003) and *Guided Reading* (Pinnell & Fountas, 1996). Yarnell Elementary used the *Voyager Universal Literacy Program*. While Seaside and Bond Elementary schools had been using Open Court for many years prior to the study, Carter Elementary adopted the program the summer prior to the year of the study and as a result, the teachers had the most dramatic responses to the scripted format of the schools. "It's almost like the Bible even though they say it's not" (Miller TI3, 5).

As expected, teachers whose classroom practices were described as more traditional ascribed greater benefit to the Open Court program than those teachers whose practices were more constructivist in nature. The program supporters cited structure and consistency from lesson to lesson and year to year, extensive writing experiences provided as part of the program, and vocabulary lessons that developed comprehension as chief benefits. "I do feel that they make a huge difference in learning. These kids need repetition more than any other class I have ever taught and they need tight discipline and [they get that] with Open Court" (Baker TI1, 6). There was a general sense among teachers who supported this approach to teaching literacy that children in schools with high poverty benefited from the structure, repetition, and focus afforded by direct instruction experiences typical of this program. Teachers who supported this approach generally focused their instructional attention on the isolated goals of the program, rather than taking a wider view of students' reading development.

For example, when a teacher was reading *James and the Giant Peach*, (a trade book associated with the Open Court reading program) with a small group of students, she focused her questions on recall-level factual questions and ignored a student who gave a thoughtful, but unexpected response to the question:

Teacher: Where did James go to live? (no response)

Teacher: Do you think it was strange that James' parents were eaten by a rhinoceros?

Peter: Yes! They're herbivores. (Teacher ignored the response)(Ashton TI6, 3)

These beliefs about the benefits of such didactic approaches to reading instruction may be fueled by the recent emphasis on scripted reading programs in the lowest performing schools as qualified by NCLB/Reading First Program (ED-OIG/I13-F0017), all of which have varying degrees of direct instruction and scripted teacher instructional components (Frechtling, Zhang, & Silverstein, 2006; Jordan, 2005). These purported benefits for the identified students (nested in schools that almost always coincide with Title I designation for high percentages of the poverty proxy of free/reduced lunch) are aligned with the body of researchers who support highly directed instruction, claiming that "exploratory learning emphasizing autonomy and creativity is a luxury that poor children cannot afford and is incongruous with the teaching styles and goals of low-income families" (Hauser-Cram et al., 2003, p. 815). For obvious reasons, these beliefs, and likely the scripted programs built upon their premises, are incongruous with the development of talent in primary grade students from low socioeconomic backgrounds.

On the other hand, teachers whose practices were more constructivist in nature described feeling restricted by the rigid structure and repetitive nature of the lesson format, and constrained by the limited creativity afforded to teaching literacy with this program. "And teaching out of a basal makes it even harder! I mean, sure you can read it to them, but if you *know* that it's not appropriate, I mean . . . (*throws her hands up in frustration*)" (Holden TI1, 6).

Some tried (against the wishes of the Open Court coaches who expected precise fidelity to the written teacher script) to supplement the program by including more movement, song, hands-on tasks, and other modifications to make the lessons more developmentally appropriate for their students. Even Ms. Baker, who was among the strongest supporters of the Open Court program expressed discomfort with the extended lessons that were incompatible for her young children. "I get restless having to sit so long and I know they do too. I try to tap into their sense of rhythm and energize them through our little movements" (TI1, 5). These were teachers who sought to reconcile their beliefs about the appropriate environment for learning in primary grade classrooms with the very clear message about maintaining fidelity to the reading programs by not deleting any literacy elements or deviating from the teachers' script.

School-wide math programs. The math programs varied extensively from school to school and were less emphasized than the literacy programs in terms of time spent on the subject, the amount of professional development for teachers, and administrative involvement. Most schools did not strictly follow one math program as was the case for the literacy, however 2 schools with the highest percentage of free/reduced lunch, did have specific programs; Bond Elementary used Saxon math (Harcourt Achieve, n.d.) and Carter Elementary used Cognitively Guided Instruction (CGI) (Carpenter, Fennema, Franke, Levi, & Empson, 1999). The two programs were notably different in regard to the philosophy of teaching mathematics and as a result, the student responses to mathematics were very different. Teachers using the CGI approach often used story problems as a basis to understanding students' existing knowledge of a math concept and then built upon that in small group and whole group instruction. For example, a CGI math problem of the day in Ms. Holden's first grade class, "It was snowing! Ms. Holden

made 12 big snowballs. How many snowmen can she make?" Students responded eagerly in their journals in different ways: some drew the snowmen, some wrote equations, some skipped to writing a multiplication problem, and some wrote an addition problem (TO8, 1).

Teachers using the Saxon math approach employed frequent skill drills, chalkboard relay races, practice problems sequenced to cover current and past math skills, and extensive worksheets. In Ms. Evans' first grade classroom all students worked on the same worksheet with addition facts up to 10. Students who finished their work were instructed to do the back page of the worksheet which contained more practice problems on the same set of skills (Evans TO3, 3).

Unlike Saxon, which is a mathematics skill program, Cognitively Guided Instruction is a math-oriented, professional development program for primary grade teachers guided by constructivist principles; all students come to school with some intuitive knowledge about the mathematical world, and these emerge as a basis for developing formal math concepts and operations through a balanced relationship between skills and problem-solving (Fennema et al., 1996). In contrast, Saxon builds upon the belief that the "human mind can handle only small amounts of new information, in incremental, small, easily digestible chunks" (Resendez, Sridihran, & Azin, 2006, p. 14) and therefore developers advocate for "continual practice and review" of skills and algorithms. Like the teachers in this study who tended toward constructivist or didactic philosophies, these two approaches to teaching math in primary grades are in stark contrast and believers fall into these same "camps."

Primary-level gifted identification and services. Primary grade teachers were generally uninvolved in gifted identification processes and the subsequent gifted and talented education services, despite the fact that all teachers in Phase Two of the study taught at least some students who, at some point during the study year, qualified for or received services from a gifted education specialist in the building. Various teachers within one building (where the same policies and procedures for identification and placement were in place) held very different beliefs about the process of identification and also received very different services from gifted education specialists. These differences seemed to be more of a function of the willingness and inclination of the general education teacher than of the needs of students in the classroom. At Carter Elementary, the gifted education teacher came to the general education classroom periodically to teach Spanish to all primary grade students; at Porter, Bond, and Seaside Elementary schools, identified gifted students were pulled out of the general education classroom to receive broad-spectrum, enrichment services with a gifted education specialist; Yarnell Elementary students received a combination of within-class enrichment and pull-out services. While several of the teachers chose to refer students, many chose *not* to refer students for these services, believing that they could do more within the classroom to meet their needs or because they feared that students would miss too much instruction being removed from the general education classroom, causing more harm than good for the students.

Project-provided model lessons. All teachers in the study were provided with model lessons, designed with the specific context of each individual classroom in mind, for the purpose of providing an alternative image of curriculum and instruction that might better promote talent in diverse, primary grade students. The lessons were developed in accordance with each teacher's available resources, teaching style, and particular school-level mandates. In particular, lessons were designed to build toward conceptual understanding of a discipline, to employ developmentally appropriate instructional practices, and to provide a high level of challenge for all students with accompanying scaffolding for those who needed support to reach the high goals. All Phase Two teachers implemented the lessons, with the exception of the participating teachers at Bond Elementary whose perceptions of the Equity Plus district mandates and subsequent school requirements (e.g., daily agendas, school-based pacing guides) were too restrictive to allow deviation from the schedule, even for a few days.

Of the project teachers who implemented lessons, most described feeling a sense of surprise at the level of performance their students were capable of demonstrating. Most teachers also reflected after the lesson implementation about how their own academic, social, and behavioral expectations of students may have been too low, given the success the students showed on the varied tasks.

Student Responses

Display of actual, manifested talent. When asked to describe what manifested talent would actually *look like* when observed, teachers in both phases of this study frequently offered responses that revealed traditional beliefs, such that talent equated to traditional conceptions of school-house talent (e.g., advanced performance in key content areas such as reading and math) as well as an effortlessness with which they acquired this information and these skills. In observations of the classrooms, particularly those populated with the highest concentration of students in poverty and from the most under-represented groups, however, students demonstrated talent in a variety of ways that often went unnoticed by their teachers, or were eclipsed by their other academic or social weaknesses or skill and behavioral needs. For example, English Language students who rapidly acquired English language skills were noteworthy more for the *challenges* they presented to the teacher than for the rapid acquisition of language skills. Other students who persisted with problem solving in one discipline and struggled in other academic areas were remediated more frequently in the areas of weakness than accelerated or enriched in the areas of strength and interest. This deficit-oriented approach resulted in the perception of giftedness as academic, Utopian perfection. Therefore, acknowledgement of talent, and subsequent referrals for screening or placement into gifted programs was reserved for those students who had the "whole package." For example, in Ms. Holden's first grade class at Carter Elementary, when presented with the task of referring students for primary grade talent development, Liam's social and emotional issues overshadowed his well-above grade level academic abilities.

There are pieces to Liam's personality and to his brain structure and how he functions that I feel are really wonderful, and he could benefit from [the gifted

program]; however, he's missing a lot of pieces in the regular classroom right now that I feel like I can't take him out for. And that's not really a good choice for a teacher, I don't think, to hold somebody back from that, but on the other hand, I've got to be really aware that I don't want him to be held back in first grade because he went out 2 or 3 times a week [for gifted education services] and missed all the content. (TI2, 6)

Specific examples of such positive indications of talent that were often overlooked or marginalized included:

- rapid acquisition of English language;
- persistence with problem solving even when faced with initial failures with tasks;
- creative non-conformity with rigid classroom routines or tasks;
- unexpected leaps of insight, or the ability to see beyond the traditional response;
- opportunistically taking advantage of classroom situations (both academic and social) for personal benefit.

Some of these behaviors were often misinterpreted as willful defiance or were often subtle enough to go seemingly unnoticed in the complex dynamic of the classroom. Recent additions to the developmental psychology literature recognize young children's behaviors that serve as protective factors against school failure. Dobbs, Doctoroff, Fisher, and Arnold (2006) identified three specific protective factors in preschool children in poverty: initiative (defined as young children who willingly try new tasks, enjoy challenges, and are active learners); self-control (defined as the ability to handle frustration and negative emotions appropriately, thus resisting excessive disruptive behaviors); and attachment (defined as actively seeking out social contacts, trusting familiar adults, and responding to adult comforting).

School readiness. By the very nature of the sample of classrooms in Phase Two of this study, many students came to the primary classroom without experiencing high-quality, preschool programs focused on school readiness and pre-literacy skills. As a result, many teachers described students with highly variable, and often low school-readiness. Most of the teachers in this study attributed the child's scholastic immaturity to their *negative* home experiences (or in other instances, lack of *positive* home experiences), the parent or guardian's lack of priority to school matters (such as completing homework), and lack of positive academic images in the child's life. In many cases, school-readiness equated to compliant behavior in the classroom, following directions, responding appropriately to the teachers' requests, and passively accepting the lessons as delivered by the various instructional methods. Students were described as having low school-readiness when they lacked the academic skills expected of children in the young grades, such as knowing their name, basic geometric shapes, primary color names, the name and location of their school. Additionally, when students acted in ways that contradicted the expected social and emotional behaviors, such as not possessing

expected social skills, personal hygiene skills, or basic manners, the children were also noted as lacking school-readiness.

That's a recurring theme throughout. And we all struggle to get them to do what I know a normal second grader can do with a little perseverance and attempt. You have to make an attempt to do it. And it's coping skills, poor coping skills. They haven't been taught to do that. (Baker TI2, 7)

This designation of "lack of school-readiness," which in the cases of the children from the sampled school sites often resulted from lack of formal pre-kindergarten experiences and a domestic setting in contrast with preparing students for formal school, seemed to equate with teachers' expectations of their current and future academic potential.

Behavior. In Phase Two, the students' behavior proved to be an all-important consideration in most aspects of the primary classroom, such as when planning instructional tasks, considering instructional materials, and all the way through to include referring students for gifted education referrals and placements. As described above, when students behaved in a way that was contradictory to the expected norms, they were designated as not "ready" for school tasks. While some teachers acknowledged that behavior and academic abilities are separate constructs, in the reality of the classrooms in Phase Two of this study, they were often linked.

Our old gifted resource teacher would come to us in January and say "choose 3 kids that you think would benefit from some outside instruction during their rest time." And so you look at the kids that you have and you pick the three that you think would do well. And one of her requirements was that they couldn't be a behavior problem. There weren't guidelines of how to pick the students or anything like that. Except they can't be behavior problems. So . . . as if behavior problem kids aren't talented. Or only the good kids are talented. (Ashton TI 1, 7)

While Ms. Ashton seems to wrestle with the gifted resource teacher's assessment that appropriate referrals for gifted programs should consider behavior, it was noted that the students she described as those who would benefit from outside instruction were all teacher-pleasing students.

In other instances, the general education teacher and gifted education teacher agreed that appropriate school behaviors are, indeed a prerequisite to receiving gifted education services.

[J. J.] could not handle it behavior wise. [According to the] TD, according to the TD, I mean she said "no I can't handle him" and I understand why. I'm sorry, I mean, I understand. Really, with the others in there. There are a couple of others that just, the mixture, she just didn't have enough time to have to deal with behavior issues. And he is a challenge. (Baker TI2, 3)

Consequently, students whose behavior was in conflict with the classroom norms were often relegated to more of the same classroom experiences that were ill-fitting and resulted in the same negative behavioral responses. While psychologists have long questioned the relationship between externalized behavior problems and academic difficulties, particularly in young children who may lack the language or experience to make that causal connection, some have postulated that the degree of fit of the learning may actually *cause* the disruptive, non-compliant, and inattentive behaviors (Arnold & Doctoroff, 2003). If this is indeed the case, it then stands to reason that if children are placed in classrooms where the curriculum, instruction, and learning environment are ill-fitting for their needs that negative behaviors will result. Therefore, if appropriately challenging learning conditions are reserved only for those children who act in accordance with expected behavioral norms, it is reasonable to expect that some segment of students with genuine talent potential will be omitted from consideration for simply expressing their ill-fit with the learning experience.

Teacher Behaviors

Instructional practices. Teachers participating in both phases of this study described (Phase One) and were observed employing (Phase Two) practices that could be categorized on a continuum from "didactic" to "constructivist" in nature. Didactic practices were traditional instructional behaviors including lecture; direct instruction with all students completing the same independent practice tasks; and instruction that was largely dependent upon textbooks, basal programs, and often included scripted teacher language. Constructivist practices, often called Developmentally Appropriate Practices (DAP) were described as active learning experiences for a range of learners that employed varied instructional approaches and a balance between teacher-directed and child-directed activities, for the purpose of students creating personal meaning with the content and skills. For example, 92% of survey respondents rated traditional instructional practices such as "develop basic skills" as very important. In contrast, the more constructivist practices such as "entertaining even wild or far-out suggestions by students" and "having students find out their own information" only garnered 53% and 50% respectively of respondents believing it to be *very important* on the Phase One survey.

Differentiation. Most teachers in the study acknowledged the varying needs of students in their primary grade classrooms. Survey respondents rated as *very important* instructional practices such as "planning a variety of materials and levels of content" (92%), and "assessing the level of ability, interest, or needs of the students" (88%). In daily practice, however, this most often translated into accommodations for the needs of the most struggling students; teachers almost never considered the upper end of the achievement continuum when planning in advance for student differences. For example, Ms. Ball proactively designed differentiated learning tasks addressing students' differing learning styles, but missed opportunities to create more challenging curriculum for students who needed a higher academic ceiling. For example, when a child exhibited an interest in the Pilgrim's journey to the New World, Ms. Ball reactively provided her a simplified primary-age globe on which to trace the Pilgrim's route. After completing this

enrichment task, she was instructed to rejoin her classmates. While these reactive instructional responses were more typical for teachers whose practices more consistently resembled DAP classrooms than traditional, didactic-focused teachers who generally did less, they were generally not observed across any of the classrooms with great frequency. More often, teachers lamented about being pulled in many directions and they felt the needs of struggling students were more pressing than gifted students.

He was so high, and even though I knew it was one of those things where I knew he was going to be fine in school, I always knew in the back of my head that I should have done more to challenge him, because he had a lot to go forward with . . . but I also didn't think that I had the time to do it, so it just didn't happen. (Holden TI 10/14/04, P46)

Other teachers lamented the academic diversity across the continuum and felt unprepared to adequately address the needs of all students, even including the struggling learners. As a result, teachers in many of the classrooms defaulted to the scripted, didactic teaching approaches either because they believed it was a genuine solution to the academic needs of the most struggling learners or despite their concerns with the regimented nature of the various programs, they had no better solution to the academic diversity issues in their classroom.

Implications and Recommendations

The findings of this study strongly support the premise that the under-representation of some key groups in formal gifted programs is a multi-faceted and complex phenomenon; one that is not likely to be quickly and tidily resolved with any one intervention effort. To address these issues, a multi-pronged reconceptualization of primary education must be considered, to include the four key areas of findings from this study—a) teachers' internal factors; b) the external forces that profoundly influence the primary classroom experience; c) teachers' instructional habits and practices; and d) the vast array of students' talent behaviors that result because of (or in many cases despite) the school experiences they witness in kindergarten through second grade.

The following section provides specific implications and recommendations related to these four key findings.

Teachers' Internal Factors About Developing Talent in Diverse Primary Grade Students

1. As this study has chronicled, teachers in the first decade of the twenty-first century still hold traditional beliefs about what it means to be gifted and talented in the earliest years of public education, and as a result, what their appropriate educational responses might or should be. Despite several decades of evolving understanding about this issue and dozens of targeted efforts to help teachers reconsider these views (including Jacob K. Javits funding earmarked for this purpose), the issue remains. The field of gifted education needs to continue to court and nurture their relations with

general education, particularly at the often-overlooked primary grade level. With a partnership, gifted education may have the potential to help shape primary grade teachers' experiences, beliefs, and ultimately their practices.

2. With this in mind, elementary schools must purposefully select teachers whose backgrounds and beliefs support efforts to develop talent in primary grade children. Additionally, a targeted effort must be made to recruit (and then nurture for long-term retention) a diverse pool of educators who reflect the increasingly diverse cultural, ethnic, and class groups in contemporary public schools. Building on the work of Alexander et al. (1987) and Delpit (1995), it may make sense to consider the strategic pairing of teachers with students, even for flexible periods during the instructional day or week, so as to ensure that students of all racial, ethnic, and class groups see models of talented, capable professionals like themselves in successful roles in the community. Another possible alternative is to employ a diverse pool of mentors from the community to pair with students from like backgrounds and provide times for the individuals to share their experiences, challenges, and successes.

3. A third recommendation for updating teachers' internal beliefs about talent development in diverse primary children is to directly and overtly confront their misconceptions and outdated knowledge about the topic through high-quality, on-going professional development. As noted in the change literature, it is a formidable challenge to modify deeply-held belief structures, particularly when the beliefs are intertwined with politics and contemporary social policy. The effects of professional development can be enhanced, however, by balancing opportunities for acquiring new information about talent development, and then providing time and support for assimilation of this new information into the teachers' own classroom contexts. Central to the content of the professional development should be information about classroom approaches for primary grade classrooms as well as mentored opportunities to put this information into practice with the support of a coach or mentor, to further increase the likelihood of developing or refining reflective practices.

The External Forces That Affect, Shape, or Mandate Teachers' Beliefs and Practices

1. The current curriculum reality in public schools in the NCLB era, particularly those schools with the highest concentrations of poverty, school failure, and often under-represented populations of students in typical gifted education programs, includes scripted curriculum programs in reading, language arts, and mathematics. In the case of this study, the adoption of these scripted programs translated into teachers seeking only low-level, factual information and class lessons focused on repetition of math algorithms to solve lists of decontextualized equations. Given this scenario, the field of gifted education must author position papers

regarding the ill-fit of scripted curriculum for gifted students and incompatibility with the philosophy of talent development. If students are given little to no opportunities to respond to open-ended, abstract questions, issues and problems, it is little wonder why the students fail to be able to produce such later in their educational careers. Beyond position papers, the field must continue research efforts in this area to determine the long-term consequences of narrowed curriculum and instruction. With this information, advocates of gifted education and talent development must raise awareness of the incompatibility of didactic curriculum and instruction on the long-term development of talent in all students, but particularly those students from under-represented populations. If the goal of gifted education is to develop critical and creative thinkers who are able to reason, problem solve, and critically analyze potential answers for their degree of fit, students must be given opportunities to do so in the context of learning.

2. Districts and schools seeking to increase the quality of their primary grade programs should invest resources to develop, modify for the given context, and ensure the appropriate utilization of high-quality, differentiated lessons in the primary grades. As the model lessons in this study provided teachers with an alternative image about what curriculum and instruction could be, so too could locally-developed curricular and instructional resources continue to support on-going professional development initiatives in this area.

Teachers' Instructional Habits and Practices

1. In order to increase teachers' capacity for developing talent in diverse primary grade learners, they must be involved in high-quality, on-going professional development aimed at changing and adding specific behaviors to their classroom routines and practices. As part of this development opportunity, the training sessions must include opportunities for modeling in settings that resemble the classrooms in which the teachers work, incorporate respectful management approaches into the teaching and training; provide mentors to help teachers work through challenging situations through reflection; and provide direct opportunities to confront their existing belief systems rather than follow rote procedures typical of NCLB-era school reform initiatives. This is particularly urgent for struggling and low-income schools.

Students' Talent Behaviors

1. Leaders of gifted programs as well as the elementary school personnel who teach in the varied primary grade programs should re-examine the system for identifying young potentially gifted children. Modifications should include the use of context-driven, dynamic assessment of students'

varying talent behaviors versus the heavy reliance upon standardized instruments and highly-biased teacher and parent referral forms. Districts and schools should consider the development and use of a variety of tools (and provide sufficient training to be able to appropriately implement them) that consider the broad range of talent indicators as well as specific behaviors to overlook. One such document that emerged from the findings of this study is presented in Figure 1, formatted as an observation tool intended for formative assessment of students' developing potential. This instrument is not intended for one-time observations conducted by individuals unfamiliar with the classroom context for the purposes of high-stakes decisions about gifted program placement. Rather, this instrument is intended for use by teams of individuals representing varying degrees of familiarity with the classroom context. The purpose of collecting information with this tool is to provide key stakeholders several prompts from the recent literatures broadly related to talent development to guide the *services* necessary to develop talent in diverse primary grade learners.

Table 8

Primary Students' Behaviors Worthy of Additional Consideration

<i>Primary Students' Behaviors to Overlook</i>	<i>Primary Students' Behaviors to Look For</i>
<p><i>Family-related circumstances:</i></p> <p>___ Poor physical appearance (e.g., lacking personal hygiene skills)</p> <p>___ Free/reduced lunch status</p> <p>___ Parents with low expectations, negative school behaviors, little-no involvement in the child's education</p> <p>___ Excessive tardies, absences, relocations</p> <p>___ Sibling performance that may differ from the current student (birth order)</p> <p>___ Lack of eye contact</p> <p><i>School readiness</i></p> <p>___ Degree of school readiness (e.g., degree to which child understands procedures, follows directions)</p> <p>___ Current levels of achievement in academic areas</p> <p>___ Acquired math algorithms, extent of vocabulary, reading level, IQ score</p> <p>___ Degree of proficiency with English language</p> <p>___ Non-standard language, syntax, grammar</p> <p>___ No known preschool experiences</p>	<p><i>Socially Adaptive Behaviors</i></p> <p>___ Quickly navigates varying social situations and/or peer groups</p> <p>___ Ability to negotiate verbally and/or socially to the his/her own advantage</p> <p>___ Demonstrates willingness to try new tasks</p> <p>___ Seeks social contacts for support, is able to be comforted by adults and peers</p> <p>___ Demonstrates low social inhibition</p> <p>___ Demonstrates low negative emotionality (approaches tasks intellectually versus emotionally)</p> <p><i>Creative Thinking</i></p> <p>___ Asks unusual questions, makes unusual comments (sees the world in unique ways)</p> <p>___ Uses metaphoric, analogic, symbolic thinking</p> <p>___ Seeks alternative ways to accomplish tasks (e.g., "Could I do this instead?")</p> <p>___ Wants to explore all options for a task before beginning work (e.g., "What if . . .")</p>

Table 8 (continued)

Primary Students' Behaviors Worthy of Additional Consideration

<p><i>Masking Behaviors</i></p> <ul style="list-style-type: none"> ___ Avoids specific work tasks that may be repetitive or predictable ___ Non-conformity with expected routines, social conventions, or behavioral expectations ___ Behavior that seems like disinterest or boredom <p><i>Negative behaviors</i></p> <ul style="list-style-type: none"> ___ Behavior that seems like challenging authority ___ Defiance ___ Physical response to anger or frustration (e.g., tantrums) ___ Argumentative ___ Does not seek teacher affirmation (may seek negative teacher responses) 	<p><i>Detail Orientation</i></p> <ul style="list-style-type: none"> ___ Advanced fine motor skills ___ Demonstrates precision with details in academic or social contexts ___ Demonstrates heightened memory skills <p><i>Abstract/Global Thinking</i></p> <ul style="list-style-type: none"> ___ Thoughtful responses beyond the literal, fact-level response to reveal a wider view of the scenario ___ Demonstrates ability to put events or emotions into larger context with a high degree of insight ___ Seems wise beyond the chronological years <p><i>Skills of Inquiry</i></p> <ul style="list-style-type: none"> ___ Rapid skill acquisition ___ Rapidly English language acquisition ___ Demonstrated areas of interest (particularly in areas beyond the grade-level academic topics or in non-academic areas) ___ Seems to thrive on challenges ___ Demonstrates high task commitment and persistence with tasks ___ Persistent questioning ___ Demonstrates active learning behaviors (rather than passive participation)
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APPENDIX A

The Survey

The Survey

The survey consists of six sections: Conceptions of Giftedness (teachers' beliefs about the meaning and manifestations of giftedness); Instructional Practices (classroom practices in general and as related to talent development); Identification of Talent (teachers' valuation of students characteristics when nominating students for placement in gifted programs); Student Readiness (teachers' beliefs about students' readiness); Demographics (educational and professional background and current classroom characteristics); and Case Studies (two different cases—one of a student manifesting typical gifted traits—"Brian," and then one of three profiles of students exhibiting talent indicators are either masked or overshadowed by poverty, dominant language, cultural traditions, health status, or other mitigating circumstances—Alexis, Cory, or Maria). The majority of the survey items use a Likert-type scale. In the open-ended case study section, teachers are asked to recommend educational adjustments for a student given particular characteristics and to provide their rationale for the adjustments they suggest.

I. Conceptions of Giftedness

In the following set of items, you are to decide how easy it is to imagine a gifted/talented kindergartner who has the stated characteristics by circling the appropriate number. For example, if you can easily form a mental picture or imagine the possibility of a gifted kindergartner who learns at a slow pace, then you would circle 4 for "Very Easy to Imagine." If you have no image of a gifted kindergartner who learns at a slow pace then circle 1 for "Cannot Imagine."

1. How easily can you imagine a gifted kindergartner who . . . ?

	Very Easy to Imagine	Easy to Imagine	Difficult to Imagine	Cannot Imagine
a. learns at a slow pace.	4	3	2	1
b. transfers learning into other subjects or real life situations.	4	3	2	1
c. does not seem interested in school.	4	3	2	1
d. has difficulty with reasoning skills (such as seeing connections between ideas, solving problems without help.)	4	3	2	1
e. has weak spatial skills (such as, sense of direction, figuring out how things work, poor with shapes and construction, etc.).	4	3	2	1
f. has a high social intelligence (i.e., knows the names and roles of individuals in the surrounding community).	4	3	2	1
g. is a "follower" (seldom takes the lead and usually does what the other students are doing).	4	3	2	1
h. has poor social skills.	4	3	2	1
i. works hard.	4	3	2	1
j. does not read early or have strong early reading skills.	4	3	2	1
k. uses non-standard English.	4	3	2	1
l. often does not bring in homework.	4	3	2	1
m. adapts readily to new situations and changes.	4	3	2	1
n. is not curious.	4	3	2	1
o. has a short attention span.	4	3	2	1
p. pays attention to detail.	4	3	2	1
q. is shy.	4	3	2	1
r. misbehaves in school.	4	3	2	1

		Very Easy to Imagine	Easy to Imagine	Difficult to Imagine	Cannot Imagine
s.	has a large store of general knowledge.	4	3	2	1
t.	is unmotivated.	4	3	2	1
u.	can successfully carry out multiple verbal instructions.	4	3	2	1
v.	when playing seems to have more of a purpose or plan.	4	3	2	1
w.	likes to make three-dimensional structures from blocks and other manipulatives.	4	3	2	1
x.	completes assignments faster than same age peers.	4	3	2	1
y.	tries to understand the how and why's of things.	4	3	2	1
z.	has a sense of timing in language and gestures (i.e., dramatic flair).	4	3	2	1
aa.	is able to overcome obstacles resulting from difficulties at home.	4	3	2	1
bb.	has skill deficits in one or more academic area (such as in number skills, science, etc.).	4	3	2	1
cc.	loves books regardless of ability to read.	4	3	2	1
dd.	cannot work independently.	4	3	2	1
ee.	has an active imagination (i.e., generates many story ideas, makes up original games, etc.).	4	3	2	1
ff.	has an average achievement or aptitude test score.	4	3	2	1
gg.	creates rhymes to communicate thoughts and feelings.	4	3	2	1
hh.	has unusual interests for their age (e.g., A kindergartener who is interested in walled cities, or studying the weather).	4	3	2	1
ii.	is not creative.	4	3	2	1
jj.	makes people laugh with clever jokes.	4	3	2	1
kk.	has immature fine motor development.	4	3	2	1
ll.	demonstrates leadership skills in one or more areas.	4	3	2	1
mm.	demands a reason for things.	4	3	2	1

	Very Easy to Imagine	Easy to Imagine	Difficult to Imagine	Cannot Imagine
nn. is unusually sensitive to others' feelings.	4	3	2	1
oo. dislikes drill and practice.	4	3	2	1
pp. has a limited vocabulary.	4	3	2	1
qq. can carry on a meaningful conversation with an adult.	4	3	2	1
rr. is bilingual.	4	3	2	1
ss. can devise or adapt strategies to solve problems.	4	3	2	1

In the following set of items we would like for you to focus on your personal beliefs. Indicate your level of agreement by circling the corresponding number.

2. Kindergarteners are more likely to be recognized as gifted if

	Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided
a. they come from two-parent homes.	5	4	3	2	1
b. their parents worked with them at home (e.g., taught them reading skills, drilled them on numbers, provided computer games that are meant to "jump start" their skills).	5	4	3	2	1
c. they have siblings who are strong students.	5	4	3	2	1
d. they have lots of books at home.	5	4	3	2	1
e. they attended day care.	5	4	3	2	1
f. they have lots of experience from family trips.	5	4	3	2	1
g. they are an only child.	5	4	3	2	1
h. their parents' first language is English.	5	4	3	2	1

3. In the following set of items we would like for you to focus on your personal beliefs. Indicate your level of agreement by circling the corresponding number.

	Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided
a. The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups in our society.	5	4	3	2	1
b. The potential for academic giftedness is present in equal proportions in all socioeconomic groups in our society.	5	4	3	2	1
c. Giftedness manifests itself differently in different cultural/racial/ethnic groups.	5	4	3	2	1
d. Giftedness manifests itself differently in different socioeconomic groups.	5	4	3	2	1
e. Boys are more likely to show their giftedness through activities that tap spatial ability.	5	4	3	2	1
f. Girls are more likely to show their giftedness through activities that tap verbal ability.	5	4	3	2	1

Open-Ended:

1. Describe a first grade age child that you consider(ed) gifted. Include his/her characteristics and what particularly stood out about him/her that led you to think he/she was gifted.

2. Gifted programs across the United States often have difficulty recognizing giftedness and talent in students from low socioeconomic backgrounds and/or from different cultural and ethnic groups. In what ways have you seen giftedness manifested in students from low socioeconomic backgrounds and/or different cultural and ethnic groups? (For example, a student from a low socioeconomic background may exhibit unusual and innovative use of materials as a result of having little resources at home with which to be creative.)

II. Classroom Practices

The following set of items requires two responses. **First**, please indicate how important you think it is to focus on each of the practices/strategies in your classroom by circling the number corresponding to your response. **Second**, specify the **five most important** practices for developing talent by placing a number (1-5) in the last column labeled "Talent Development," with **5 being the most important** and **1 being the least important**. For example, if you think "lecturing less" is the most important factor in developing talent, place a 5 in the corresponding row. *(This question is continued on the next page, please consider all items in your ranking of importance.)*

1. How important is it for you to focus on the following practices/strategies in your classroom?

	Very Important	Somewhat Important	Not Important	Talent Development
a. Developing basic skills	3	2	1	
b. Offering challenging and engaging material	3	2	1	
c. Assessing the level of ability, interest, or needs of the students	3	2	1	
d. Planning a variety of materials and levels of content	3	2	1	
e. Sharing responsibility for learning with the students	3	2	1	
f. Leading students to a question or problem that puzzles them	3	2	1	
g. Permitting students to suggest additional or alternative answers	3	2	1	
h. Entertaining even wild or far-out suggestions by students	3	2	1	
i. Providing materials for students to develop ideas	3	2	1	
j. Lecturing less	3	2	1	
k. Asking students to hypothesize	3	2	1	
l. Encouraging students to make "If, then" statements	3	2	1	
m. Giving students individual attention	3	2	1	
n. Encouraging students to admit errors openly	3	2	1	
o. Listening to each student's opinion	3	2	1	
p. Providing students feedback about their work	3	2	1	

		Very Important	Somewhat Important	Not Important	Talent Development
q.	Discussing current issues with the class	3	2	1	
r.	Having students find their own information	3	2	1	
s.	Providing the time and opportunity for students to use special aids, language aids, learning centers, etc.	3	2	1	
t.	Allowing students space to display their own work	3	2	1	
u.	Giving alternative ways of working when a student show a lack of interest or frustration	3	2	1	
v.	Giving fewer directions	3	2	1	
w.	Providing time for students to develop ideas	3	2	1	
x.	Withholding judgment on student's creative work	3	2	1	
y.	Encouraging the student to put his or her ideas to a test	3	2	1	
z.	Evaluating the work of different students by different standards	3	2	1	
aa.	Developing a flexible, individualized program	3	2	1	
bb.	Creating a warm, safe, and permissive atmosphere	3	2	1	
cc.	Respecting personal self-images and enhancing positive ones	3	2	1	
dd.	Fostering creativity and imagination	3	2	1	
ee.	Respecting students' personal values	3	2	1	
ff.	Respecting students' cultural values	3	2	1	

In this section please indicate your answer by circling the number that corresponds to your response.

2. How often do you use the following practices in your classroom(s)?

	Every Day	Once or twice a week	Once or twice a month	Twice a year	Once a year	Never
a. Connecting curriculum to other content areas	6	5	4	3	2	1
b. Focusing the curriculum around a theme	6	5	4	3	2	1
c. Providing students with materials that go beyond the average range of your grade level.	6	5	4	3	2	1
d. Providing students with material matched to their interests.	6	5	4	3	2	1
e. Brainstorming with students	6	5	4	3	2	1
f. Using learning centers that address different student intelligences	6	5	4	3	2	1
g. Using learning centers that address different student interests	6	5	4	3	2	1
h. Introducing new concepts and materials from outside the classroom.	6	5	4	3	2	1
i. Encouraging (but not insisting upon) participation	6	5	4	3	2	1
j. Providing activities in a variety of settings (tables, bookshelves, learning or resource centers, out-of-doors)	6	5	4	3	2	1
k. Encouraging mentors, senior citizens, parents, grandparents, community volunteers to visit and assist.	6	5	4	3	2	1
l. Encouraging peer praise and positive interaction.	6	5	4	3	2	1

	Every Day	Once or twice a week	Once or twice a month	Twice a year	Once a year	Never
m. Encouraging creative expression, fantasy, imagination, original art, stories and other work	6	5	4	3	2	1
n. Flexible grouping (assigning varying work groups based on students' interest, readiness and learning styles)	6	5	4	3	2	1
o. Offering students who finish a lesson early a related activity.	6	5	4	3	2	1
p. Having students conduct experiments.	6	5	4	3	2	1
q. Modifying time student takes to complete an assignment.	6	5	4	3	2	1
r. Tape recording content material for the student to listen to.	6	5	4	3	2	1
s. Individually administering a test other than a make-up for student absence.	6	5	4	3	2	1
t. Individually tailoring an assignment as part of planning for instruction.	6	5	4	3	2	1
u. Adjusting pace according to students' needs.	6	5	4	3	2	1
v. Using peers as tutors.	6	5	4	3	2	1
w. Varying materials based on student reading levels.	6	5	4	3	2	1
x. Adjusting length of assignment according to student needs.	6	5	4	3	2	1
y. Adjusting depth of content according to student needs.	6	5	4	3	2	1
z. Allowing students to do a written assignment orally.	6	5	4	3	2	1
aa. Providing hands-on activities to understand abstract concepts.	6	5	4	3	2	1

	Every Day	Once or twice a week	Once or twice a month	Twice a year	Once a year	Never
bb. Using computer programs that focus on problem solving, critical thinking, or advanced understanding.	6	5	4	3	2	1

3. How much priority do you give to developing talent in your classroom(s)? Please indicate your answer by circling the corresponding number.
1. *Lowest priority:* I do not think it is my responsibility to focus on talent development.
 2. *Low priority:* Talent development is important, but I cannot integrate it into an already packed curriculum.
 3. *Equal priority:* I aim to balance talent development with other classroom goals.
 4. *High priority:* I consciously try to incorporate talent development into my curriculum and instruction.
 5. *Highest priority:* Talent development is my primary goal in the classroom.

III. Gifted Identification

The following set of items requires two responses. For these items imagine that you have been asked to identify gifted/talented students in your classroom. **First**, indicate how likely you would be to identify a student as gifted or talented if that student exhibited the following characteristics, by circling the number corresponding to your response. **Second**, place a number from 1 to 5 (**1 = least important; 5 = most important**) in the last column, labeled "Importance" to specify which **five student characteristics you would consider most important** in identifying gifted/talented students. For example, if you think "lecturing less" is the most important factor in developing talent, place a 5 in the corresponding row. *(This question is continued on the next page, please consider all items in your ranking of importance)*

1. How likely would you be to identify a student as gifted/talented if the student

	Very Likely	Somewhat Likely	Not Likely	Importance
a. learns easily and quickly	3	2	1	
b. behaves well in class	3	2	1	
c. has an advanced vocabulary for age	3	2	1	
d. is highly imaginative	3	2	1	
e. offers unusual, unique, clever responses to questions and problems	3	2	1	
f. has a large amount of general information	3	2	1	
g. has high interest in specialty topic	3	2	1	
h. has a keen sense of humor	3	2	1	
i. is able to see another's point of view	3	2	1	
j. uses expressive speech	3	2	1	
k. likes to work alone	3	2	1	
l. asks a lot of questions	3	2	1	
m. has unusual emotional depth and intensity	3	2	1	
n. is self-motivated	3	2	1	
o. is well liked by classmates	3	2	1	
p. makes other students laugh	3	2	1	
q. gives unexpected, sometimes "smart-aleck" answers	3	2	1	
r. questions rules	3	2	1	
s. has a lot of energy, may have difficulty remaining in seat	3	2	1	
t. has an early interest in print	3	2	1	
u. enjoys playing with words (i.e., using puns, rhymes)	3	2	1	
v. uses details in stories and pictures	3	2	1	
w. makes up creative excuses	3	2	1	

	Very Likely	Somewhat Likely	Not Likely	Importance
x. is persistent in completing tasks of interest	3	2	1	
y. is easily bored with routine tasks	3	2	1	
z. has difficulty moving on to another topic	3	2	1	
aa. is attentive to detail in the environment	3	2	1	
bb. takes action to help someone in need	3	2	1	
cc. likes to work in small groups	3	2	1	
dd. has a high interest in school	3	2	1	
ee. is able to see cause and effect relationships	3	2	1	
ff. takes the lead in small groups	3	2	1	
gg. expresses advanced verbal ability through interaction with adults	3	2	1	
hh. can carry out a multi-step command	3	2	1	
ii. is adept at completing complex puzzles and block designs	3	2	1	
jj. possesses more advanced math skills than most students	3	2	1	
kk. is able to produce solutions when no one else can	3	2	1	
ll. can apply his/her understanding of concepts in new contexts	3	2	1	
mm. is flexible in the face of change	3	2	1	
nn. is able to speak more than one language	3	2	1	
oo. has an awareness of issues related to his/her community	3	2	1	

2. How many of the characteristics listed above, and which ones, would have to be present for you to identify a student as gifted/talented?

IV. Kindergarten Readiness

1. Please indicate how important it is for a student entering kindergarten to demonstrate competence in the following areas by circling the corresponding number.

	Very Important	Somewhat Important	Not Important
a. <i>Social and Personal Development</i> (e.g., follows classroom rules, takes turns, pays attention, is not disruptive, separates easily from parents, finishes tasks, works cooperatively)	3	2	1
b. <i>Language & Literacy</i> (e.g., uses letter-like shapes and letters to depict words, identifies some letters in the alphabet, understands sound symbol relationship, recognizes name in print)	3	2	1
c. <i>Mathematical Thinking</i> (e.g., recognizes patterns and duplicates them, can count to twenty or more, understands the concept of number and quantity, identifies shapes, colors, knows the days of the week, months of the year)	3	2	1
d. <i>Scientific Thinking</i> (e.g., uses senses to observe characteristics of living or nonliving things, makes comparisons between objects, seeks answers to questions through active investigation)	3	2	1
e. <i>Physical Development</i> (e.g., has well developed gross and fine motor skills, performs self care tasks competently, is physically healthy, rested, and well nourished, cuts with scissors, uses pencils and paint brushes)	3	2	1

2. Of these areas, which area do you believe is the most important factor in determining kindergarten readiness?

V. Demographics

Please indicate your answers by circling the corresponding number.

1. What is your gender?

Male	01
Female	02

2. Which best describes your race? Circle one or more:

American Indian or Alaska Native	01
Asian	02
Black or African American	03
Hispanic or Latino	04
Native Hawaiian or Other Pacific Islander	05
White	06

3. Counting this school year, how many years have you taught each of the following grades and programs? WRITE THE NUMBER OF YEARS TO THE NEAREST HALF YEAR (For example, 2.5, 3.5) PLEASE INCLUDE PART-TIME TEACHING WRITE "O" IF YOU HAVE NEVER TAUGHT THE GRADE OR PROGRAM LISTED.

Grade or Program Taught	Total Years
Preschool or Head Start	
Kindergarten (including Transitional/Readiness)	
Kindergarten and Transitional/pre-first grade	
First grade	
Second through fifth grade	
Sixth grade or higher	
English as a Second Language (ESL) program	
Bilingual education program	
Special education program	
Physical education program	
Art or music program	
Gifted and Talented program	

4. Counting this school year, how many years have you taught in your current school including part-time teaching? WRITE THE NUMBER OF YEARS TO THE NEAREST HALF YEAR (For example, 2.5, 3.5)

_____ Years

5. What is the highest level of education you have completed? CIRCLE ONLY ONE NUMBER.

a. High school diploma or GED	01
b. Associate's degree	02
c. Bachelor's	03
d. At least one year of course work beyond a Bachelor's but not a graduate degree	04
e. Master's	05
f. Education specialist or professional diploma based on at least one year of course work past a Master's degree level	06
g. Doctorate	07
h. Other (PLEASE SPECIFY) _____	08

6. In what areas are you certified? CIRCLE ONE NUMBER ON EACH LINE.

	YES	NO
a. Elementary education	01	02
b. Early childhood	01	02
c. Other (PLEASE SPECIFY) _____	01	02

7. Classroom Demographics:

a. What is the total number of students in your class(es)? _____
b. How many of your students are eligible to receive special education services? ____
c. How many ESL/LEP students are in your class(es)? _____
d. Does your school identify students as gifted at the Kindergarten level? _____
e. If so, how many of your students are classified as gifted? _____
f. Does your school offer gifted programming for Kindergarteners? _____ If so, how many of your students are participating in a G/T program?

APPENDIX B

Semi-structured Observation Protocol

Semi-structured Observation Protocol

The semi-structured observation protocol included four sections—the classroom context (including a description of the physical, material, and human resources in the school and classroom, room configuration, and classroom routines); the interactions between the teacher and students (including the types and frequency of individual student feedback, praise/reprimand ratios, types and frequency of student/student interactions); learning experiences (including the specific curriculum, instruction, and assessment experienced by the children); and the students (including individual students' profiles, particularly characteristics of demonstrated or potential giftedness and talent).

***Primary Grades Context-Based Gifted Identification Project
Observation Protocol***

Fall, 2003—Phase I: Context description

Describe the classroom:

- What does the physical classroom space look like?
- Describe resources, class configuration, #/ratio of adults/children, demographics, schedule, other important details . . .
- How are transitions communicated and executed?

Describe the inner-workings of the classroom:

- What is the tone and tenor of the classroom?
- How do teachers (and other adults) and students interact? Tone? Vocabulary? Purpose? Describe the context of adult/adult, adult/child and child/child communications.
- What procedures (overt and tacit) exist? Who wields power and how is it negotiated?

What happens in the classroom?

- Describe the procedures, schedule, and overarching framework of the day.
- What is taught and how? (For example, how is the content and process determined? How is student learning pre-assessed? How does the teacher determine whether and to what degree the students have mastered the intended objectives? Are students' interests and preferences for learning included? If so, how and to what degree?)
- What evidence of teacher planning is observed? How does the teacher use planning time?
- Describe strategies used, classroom management techniques, groupings, classroom interruptions/disruptions, degree of challenge . . .
- How are students' special needs (e.g., speech, ESL, LD, ADD/ADHD, G/T) addressed (e.g., in-class, pull-out, resource support, other)?
- Describe how (and if) the teacher modifies the resources, pace, learning tasks, groupings, etc. for individual learners. What is the purpose of the modification (e.g., behavior modification, to extend learning, to scaffold . . .)?
- What evidence of talent do you observe in the classroom?

Who are the players and characters in the classroom?

- Describe the teacher in action. What is her teaching style, her emphasis, her tone and emphasis?
- Describe the students, both collectively and individually. Write mini sketches of prominent (and prominent to you) students in the classroom.

- What adults and other children become involved in this classroom. Describe any volunteers, itinerant teachers, resource support, assistants/para-professionals, other . . .
- For a period of time (30 minutes?), follow in groups and in the focus of your observation, an individual student that is either what you view as "typical, average, on-grade level learner," "struggling," and "above-average, potentially gifted learner." From their perspective, describe the classroom, the teacher, the learning experience, the degree of fit between the learner and the task, other . . .

APPENDIX C

Spring Changes: Kindergarten Lesson

Spring Changes

Overview:

This is a collection of lessons intended to help students understand spring as a season of change. Students will hear poems, stories, and music about spring and will discuss the concept of change as it relates to the season.

Lesson Duration:

The length of lessons is flexible, but each typically takes forty minutes.

Instructional Objectives:

As a result of this lesson, students will

Know

- Spring is a season of change.
- Spring is one of four seasons.
- Seasons change because of the earth's position relative to the sun.
- Specific changes in spring are seen in: animal behavior, plant life, and weather (including sunlight, temperature, and rain fall).

Understand

- The concept of change.
- Change can be good and bad.
- Change happens outside and inside.
- Some changes repeat over and over.
- The earth changes through the seasons.

Be able to

- Look at springtime pictures and discuss prior knowledge about spring.
- Listen to, read, and discuss poetry about spring changes.
- Listen to and discuss stories about spring changes.
- Dramatize Vivaldi's *Spring* from his work *The Four Seasons* and discuss how the music changes to reflect spring.
- Create squares for a class "Spring" board game.

Materials:

- Chart paper
- Colored poster board
- Crayons, markers, and pencils
- Spring pictures (see examples)
- White or cream colored construction paper, precut to 4x4 inch squares
- Spring poems (see examples)
- Antonio Vivaldi's *The Four Seasons* (*Spring*, from the first movement)
- The story of Persephone from D'Aulieres Greek Myths and Legends
- <http://www.scienceu.com/observatory/articles/seasons/>
- The Reasons for Seasons by: Gail Gibbons

Lesson Procedures:**Day One: Introduction to Spring****Materials:**

- Chart paper
- Spring pictures (see examples or collect and share your own choices)

Steps in Lesson

Group your students heterogeneously. If possible, pair groups of children with an adult. Pass 8 or 9 pictures of spring to each group, asking them to talk about what they see in each picture. Facilitate discussion by asking, "What colors do you see? What kinds of plants do you see? What does the weather look like? What are the people or animals doing? How do the pictures make you feel? What do the pictures make you think about?" Make sure that the pictures are passed between groups so that students have an opportunity to view them all.

After some time, collect the pictures and tape them to the board, or to another spot where they can be seen. Then gather your class together in a common seating area. Make sure that everyone can see the chart paper and the spring pictures. Ask, "What season do you think these pictures show?" When the response, "Spring," is stated, write the word in large letters in the middle of the chart paper. Circle the word. Next, say, "Today we are beginning to learn about spring. Spring is a season of changes. You might have noticed some of the things that change during spring when you looked at the pictures. What do you think changes during spring?" As students respond, accept appropriate thoughts, grouping them in spokes off the circled word "Spring."

Now say, "Change can be good or bad. We have started talking about what changes during the spring. Which changes do you think are good changes? Which changes do you think are bad changes?"

Finally, tell your class that their next spring lesson will involve listening to poems about the changes that happen during spring.

Day Two: Poems about Spring

Materials:

- Three pieces of chart paper
- "Spring" by: Rob McCracken
- "spring is like a perhaps hand" by: e.e. cummings
- "Spring" by: James Joyce
- "Spring Again" by Karla Kuskin
- Copies of the above poems
- Three adults (including yourself)

Before beginning the lesson, divide your class into three groups, considering these things:

- Group one will be asked to read and/or listen to e.e. cummings's poem, "spring is like a perhaps hand," which creates an analogy between spring and a hand. This reading will be preceded by a discussion about analogies, and followed by questions and discussion requiring significant thought and reflection.
- Group two will be asked to read and/or listen to James Joyce's poem, "Spring," which creates an analogy between spring air and butterflies, and which anthropomorphizes the earth. This reading will be preceded by a discussion about analogies, and followed by questions and discussion requiring thought and reflection.
- Group three will be asked to read and/or listen to Karla Kuskin's poem, "Spring Again," which features a narrator whose behavior and clothing is changing due to spring. This reading will be preceded by questions about changes in spring, and followed by discussion requiring thought and reflection.

Please note that each group will be discussing the same concept and reaching similar understandings. However, group three tackles a less difficult poem, group one tackles a more difficult poem, and more scaffolding is provided for groups two and three.

To begin this lesson, post Rob McCracken's poem (written on large easel paper). Pointing out the pictures of spring, remind the class that they are learning about changes that occur during the spring season. Then tell them that today they will hear two different poems about spring and springtime changes.

Say, "The first poem you will hear was written by Rob McCracken. Listen to the poem. See if he write about spring changes in his poem." Then read McCracken's poem once without stopping.

Spring**by: Rob McCracken**

Today is the day when bold kites fly
When cumulus clouds roar across the sky
When robins return, when children cheer
When light rain beckons spring to appear
Today is the day when daffodils bloom
Which children pick to fill the room
Today is the day when grasses green
When leaves burst forth for spring to be seen.

Ask, "Did he write about anything that changes because it is spring?" Call on students to share their initial thoughts. Then spend some time going over difficult vocabulary in the poem such as: bold, cumulus, beckons, burst, and forth. Next, re-read the poem. Ask, "What changes did Rob McCracken write about?" As students answer, underline the phrases appropriate to their answers. For example, if one says, "He wrote about the birds," underline: robins return. If another says, "He wrote about flowers," underline: daffodils bloom. Other phrases you might underline include: kites fly, clouds roar, children cheer, rain beckons, grasses green, leaves burst forth. Read the poem a third time, asking students to join you. Say, "This poem helps us see that spring is a season of change. Together, we talked about spring changes in the weather, in plants and in animals."

Next, tell the class that they are going to divide into groups and hear another poem about spring and change.

Group One:

Tell the group that they are going to read a poem that has an analogy in it. Share that an analogy is a comparison, and that analogies compare two things. Give some concrete examples of analogies such as: the sun is like a warm blanket, or the grass is a soft bed. Then ask the group to look out of the classroom windows, or to picture the outside during spring. What if they could reach out with their hands and change something outside. What would they change?

Now share that the poem they are going to hear contains an analogy comparing spring to a hand. Say, "The man who wrote this poem, e.e. cummings, is comparing spring to a hand that makes changes. See if you can listen for what the hand changes."

Distribute copies of the poem, and read the poem through once without stopping, allowing students to read along silently. Try to avoid stopping at the end of each line, instead reading through naturally. If possible, include gestures as if you were the hand.

spring is like a perhaps hand
by: e.e. cummings

spring is like a perhaps hand
(which comes carefully
out of nowhere) arranging
a window, into which people look (while
people stare
arranging and changing placing
carefully there a strange
thing and a known thing here) and
changing everything carefully
spring is like a perhaps
hand in a window
(carefully to
and fro moving new and
old things, while
people stare carefully
moving a perhaps
fraction of a flower here placing
an inch of air there) and
without breaking anything

Ask, "What changes did the hand make? Can you describe what happened in the poem?" Allow students to respond. If students seem to have trouble, ask them to think about arranging flowers in a vase or decorating a Christmas tree. Say, "Using our hands, we might try different ways the flowers or ornaments can be arranged. We might say, 'Perhaps it would look nice like this, or perhaps I should move this over there. So we use our hands to make changes.'" Continue discussing how the hand in the poem makes changes, pointing to different lines of the poem until the group seems to understand the analogy as well as the changes the hand makes.

Now read the poem again, encouraging students to join you. Then say, "What would you change if your hands made spring changes?" Finally, ask the group to create their own analogies comparing spring to something. Give them the phrase, "Spring is like ____."

Group Two:

Tell the group that they are going to read a poem that has an analogy in it. Share that an analogy is a comparison, and that analogies compare two things. Give some concrete examples of analogies such as: the sun is like a warm blanket, or the grass is a soft bed. Say, "The man who wrote this poem, James Joyce, is comparing spring air to a butterfly's wings. He also makes the earth seem like a person who can be happy and sing."

Ask the group to close their eyes or look out of the classroom windows and picture spring. How does the air feel? What do they see? Distribute copies of the poem, and read the poem through once without stopping, allowing students to read along silently.

Spring**by: James Joyce**

**The air is like a butterfly
frail with blue wings
The happy earth looks at the sky
and sings**

Ask, "Did you hear the analogy? Why is the air like a butterfly's wings?" Encourage discussion about how the air feels soft and light in the spring. Then ask, "What did the earth do in the poem?" Encourage discussion about why Joyce writes that the earth is happy and sings in the spring.

Finally, say, "Can you make an analogy about spring?" Discuss the following possible analogies: the spring air is like _____, the spring sky is like _____, the spring earth is like _____.

Group Three:

Tell the group that they are going to hear a poem about changes in the spring. Say, "The woman who wrote this poem, Karla Kuskin, is changing her behavior because it is spring." Ask the group to listen for any spring changes they hear in the poem. Distribute copies of the poem, and read the poem through once without stopping, allowing students to read along silently.

Spring Again
by: Karla Kuskin

**Spring again
 Spring again
 Spring again
 Isn't it?
 Buds on the branches
 A breeze in the blue
 And me without mittens
 My sweater unbuttoned
 A spring full of things
 all before me to do.**

Ask, "Did you hear about the changes Kuskin made? What did she do?" Now say, "See if you hear any other changes that Kuskin writes about." Read the poem again, inviting the group to join you. Afterward, focus on the lines: Buds on the branches/ A breeze in the blue. Discuss why there are buds, why there is a breeze and what the phrase, "In the blue," means. Finally, ask, "What changes do you make in the spring?"

Now gather your class together again. Ask each group to share their poem and facilitate discussion about how spring changes are reflected in each poem. When groups mention spring changes, write them in list form on the board. As a closing discussion say, "We have talked a lot about changes that happen during spring. Change can happen inside and outside. What changes happen outside during spring? What changes happen inside during spring?"

Day Three: Why does winter change into spring?

Materials:

- The Reasons for Seasons by: Gail Gibbons
- <http://www.scienceu.com/observatory/articles/seasons/>
- The myth of Persephone from D'aulieres Greek Myths and Legends

Begin by a general review discussion concerning spring time changes. Then say, "We know that there are changes in the weather, in nature, and in animals because it is spring. We have talked about how change can be bad or good, and about how change can happen inside and outside. Today we are going to learn about why winter changes into spring. Why do you think winter changes into spring?" Allow children to share any prior knowledge they may have about the seasonal changes.

Now say, "Let's read a story from many, many years ago. This story comes from Greece, and it is called a myth. A long time ago in Greece, people thought that powerful gods and goddesses controlled the world. They thought that a goddess named Demeter controlled the seasons. We call this story a myth, because we know it is not true. While I read, see if you can figure out why the Greeks thought winter changes into spring." Read the myth, stopping to scaffold for understanding by answering questions or giving further information as needs arise. Then ask, "Why did the Greeks think winter changes into spring?" Continue discussion and clarification until the class understands how Persephone played a role in Demeter's control of the seasons. Remind them that this is a myth, and that the Greeks do not believe the myth any longer.

Now say, "Our knowledge about why winter changes into spring is different now. We know a lot more about the earth and seasons. Let's look at a website that shows what we know about the earth and the changing seasons."

Show <http://www.scienceu.com/observatory/articles/seasons> and read through this abbreviated portion of the text:

"You have noticed that the weather changes during the year. It is hotter during the summer, colder in winter, and somewhere in between during spring and fall. These are the seasons that repeat every year. What causes these changes? This picture (point to the animated picture) shows what the earth looks like from the sun. It shows the changes during one year. We get our heat from the sun, and you can see that the part of the earth that faces the sun changes all year. This is because the earth is tilted as it moves around the sun. That means that during the spring and summer the part of the earth where we are will lean more directly toward the heat of the sun. We have seasons, like spring, because of how the earth tilts toward or away from the sun."

Now ask, "According to the website, why does winter change into spring? How is this different from the old Greek myth?"

Finally, tell the class that you are going to share a book about the seasons. Say, "As I read, think about what the book says about why winter changes into spring." Read *The*

Reasons for Seasons by Gail Gibbons. Be sure to scaffold for understanding by answering questions or giving further information as needs arise.

Afterward ask, "According to this book, why does winter change into spring?" Invite thoughts and ideas. Then say, "The earth changes through the seasons. This is a change that happens over and over. Who can tell me why the seasons change over and over?" In closing, share that during the next lesson they will hear some music about spring.

Day Four: Music, Change and Spring

Materials:

- Vivaldi's *The Four Seasons*

Begin by reviewing what the class has learned about spring and change. Then share that they are going to listen to some music by a composer named Antonio Vivaldi, whose most popular musical piece is called *The Four Seasons*. Tell the class that they are going to listen to part of *The Four Seasons* called *Spring*. Say, "Sometimes music can tell a story. The notes in the music are like the words in a book. As the notes change, the story changes. Vivaldi's music is like a story about spring. When the music changes, it tells about changes in spring time. See if you can hear the changes." Then play the selection through once without stopping.

Afterward, ask the class what they thought of the music. Invite them to share ideas about how the music changed, or even to tell the story the music told. Then play the music again. Ask, "When the music was harder or louder, what change might that be? When the music was lighter or softer, what change might that be? When the notes were faster, what change might that be? When the notes were slower what change might that be?" (Please note: it might help to pause the music during significant changes and ask these questions rather than waiting until the entire piece has played through.)

Now divide the class into groups. Depending on the make-up of your class, you might want to pair an adult with each group. You also might want to think about the students with dramatic strengths and abilities as you create groups. Tell the class that Vivaldi told a story about spring with music, and that you would like them to tell a story about spring using their bodies. Ask them to think about spring changes in their groups, and to decide on a skit (with talking) or a mime (silent) that would show one spring time change.

After some time, allow each group to present their skit or mime.

Day Five: A Spring Board Game

Materials:

- posterboard
- 4x4 pieces of paper
- pencils, crayons, and marker
- lined paper
- three adults (including yourself)

Before the lesson begins, divide your class into three groups. When creating each group, try to focus on the strengths of the students. Group one should be mathematically able, as they will be creating mathematics problems about spring. Group two should be artistically able, as they will be creating pictures of changes in spring. Group three should be linguistically able, as they will be writing questions about changes in spring.

Tell the class that they have participated in four lessons about spring and change. Share that today's lesson will be an opportunity for them to show what they have learned by creating a board game about spring and change. Tell them that the board game will belong to the class, and that at the end of the lesson, the class will get a chance to play.

Show the class the posterboard, and write the word "Start" in the top left corner. Tell the students that this will be the kind of board game that has square spaces for players to move to from start (point to start) to finish (write "finish" in the bottom right corner).

Now divide your class according to the groups you have created. Each group's leader (the adult) should give directions as to what the group members will do.

Group one should write a math story problem about something that changes during spring, such as, "On March first I saw three daffodils growing. On March sixth I saw five more! How many daffodils did I see in all?" or, "When Shane woke up at 7:00 in the morning it was raining. It stopped raining just in time for recess at 12:00. How long did the rain last?"

Group two should draw a picture of something that changes during spring. You might want this group to write about what they have drawn as well.

Group three should write a question about something that changes during spring such as, "In the spring, is the weather warmer or colder than it is in the winter?" or, "What grows in the spring?" or, "What kinds of clothes do people wear in the spring?" or, "What happens to the trees in the spring?"

Groups one and three should write their problem or question on the lined paper first and then check it with their adult leader before re-writing it on the 4x4 square. At this point, help with writing should be given if students have trouble fitting their words on the small 4x4 square.

When groups finish, collect the squares and glue them on the posterboard to form a path from start to finish. Ask the class to come to the carpet. Tell them that for this game,

players only move one square at a time. If the square they come to is a question, they must answer the question. If it is a picture, they must say what change the picture shows. Tell them that the point of the game is to reach the finish without making more than three mistakes (incorrect answers count as mistakes). If they make four mistakes, they must go back to start. Say, "Let's play the game. You'll play as a class and I'll play against you."

Begin playing the game. With each stop, allow the creator of the square to stand or raise his or her hand and be acknowledged.

In closing say, "We learned about spring. We talked about how changes in spring are seen in animal behavior, plant life, and weather. We learned that spring is one of four seasons that change because of the earth's position relative to the sun. We also learned about change. We know that change can be good and bad, change happens outside and inside, and that some changes repeat over and over. Think back to the first lesson, when we looked at pictures of spring. Now create your own picture of spring. Make your picture in your mind. What changes do you see? Who would like to tell us about their picture?"

Close by having students describe how they picture spring.

APPENDIX D

Model Lessons — Jamestown/Pocahontas

Pocahontas—Fact vs. Fiction
Day 1 Lesson Plan

Objectives: * = Addressed in today's lesson

As a result of this unit, students will KNOW . . .

- . . . that facts are things (information) that are true*
- . . . that fiction or fantasy are things (information) that are not true ("pretend")
- . . . **facts of the Pocahontas story***
- . . . **facts of the Jamestown story***

As a result of this unit, students will UNDERSTAND . . .

- . . . that Pocahontas contributed to the foundation of the United States by assisting its first settlers at Jamestown*
- . . . that authors use facts and fiction for different purposes
- . . . that stories often combine facts and fiction
- . . . that we can distinguish between fact and fiction both by using our minds (reasoning) and by consulting outside (nonfiction) sources

As a result of this unit, students will BE ABLE TO . . .

- . . . **explain how Pocahontas contributed to the foundation of the United States***
- . . . distinguish between fact and fiction
- . . . glean information from poems, nonfiction books, and media*
- . . . respond to new information through writing (opinions, summaries, etc.)

Materials Needed:

- Pocahontas Poem (Part 1) on chart paper
- K-W-L chart (on chart paper)
- Day 1 pictures on cardstock (with double-sided tape on back)

<i>Steps in Lesson</i>	<i>Comments</i>
<ol style="list-style-type: none"> 1. Complete a K-W-L chart (K and W only) on what students know, want to know, and have learned about Pocahontas. 2. Present "Part 1" of the Pocahontas Poem on chart paper—after reading it through completely, go back and read each stanza again, pausing and asking a different group of children to recite each stanza (mixed readiness/learning style groups). 3. Pull out Day 1 picture strips and ask volunteers from class to place them by the appropriate stanza on the poem chart. 4. Go back to K-W-L chart and . . . <ol style="list-style-type: none"> a. . . √ off things that have been confirmed in K column, b. . . fill in L column with new information. 5. Closure—Journal prompt: "My favorite new Pocahontas fact." 	<p>1-4. <i>Introduce the concept of "fact" here—say that you are interested in finding out the true facts students know about Pocahontas. Students may contribute fantasy items to the chart; that's OK—in a later lesson, you'll go back and clarify and ask students to distinguish between the factual and fictional information on the chart.</i></p> <p>5. <i>Reinforce def. of fact</i></p>

Pocahontas

Part 1

Pocahontas—Indian girl
A happy princess in her world

One day the Englishmen came on big ships
They set up a town near where she lived.

The Englishmen needed food to eat
She helped them trade for corn and meat

John Smith fell in an icy lake
The Indians helped him to escape

But some were angry at this man
They wanted to hurt him—a secret plan

Pocahontas saved him, just in time
She helped the Indians change their minds.

Part 2

Pocahontas and John Smith were friends
And so were the Indians and Englishmen.

But one day John Smith got hurt and went home
Leaving his Englishmen all alone

The Indians and Englishmen began to fight
Pocahontas tried to stop them with all her might

One night the Englishmen kidnapped her
And she became an English girl.

She married John—but not John Smith
And went to England on a big ship

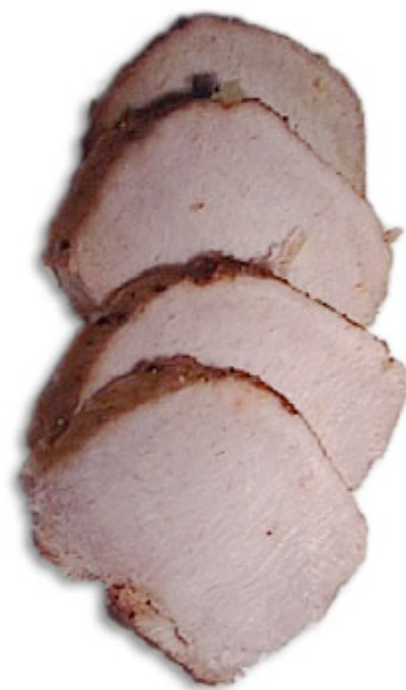
She missed her homeland and was sad
But thankful, too, for the new life she had.

"Thank you, Pocahontas," We want to say
"for helping to start the USA!"



Pocahontas
Algonquian Princess





Pocahontas—Fact vs. Fiction
Day 2 Lesson Plan

Objectives: * = Addressed in today's lesson

As a result of this unit, students will KNOW . . .

- . . . that facts are things (information) that are true*
- . . . that fiction or fantasy are things (information) that are not true ("pretend")
- . . . **facts of the Pocahontas story***
- . . . **facts of the Jamestown story***

As a result of this unit, students will UNDERSTAND . . .

- . . . that Pocahontas contributed to the foundation of the United States by assisting its first settlers at Jamestown*
- . . . that stories often combine facts and fiction
- . . . that we can distinguish between fact and fiction both by using our minds (reasoning) and by consulting outside (nonfiction) sources*

As a result of this unit, students will BE ABLE TO . . .

- . . . **explain how Pocahontas contributed to the foundation of the United States***
- . . . distinguish between fact and fiction
- . . . glean information from poems, nonfiction books, and media*
- . . . respond to new information through writing (opinions, summaries, etc.)

Materials Needed:

- Pocahontas Poem (part 2) on chart paper
- K-W-L chart from preceding day, as well as room to expand (on chart paper)
- Day 2 pictures on cardstock (with double-sided tape on back)

<i>Steps in Lesson</i>	<i>Comments</i>
<ol style="list-style-type: none"> 1. Review K-W-L chart and ask if there are any more "W's." 2. Read Poem Part 1 again and introduce Part 2. 3. Repeat procedure for steps 3 and 4 from Day 1 <ul style="list-style-type: none"> • Pull out Day 2 picture strips and ask volunteers from class to place them by the appropriate stanza on the poem chart. • Go back to K-W-L chart and . . . <ul style="list-style-type: none"> ○ . . . ✓ off things that have been confirmed in K column ○ . . . fill in L column with new information. 4. Read book, <i>The True Story of Pocahontas</i>. 5. Add to K-W-L Chart 6. Closure—new journal prompt: "My favorite new fact." 	<p><i>1-3. Reinforce definition of fact in this lesson.</i></p> <p><i>4. Discuss that this is a "true" book—a history book, not a story book—written by people who studied what really happened in the past.</i></p>





Pocahontas—Fact vs. Fiction
Day 3 Lesson Plan

Objectives: * = Addressed in today's lesson

As a result of this unit, students will KNOW . . .

- . . . that facts are things (information) that are true*
- . . . that fiction or fantasy are things (information) that are not true ("pretend")*
- . . . **facts of the Pocahontas story***
- . . . **facts of the Jamestown story**

As a result of this unit, students will UNDERSTAND . . .

- . . . that Pocahontas contributed to the foundation of the United States by assisting its first settlers at Jamestown*
- . . . that authors use facts and fiction for different purposes
- . . . that stories often combine facts and fiction*
- . . . that we can distinguish between fact and fiction both by using our minds (reasoning) and by consulting outside (nonfiction) sources*

As a result of this unit, students will BE ABLE TO . . .

- . . . **explain how Pocahontas contributed to the foundation of the United States**
- . . . distinguish between fact and fiction*
- . . . glean information from poems, nonfiction books, and media*
- . . . respond to new information through writing and other modalities*

Materials Needed:

- Previously completed K-W-L chart and Fact/Fiction T-Chart (on chart paper)
- Fact/fiction pictures on cardstock (with double-sided tape on back)
- Tape recorder, props, art supplies
- Story board planning sheet.

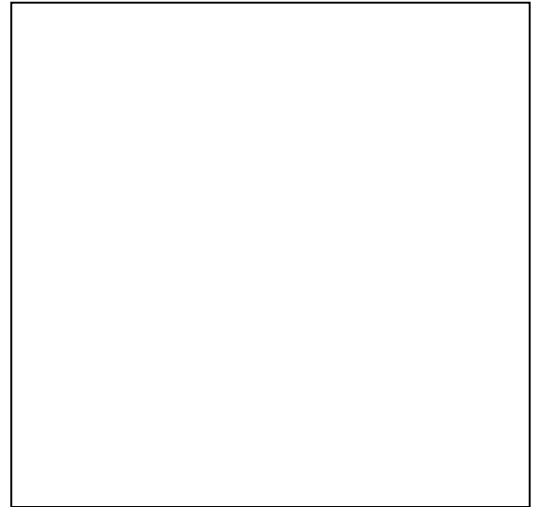
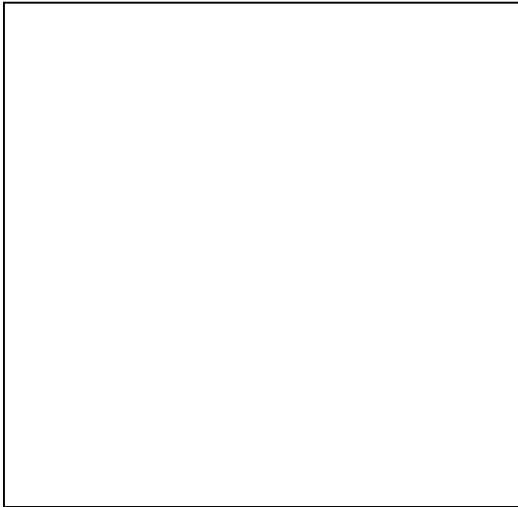
<i>Steps in Lesson</i>	<i>Comments</i>
<p>1. Discuss the difference between fact and fiction (fantasy, pretend, etc.)</p> <p>2. Select <i>student pairs</i> to work together to sort various <i>picture pairs</i> according to whether they represent something factual or fictional (tape pictures onto T-chart on chart paper). Ask each student-pair to explain/defend its choice.</p> <p>3. Explain that the Pocahontas information they learned so far this week has been FACTual (review why)</p> <p>4. Refer to the K-W-L chart to see if any of the Ks on the chart are not crossed off. Discuss that these might be pretend; explain that that we'll investigate this more tomorrow.</p> <p>5. Assign students to learning style groups (as determined by teacher-assessment of preferred modality). In these groups, they will be given the task of developing an original representation of how Pocahontas helped the first American settlement get started. They will also be required to include one "pretend" item in their presentation and ask their classmates to figure out which one was pretend. They will work in their preferred modality according to the following guidelines:</p> <p>6. Visual—Draw a mural or a series of pictures showing facts about how Pocahontas helped the new American settlers. Try to trick your classmates by putting one "pretend" picture into the mural. See if your classmates can find it. Begin by planning a list or storyboard.</p>	<p><i>There are enough picture pairs (7) for every student to have a chance to participate. By sorting the pictures in "opposite pairs," we can 1) help reinforce the difference between fact and fiction, 2) encourage student collaboration, and 3) speed up the process a bit (1 picture at a time would take too long and grow old).</i></p> <p><i>Pair students strategically for this picture sort. For example, the bear and elephant pairs are straightforward, and could start the process as well as involve your more concrete thinkers. On the other hand, the fairy and the dragon pairs require a greater leap and should be given to students who are able to think more abstractly.</i></p> <p><i>These groups may work all at once or be pulled during center time, and presented at the end of center time. In any case, an adult should work with each group and help facilitate the planning process. Each child will receive a graphic organizer for planning purposes. Items to consider when facilitating:</i></p> <ul style="list-style-type: none"> • <u>Visual</u>—Use the graphic organizer to plan the story together, but decide who will draw which final picture. • <u>Auditory</u>—Plan story in boxes using words and pictures, and decide who will speak each part when presenting. • <u>Kinesthetic</u>—Decide on a play, pantomime, or puppet show; use graphic organizer to plan story together first; then decide who will act out each part. <div> <p><u>Visual</u> List students</p> <p><u>Auditory:</u> List students</p> </div> <div> <p><u>Note:</u> These groups were formed on the basis of a conversation we had previously about each child's strengths and weaknesses. If you see that their placement does not match their strength in regard to the task, please rearrange them; we can talk about your decision making process later.</p> </div>

<p>7. <u>Auditory</u>—Make a tape-recording that tells facts about how Pocahontas helped the new American settlers. Try to trick your classmates by saying one "pretend" part in your story. See if your classmates can find it when you play the tape for them. Begin by planning a list or storyboard. Once the story is together, students can try to work in sound effects.</p> <p>8. <u>Kinesthetic</u>—Act out (in a play or pantomime) the facts about how Pocahontas helped the new American settlers. Try to trick your classmates by saying one "pretend" part in your play/pantomime/puppet show. See if your classmates can find it when you perform the play for them. Begin by planning a list or storyboard. Once the story is together, work in props and cues.</p> <p>9. Groups share their presentations.</p> <p>10. Journals—Possible Prompts:</p> <ul style="list-style-type: none"> • What helps you figure out whether something is fact or fiction? • What was the most important thing Pocahontas did to help us start our country? Why do you think that? • What did you like about your group activities today? What was hard about your group activity today? 	<p><u>Kinesthetic:</u> <i>List students</i></p> <p><i>You can let students select their own journal prompts, target certain prompts for certain students, or choose the journal prompt according to what you are least able to determine the students understand as a result of the group work and presentations.</i></p>
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Auditory

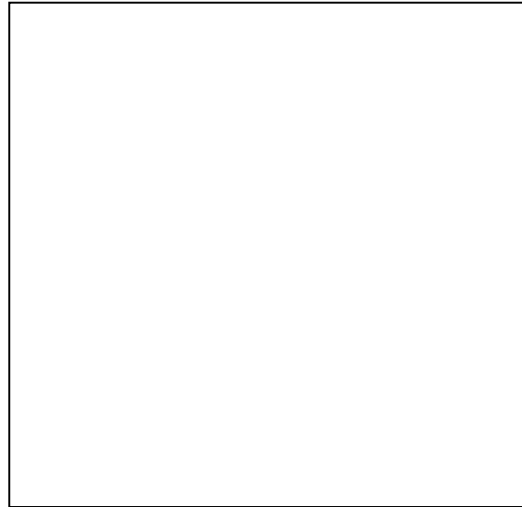
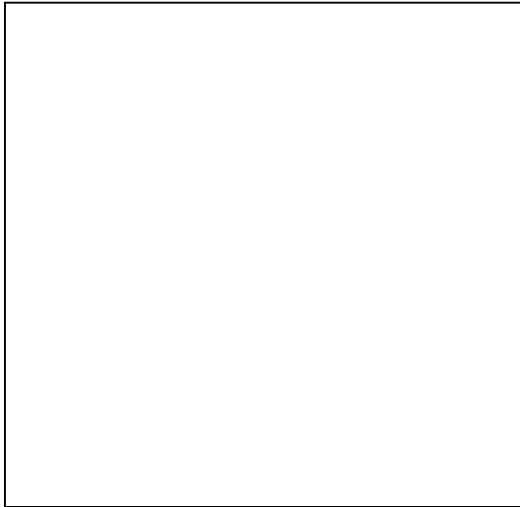
How did Pocahontas help the American settlers?

- Choose 3 real examples and 1 "pretend" example.
- Draw or write your examples in the boxes below.
- Circle the pretend example.
- You will be telling your friends a story about how Pocahontas helped by using these 4 examples.
- You will try to trick your friends to see if they can find the pretend example.
- Plan your examples here; then practice telling your story.



Kinesthetic**How did Pocahontas help the American settlers?**

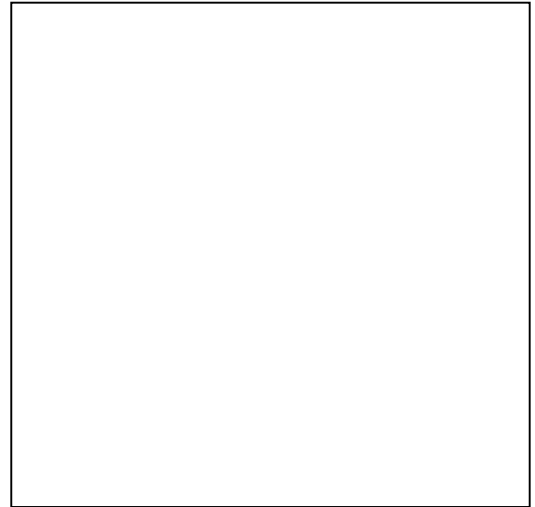
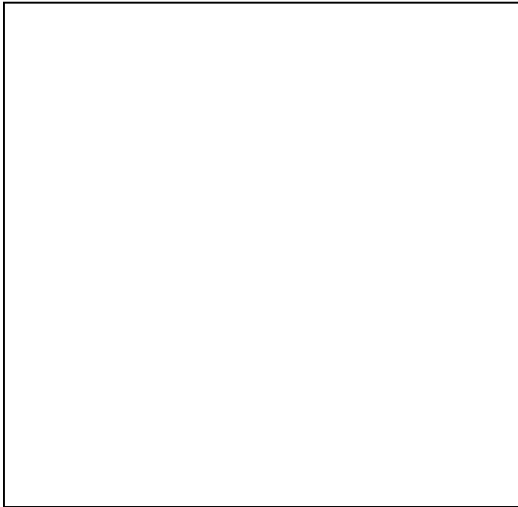
- Choose 3 real examples and make up 1 "pretend" example.
- Draw or write these examples in the boxes below.
- Circle the pretend example.
- You will explain how Pocahontas helped the English settlers by acting out these examples for the class.
- You will try to trick your friends to see if they can find the pretend example.
- Plan your play here; then practice acting it out.



Visual

How did Pocahontas help the American settlers?




- Choose 3 real examples and make up 1 "pretend" example.
- Draw these examples in the boxes below.
- Circle the pretend example.
- You will explain how Pocahontas helped the English settlers by sharing your drawings with the class.
- You will try to trick your friends to see if they can find the pretend example.
- Plan your drawings here; then draw them on big paper.






Disney's *Pocahontas*—Fact or Fiction

For each of the 10 movie pictures, tell if the information is **new** or **old** (if you have heard or seen it in the poem and/or book) and whether you think it is **fact** or **fiction**. If you find other scenes you want to talk about, draw them in the blank boxes and answer the same questions about them.

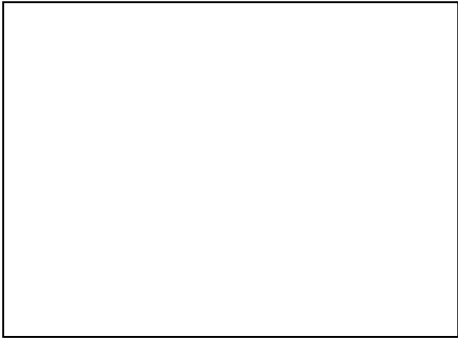

Movie Scene:	New or Old	Fact or Fiction—Why?
<p>1. Pocahontas lived in Virginia near the James River.</p> 		
<p>2. Pocahontas's father was the chief of the Powatans.</p> 		

Movie Scene:	New or Old	Fact or Fiction— Why?
<p>3. Pocahontas had a raccoon that dressed-up and acted like a human.</p> 		
<p>4. Pocahontas and John Smith met. They were friends.</p> 		
<p>5. Pocahontas talked to a willow tree named "Grandmother Willow."</p> 		




Movie Scene:	New or Old	Fact or Fiction— Why?
<p data-bbox="191 268 711 300">6. The Powatan and the settlers fought.</p> 		
<p data-bbox="191 783 651 856">7. Pocahontas changed the Indians' minds about hurting John Smith.</p> 		
<p data-bbox="191 1354 695 1428">8. Pocahontas helped the settlers trade for and grow corn.</p> 		

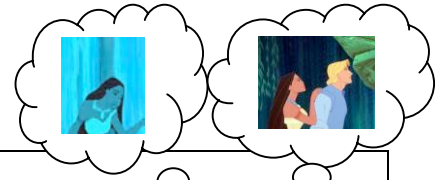
Movie Scene:	New or Old	Fact or Fiction— Why?
<p data-bbox="285 268 769 342">9. Pocahontas and John Smith fell in love and got married.</p> 		
<p data-bbox="285 684 769 758">10. Pocahontas stayed in Virginia and never went to England.</p> 		

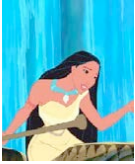





If you find other scenes you want to talk about, draw them in the blank boxes and answer the same questions about them.

Movie Scene:	New or Old	Fact or Fiction— Why?
<p>11. _____ _____</p> 		
<p>12. _____ _____</p> 		

Movie Scene:	New or Old	Fact or Fiction—Why?
<p>13. _____ _____</p> <div data-bbox="318 380 773 701" style="border: 1px solid black; height: 150px; width: 280px; margin-top: 10px;"></div>		

 <p>FAVORITE PART</p>  <p>FACT FICTION</p> <ul style="list-style-type: none"> • What was your favorite part of the movie? • Was it fact or fiction? • How do you know?" 	 <p>MOST PRETEND</p> <ul style="list-style-type: none"> • What was the "most pretend" part of the movie? • Why do you think so?



 <p>MOST PRETEND</p> <ul style="list-style-type: none"> • What was the "most pretend" part of the movie? • Why do you think so? 	<p>FAVORITE</p>    <p>Did you like the fiction parts or the fact parts better? Why?</p>	<p>OR</p>   <p>How do you think Pocahontas OR John Smith would feel about the fiction parts? Why?</p>

Pocahontas—Fact vs. Fiction
Day 4 Lesson Plan

Objectives: * = Addressed in today's lesson

As a result of this unit, students will KNOW . . .

- . . . that facts are things (information) that are true*
- . . . that fiction or fantasy are things (information) that are not true ("pretend")*
- . . . **facts of the Pocahontas story***
- . . . **facts of the Jamestown story***

As a result of this unit, students will UNDERSTAND . . .

- . . . that Pocahontas contributed to the foundation of the United States by assisting its first settlers at Jamestown*
- . . . that authors use facts and fiction for different purposes*
- . . . that stories often combine facts and fiction*
- . . . that we can distinguish between fact and fiction both by using our minds (reasoning) and by consulting outside (nonfiction) sources*

As a result of this unit, students will BE ABLE TO . . .

- . . . **explain how Pocahontas contributed to the foundation of the United States**
- . . . distinguish between fact and fiction*
- . . . glean information from poems, nonfiction books, and media
- . . . respond to new information through writing and other modalities*

Materials Needed:

- Pocahontas movie (Disney Cartoon)
- Video Map
- Word/picture outline of story

<i>Steps in Lesson</i>	<i>Comments</i>
<ol style="list-style-type: none"> 1. Students will complete the Video map while watching Disney's "Pocahontas." Teacher should pause the video after each of the scenes depicted on the Video Map, giving them time to record if they think the scene was fact or fiction and why they believe this (e.g., fact—we learned this in the book we read; fiction—raccoons can't dress up). 2. This map will include blank spaces for students to draw in other facts they recognize from the poem/book, AND/OR fictional parts that jump out at them. 3. Summary discussion of facts noted and fact vs. fiction (use icons in word/picture outline of story and tie these in with the movie to clarify) 4. Collect scene map and use as a pre-assessment for following day's journal prompt. 	<p><i>Students struggling with literacy can use illustrations, if necessary. Other options for non-writers: record answers on tape; dictate to teacher or TA.</i></p> <p><i>Teacher may want to limit this option to facts OR fiction for students struggling to keep up. Teacher may also choose to assign squares strategically to students who are ready (e.g., two of each for students who have demonstrated advanced understanding at "designated" discussion opportunities.</i></p>

Pocahontas—Fact vs. Fiction
Day 5 Lesson Plan

Objectives: * = Addressed in today's lesson

As a result of this unit, students will KNOW . . .

- . . . that facts are things (information) that are true*
- . . . that fiction or fantasy are things (information) that are not true ("pretend")*
- . . . **facts of the Pocahontas story***
- . . . **facts of the Jamestown story**

As a result of this unit, students will UNDERSTAND . . .

- . . . that Pocahontas contributed to the foundation of the United States by assisting its first settlers at Jamestown*
- . . . that authors use facts and fiction for different purposes
- . . . that stories often combine facts and fiction*
- . . . that we can distinguish between fact and fiction both by using our minds (reasoning) and by consulting outside (nonfiction) sources*

As a result of this unit, students will BE ABLE TO . . .

- . . . **explain how Pocahontas contributed to the foundation of the United States**
- . . . distinguish between fact and fiction*
- . . . glean information from poems, nonfiction books, and media*
- . . . respond to new information through writing and other modalities

Materials Needed:

- Pocahontas movie (Disney Cartoon)
- K-W-L chart (on chart paper)
- Word/picture outline of story

<i>Steps in Lesson</i>	<i>Comments</i>
<ol style="list-style-type: none"> 1. Briefly discuss the preceding day's scene map by placing the pictures from the map onto another Fact/Fiction T-chart. Ask students to add other facts/pretend things from the movie; use words for these additions. 2. Review difference between fact and fiction and discuss "Why should we know the facts behind the fiction?" 3. Tiered Journal Prompt (2 and 3 column prompts provided) <ul style="list-style-type: none"> • <u>All</u>—"What was the 'most pretend' part of the movie?" • <u>Struggling</u>—Scaffold with "What was your favorite part? Was it fact or fiction? How do you know?" • <u>Advanced</u>—Prompt further with "Did you like the pretend parts or the fact parts better? Why?" and "How do you think Pocahontas OR John Smith would feel about the pretend parts? Why?" 	<p><i>The two different journal prompts will be distributed to students based on their understanding of "fact vs. fiction" in the Pocahontas movie as revealed by the scene map they turned in after viewing the film.</i></p> <ul style="list-style-type: none"> • <i>Those who are still struggling to distinguish between fact and fiction will receive the two-column prompt. Those who have already mastered this distinction (all scenes correctly labeled and/or extra boxes completed) will receive the three-column prompt.</i>

Pocahontas Unit Outline

Lesson 1 (Monday)

1. Complete a K-W-L chart (K and W only) on Pocahontas.
2. Present "Part 1" of the Pocahontas Poem on chart paper—after reading it through completely, go back and read each stanza again, pausing and asking a different group of children to recite each stanza (mixed readiness/learning style groups).
3. Pull out picture strips and ask volunteers from class to place them by the appropriate stanza on the poem chart.
4. Go back to K-W-L chart and . . .
 - a. . . . check off things that have been confirmed in K column, and
 - b. . . . fill in L column with new information.

Lesson 2 (Tuesday)

1. Review K-W-L chart and ask if there are any more "W's."
2. Read Poem Part 1 again and introduce Part 2.
3. Repeat procedure for steps 3 and 4 from Day 1.
4. Read book, *The True Story of Pocahontas*.
5. Add to K-W-L Chart.

Lesson 3 (Wednesday)

1. Discuss the difference between fact and fiction (use 2 Pocahontas pictures as icons).
2. Sort various pictures (non-readers) and words (readers) into two categories on magnetic display board (words and pictures will have magnets on the back).
3. Explain that the Pocahontas information they learned so far this week has been FACTual.
4. Review K-W-L chart to see if any of the Ks on the chart are not crossed off. Discuss that these might be pretend, and that we'll investigate this more tomorrow.
5. Assign students to **learning style groups** (as determined by teacher-assessment of preferred modality). In these groups, they will create a representation of how Pocahontas contributed to the founding of the USA (Visual—series of pictures; kinesthetic—play or pantomime; auditory—tape recorded story with sound effects). They will be asked to include at least 3 facts and 1 piece of fiction (to try to "trick" their audience). They will present these products to the full class who will try to determine which piece of information was the pretend piece.
6. Journals—"What is your favorite new Pocahontas Fact that you learned this week?" (answer in words and pictures).

Lesson 4 (Thursday)

1. Watch Disney's "Pocahontas" and have students check off the facts they have already learned (each will have a scene map) as they occur in the film. This map will include blank spaces for students to draw in other facts they recognize from the poem/book, if they choose to do so.
2. Summary discussion of facts noted and fact vs. fiction (use icons)
3. Collect scene map and use as a pre-assessment for following day's journal prompt.

Lesson 5 (Friday)

4. Briefly discuss the preceding day's scene map by placing the pictures from the map onto another Fact/Fiction T-chart. Ask students to add others facts/pretend things from the movie; use words for these additions (continue to use icons).
5. Review difference between fact and fiction and discuss "Why should we know the facts behind the fiction?"
6. Tiered Journal Prompt (2 and 3 column prompts—provided):
 - All—"What was the 'most pretend' part of the movie?"
 - Struggling—Scaffold with "What was your favorite part? Was it fact or fiction? How do you know?"
 - Advanced—Prompt further with "Did you like the pretend parts of the fact parts better? Why?" and "How do you think Pocahontas OR John Smith would feel about the pretend parts? Why?"

"What was your favorite part of the movie? Was it fact or fiction? How do you know?"	"What was the 'most pretend' part of the movie? Why?"

"What was the 'most pretend' part of the movie? Why?"	"Did you like the fiction parts of the fact parts better? Why?"	"How do you think Pocahontas OR John Smith would feel about the fiction parts? Why?"

APPENDIX E

Model Lessons—Animals

What Do You Do With a Tail Like This?

An Interest-Based Lesson for First Grade Science

Instructional Objectives:

As a result of this lesson, students will

Know

- **As a result of this lesson, students will KNOW . . .**
- life needs (air, food, water, and a suitable place to live);
- physical characteristics of animals (body coverings, body shape, appendages, and methods of movement).

Understand

- **As a result of this lesson, students will UNDERSTAND . . .**
- Animals have physical features that allow them to survive in a particular place.

Be able to

Science

- . . . investigate and understand basic needs and life processes of plants and animals.
- . . . actively develop scientific investigation, reasoning, and logic skills.
- . . . examine ways in which animals' physical characteristics help them function in unique and specific ways to meet life needs.

Reading

- . . . use titles and pictures.
- . . . use knowledge of the . . . topic to read words.
- . . . preview the selection.
- . . . set a purpose for reading.
- . . . relate previous experiences to what is read.
- . . . make predictions about content.

Writing

- . . . generate ideas.
- . . . focus on one topic.
- . . . use descriptive words when writing about people, places, things, and events.
- . . . share writing with others.

Oral Language

- . . . listen and respond to a variety of media, including books . . .
- . . . participate in a variety of oral language activities . . .
- . . . express ideas orally in complete sentences.

Lesson Introductory Activity *The student will investigate and understand that animals, including people, have life needs and specific physical characteristics and can be classified according to certain characteristics.*

- life needs (air, food, water, and a suitable place to live);
- physical characteristics (body coverings, body shape, appendages, and methods of movement)

The student will write to communicate ideas.

- Generate ideas.
- Focus on one topic.
- Use descriptive words when writing about people, places, things, and events.
- Share writing with others.

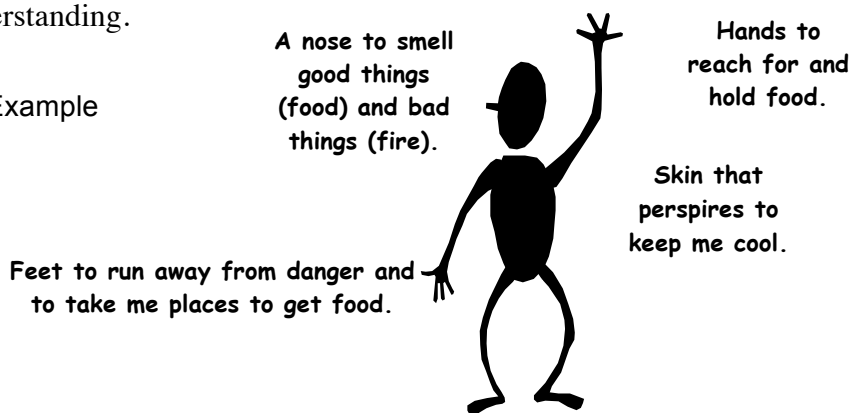
The student will continue to demonstrate growth in the use of oral language.

- Participate in a variety of oral language activities . . .
- Express ideas orally in complete sentences.

STEPS IN LESSON:

1. Discuss the basic "life needs" of people. As students contribute answers, list them on the white board. The following needs should be addressed: ***air, food, water, shelter***. Prompt as necessary
2. For each need listed on the white board, have students figure out how their bodies help them meet that need. Do this in the form of a TPS:
 - Think**—*Students think about the question "in their brains."*
 - Pair**—*Each student pairs with the person next to him/her; each pair is assigned a specific need to discuss.*
 - Share**—*Pairs share findings with full group. Teacher records results on white board.*
3. Each student will create his/her own labeled illustration to demonstrate this understanding.

Example



LEARNING STATIONS

LIFE PROCESSES

The student will investigate and understand that animals, including people, have life needs and specific physical characteristics and can be classified according to certain characteristics. Key concepts include:

- a. life needs (air, food, water, and a suitable place to live);
- b. physical characteristics (body coverings, body shape, appendages, and methods of movement); and
- c. other characteristics (wild/tame, water homes/land homes).

READING

The student will use meaning clues and language structure to expand vocabulary when reading.

- Use titles and pictures.
- Use knowledge of the . . . topic to read words.

The student will read and demonstrate comprehension of a variety of fiction and nonfiction.

- Preview the selection.
- Set a purpose for reading.
- Relate previous experiences to what is read.
- Make predictions about content.

WRITING

The student will write to communicate ideas.

- Generate ideas.
- Focus on one topic.
- Use descriptive words when writing about people, places, things, and events.
- Share writing with others.

ORAL LANGUAGE

The student will continue to demonstrate growth in the use of oral language.

- Listen and respond to a variety of media, including books . . .
- Participate in a variety of oral language activities . . .

STEPS IN LESSON

1. Review:

Students share drawings generated in previous lesson. Further the discussion of how our bodies help us by asking the following:

"How do our bodies protect us from weather and from danger?"

Possible answers include

- our skin protects our insides from heat/cold
- our ears help us hear danger
- our nose helps us smell fire
- our feet help us to run away from danger, etc.

2. Teacher Station

1. Groups rotate through and work with teacher to make hypotheses about animals and confirm/adjust conclusions based on the book's content.
 - Each group of 3-5 works with the tail pages first (as a model).
 - Each group then works with one additional double-page-spread.*
 - Groups are formed according to readiness as determined by performance on previous day's journal prompt.
 - Those showing deep insight into how the body equips us to attain our needs will work with the eyes or ears pages, as these are a bit more complex.
 - Those showing a more basic understanding of how the body equips us to attain our needs will work with the nose pages, as these are the most straight-forward.
 - Students should use the provided *graphic organizer* (#1) to assist them in organizing their thoughts, predictions, ideas, etc.

3. Interest Station

1. Students choose one animal to learn more about (from either double-page spread discussed in teacher station).
2. Students go to a second station to read glossary, consult additional books, listen to recordings (for struggling readers), and/or use Internet* to pursue interest further (see *graphic organizer* #2).

(* = May be strategically selected for differing readiness levels)

4. Group Share

1. Each child shares findings with full group.
2. Students talk together about one way in which each animal's body helps it meet its needs.

APPENDIX F

Model Lessons—Egypt

Egypt Lesson

Adapted from *Death: An Inquiry into Man's Mortal Weakness*
<http://library.thinkquest.org/16665/burialframe.htm>

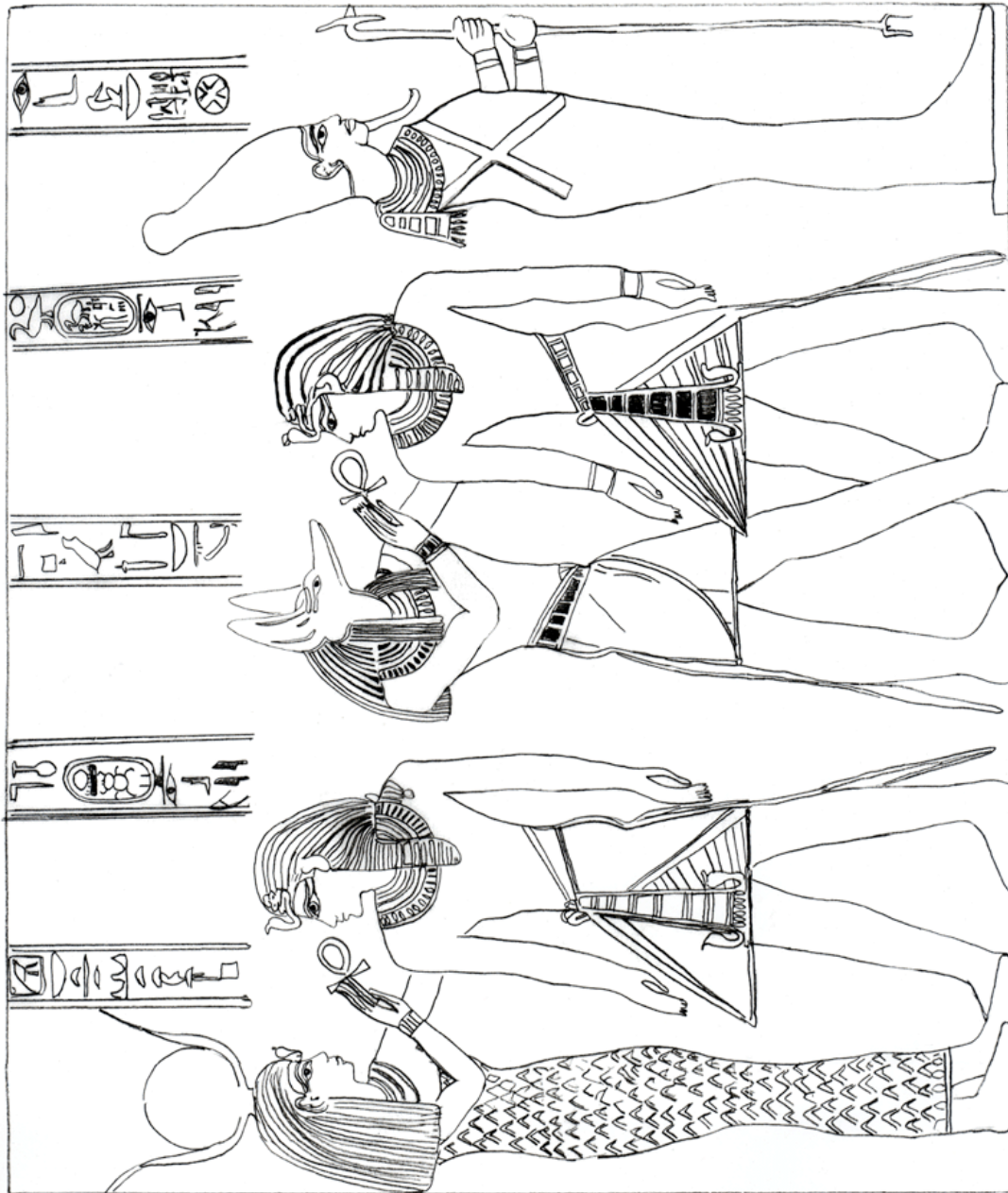
In the Solomon Islands, which are in the South Pacific Ocean, the dead were laid out on a reef for the sharks to eat. At a different point in their history, they stored skulls in fish-shaped containers.

Some Inuits (Alaska) covered the corpse with a small igloo. Because of the cold, the body would remain forever, unless it was eaten by polar bears.

The Aborigines of Australia left dead bodies in trees.

Muslims, especially those in the Middle East, have very strict rules about burying their dead. The body must be placed on its side and washed with warm water and soap, with the final washing having scented water. There must be a certain number of washings. The body is dried, perfumed, and wrapped in white cloth. Burial prayers are then said facing Mecca, the Muslim holy city, before a silent procession takes the corpse to its burial, where everyone shares in filling the grave with soil and a second pit with bricks while saying additional prayers.

The Pygmies (African Congo) appear to be sort of uncomfortable with death. When a person dies, they pull down his hut on top of him, and move their camp while relatives cry. Then the dead person is never mentioned again.



Note: This script supplements the mummy movie and should be used to guide students through their own hands-on mummification process.

READ: Before mummification, the Egyptians used to bury their dead in the desert sand. They observed that sand naturally preserved the body. Unfortunately, burying people in sand didn't keep thieves from stealing the valuable things buried with the body. Also, animals would sometimes disturb the body. So, the Egyptians started to use tombs. But they observed that in the tombs, the body decayed very quickly. Why might the Egyptians not want this to happen?

Mummification was developed as a way of preserving the body so that the *ba* and the *ka* would recognize it. The primary people who mummified bodies in ancient Egypt were priests. During mummification, the priests wore the mask of a jackal (a kind of dog). This represented Anubis, the god of embalming and poisons. The steps of mummification were accompanied by prayers, blessings, or other religious rituals.

STEP #1

READ: The ancient Egyptians believed the brain wasn't important. They thought people did all their thinking and feeling through the heart. So, they began the process of mummification by dissolving the brain with a special liquid. Then, they pulled it out through the nose and threw it away.

DO: Find the picture of the brain. Pour the clear liquid on top of it. Then, throw it in the garbage.

STEP #2

READ: The ancient Egyptians removed other important internal body parts. They did this for two reasons: 1) to prevent the body from decaying, and 2) for the *ba* and *ka* to use in the afterlife. The priest would remove the lungs, liver, stomach, and intestines and embalm, or preserve, them. Then, the organs were placed in four separate jars, called CANOPIC JARS. Each jar represented the four sons of an Egyptian God. They also represented the four directions on the compass.

Depending on the time period, the canopic jars had the heads of animals or humans on them, or even no decorations at all. The Egyptians left the heart inside the body because they thought it was important for thinking and feeling.

DO: Find the stomach, intestines, liver, and lungs. Rinse them in the embalming liquid. Then, wrap each one in linen. Next, place each one in the canopic jar it's supposed to go in. Remember, don't remove the heart!

Organ	Jar face/name	Compass direction	Name of god/goddess Protecting jar
Lungs	baboon (Hapi)	North	Nephthys
Stomach	dog (Duamutefla)	East	Neith
Liver	human (Imseti)	South	Isis
Intestines	falcon (Qebehseneuf)	West	Selket

STEP #3

READ: After the internal organs were removed, the inside of the body was rinsed and filled with spices and palm wine. Then, it was packed in salt. The salt helped to dry the body and to keep it from decaying. It takes the place of sand. (Remember, the Egyptians used to bury their dead in sand.)

DO: Rinse the body in the sink. Remove the head and fill the body with a little grape juice and some spices. Then, pack it in the box of salt.

STEP #4

READ: Next, the body was rubbed with oils and lotion and coated with wax to make it waterproof.

DO: Remove the body from the box of salt. Rub it with more baby oil and some lotion. (We're not going to use wax because it could burn you!)

STEP #5

READ: Now, the body was wrapped in linen. Linen is a cloth made from the flax plant, which the Egyptians grew. During the wrapping process, jewelry and AMULETS were placed on the body and in the coffin. The Egyptians thought the amulets protected the body in the afterlife.

DO: Wrap the body in the linen strips. First, wrap the head and the neck. Then, wrap the arms and legs. Finish by wrapping the middle. As you wrap, place the jewels and amulets on the body.

STEP #6

READ: After the linen wrapping, a cloth is wrapped around the body. A picture of the god of the underworld, Osiris, is painted on the front. Next, a SHROUD was placed over the whole body.

DO: Wrap the cloth around the body. Paint a picture of Orisis on the front. Then, put the shroud over the whole thing.

STEP #7

READ: Before the mummy is put inside the coffin, the priest performs a ceremony called "The Opening of the Mouth." The ceremony is supposed to allow the mummy to eat, talk, and see in the afterlife. The mummy is placed in a coffin (or two or three). A papyrus scroll with magic spells from "The Book of the Dead" are placed inside with the body.

DO: Say the following words, taken from the ceremony of The Opening of the Mouth:

"O King, I open your mouth for you . . ."
—From The Papyrus of Unas

Then, place the mummy in the coffin with the mini scroll.

STEP #8

READ: **Finally, the coffin is placed inside the SARCOPHAGUS. You will learn more about the sarcophagus at a different station.**

DO: Later in this lesson on pyramids and mummies, you will get a chance to make a sarcophagus.



PHARAOH [Name of teacher]'S TOMB

You are a talented artisan for one of the most powerful (and beautiful) rulers in ancient Egyptian history: Pharaoh [Name of teacher]. Although she is still very young, Pharaoh [Name of teacher] wants to start building her pyramid soon—after all, they take 20 years! In addition to yourself, the Pharaoh employs 13 other talented artisans. She wants to be able to use all of you on the pyramid project, but since many of you are also working on the Sphinx Restoration, she won't be able to spare everyone.

So, Pharaoh [Name of teacher] is asking all her artisans to present their best ideas for her pyramid. This includes the design of the pyramid itself as well as the tomb, the sarcophagus, the canopic jars, and the tomb paintings. Since Pharaoh [Name of teacher] is very modern and very cool, she is also open to new, creative ideas for her tomb—so long as they represent Egyptian beliefs about the afterlife.

You will decide which parts of the pyramid and/or tomb you want to design. You can focus on one part or on more than one. Either way, you will be presenting your work to Pharaoh [Name of teacher] in front of all the artisans. When you present, you will have to explain (1) why you designed things the way you did, and (2) why Pharaoh [Name of teacher] should choose your design(s).

Remember, everyone is DYING to have the Pharaoh choose his or her designs for the pyramid, so be sure to do your best!

(Task cards follow)

<p>Pyramid design</p> <p>What should Pharaoh Butler's pyramid look like? She wants it to look good next to the other pyramids, of course. But she also wants it to be a little different from the other pharaohs' pyramids.</p> <p>Design the pyramid structure, either on paper or using the other supplies you are given.</p> <p>Your design needs use materials the ancient Egyptians would have had. Also, your design needs to make sense. So, it has to be built using the methods the Egyptians had available to them.</p>	<p>Tomb design</p> <p>How should Pharaoh Butler's tomb be designed? Should it have many rooms or just a few? What purposes will the rooms have?</p> <p>First, look at pictures and diagrams of other pharaohs' tombs to get an idea of how other people have designed tombs. (See your teacher for some examples.)</p> <p>Next, think about how you can make Pharaoh Butler's tomb unique from the ones you have seen. Will there be one level or many levels? Why? What else do you know will be in the tomb? Where will these things go? Will there be special rooms?</p> <p>Then, design the tomb, either on paper or using the other supplies you are given.</p> <p>Finally, be ready to explain your design. How does your design show what the Egyptians believe about the afterlife?</p>
<p>Canopic jars</p> <p>It's a little gross to think about now, but when Pharaoh Butler is mummified, the priest will need to have some canopic jars handy!</p> <p>Traditionally, the four canopic jars had the heads of a baboon, a human, a dog, and a falcon. Pharaoh Butler wants her canopic jars to be different.</p> <p>Design four canopic jars for the pharaoh. Be ready to explain why you chose your designs. They should relate to the Egyptians' religious beliefs. So, if you choose to have different heads on the jars, you need to have reasons for choosing those heads!</p>	<p>Tomb paintings</p> <p>Create at least two tomb paintings:</p> <ul style="list-style-type: none"> • <u>One</u> should represent a scene from the daily classroom life in Ms. Butler's room. • <u>One</u> should represent a scene of Ms. Butler in the afterlife. <p>Mimic the style of Ancient Egyptian art and body image representations. (Your teacher will give you a list so that you can do this.)</p>

Sarcophagus

Pharaoh Butler wants her sarcophagus to be unique. She's letting you make decisions about the details. In designing the sarcophagus, you will decide . . .

The shape

Some sarcophaguses look like the real person, while others are shaped more like boxes. (See your teacher for examples.) How will Pharaoh Butler's be shaped?

The materials

What will the sarcophagus be made out of? Precious metals? Wood? Stone?

The design

How will the sarcophagus be decorated? What special meanings will the decorations have?

The hieroglyphics

Sometimes a sarcophagus has information about the pharaoh's life, written hieroglyphics. There might also be message about what a great ruler the Pharaoh was. Use hieroglyphics to write about Pharaoh Butler's life and to talk about how good a pharaoh she was.

Tomb treasures

What will Pharaoh Butler need from her classroom in the afterlife? Choose the treasures from her room she will need to have in her tomb so that she can use them forever!

First, think about what Pharaoh Butler will do in the afterlife. What will she spend her days doing?

Then, choose 3 things from the classroom you think she'll need most. Be ready to explain why she will need those things in the afterlife.

Finally, choose something not in the classroom that you think Pharaoh Butler will need in the afterlife. It could be something you create yourself, something you think Pharaoh Butler has at her royal palace, or something you know Pharaoh Butler likes.

HOW TO MAKE TOMB PAINTINGS IN THE ANCIENT EGYPTIAN STYLE

Draw the lower body, legs, and feet from the side.

Place the eyes so that you can see them from the front.

Put the left foot in front of the right foot.

Make sure the people are standing or sitting very straight.

People should look calm or proud—not too happy or too sad.

If a person is very important, draw him or her larger than other people in the picture.

Do not draw anything front of the face or body of the pharaoh.

The men's and boys' skin should be a mix of red and brown.

The women's and girls' skin should be yellow or pink.

The background of your painting should be cream or white.

Animals are more detailed and realistic than humans, who look like cartoons.

Part of egg	Egyptian term	Description of beliefs	Analogy to egg	Connection to self
The name "egg"	The Name	<p>The name was a living part of the individual, and that name was the perfect expression of the person. If a person didn't receive a name immediately after being born, he would not develop properly.</p>	<p>An egg can be prepared many different ways—scrambled, poached, fried, hard-boiled. But we still attached the name "egg" to those preparations because it is the perfect expression of what those preparations are.</p>	<p>Ask students how their names are an expression of themselves. Use the following questions:</p> <ol style="list-style-type: none"> (1) Do you like your name? Why or why not? (2) What does your name tell other people about you? (3) What characteristics do you have that someone might be able to guess that you have from your name? <p><u>Extension:</u> Allow students to reflect on what their names mean. Do they think their names accurately reflect who they are? Why or why not?</p>
Egg shell	The Shadow	<p>The shadow is the part of the person that provides protection, especially from the sun. But just as it protects, it needs to be protected.</p>	<p>The egg's shell provides protection for the yolk and the white. But the shell is very fragile itself and must be protected.</p>	<p>Ask students what part of themselves could be like "the shadow."</p>

Part of egg	Egyptian term	Description of beliefs	Analogy to egg	Connection to self
Yolk	The Ba	The ba is the personality.	The yolk of an egg is what gives it "character." It's the part we identify most with what an egg is.	Ask the students to describe their own personalities with three specific adjectives.
Egg white	The Ka	The ka is an invisible twin of the person.	The white is clear or "invisible."	Ask students what an invisible twin of themselves might look like. Alternatively, ask students what parts of their personality are sometimes invisible to others.
Yolk & white mixed	The Akh	The akh is the union of the ba and the ka in the afterlife—the form in which the soul endures for eternity.	Many preparations of eggs require the yolk and the white to be mixed together (forever, so to speak).	Ask students to imagine the different forms a human could take in the afterlife, if we assume that there is one.

APPENDIX G

Model Lessons—Measurements

Measurement: A Mini-Unit for Kindergartners

Lesson Duration: Three (3) class periods

Concepts:

- Measurement
- Description
- Comparison

Principles:

- We use measurement to describe things.
- We use measurement to compare different things.
- We use measurement to help us make decisions.
- Standard units of measurement help us communicate with others.

Instructional Objectives:

As a result of this lesson, students will

Know

- . . . the instruments used to measure length (ruler), height (yard stick or meter stick), weight (scale) . . . and temperature (thermometer).
- . . . attributes of comparison for length (shorter, longer), height (taller, shorter), weight (heavier, lighter), and temperature (hotter, colder).
- . . . the difference between nonstandard and standard units of measure.
- . . . **examples of both nonstandard and standard units of measure.**

Understand

- . . . that we use measurement to describe things.
- . . . that we use measurement to compare different things.
- . . . that we use measurement to help us make decisions.
- . . . that standard units of measurement help us communicate with others.

Be able to

- . . . **use problem solving, mathematical communication, mathematical reasoning, connections, and representations to . . .**
- . . . **compare objects in terms of standard and nonstandard units of measurement.**
- . . . **describe the benefits of using nonstandard and standard units of measurement.**
- . . . **identify an appropriate measuring tool for a given unit of measure.**
- . . . **compare and order objects according to their attributes.**

Materials Needed:

- Children's books
How Big is a Foot? by Junko Morimuto
Inch by Inch, by Leo Lionni
Ten Beads Tall, by Pam Adams
- Individual square-inch units—class set
- Rulers (Primary class set—attached—as well as several foot-long rulers and a yard stick or large demonstration ruler)
- 1 balance scale and weights
- 1 bathroom scale
- Thermometers (several)

Pre-Assessment

Place students into homogeneous groups of 4-5 according to their readiness in terms of their skill in the following areas:

- Comparing relative sizes of objects
- Ability to use and read measurement instruments
- Ability to count, conserve, and add numbers

This information can be gleaned from the attached pre-assessment, which should be administered to students in small groups of 2-4. Items on page 1 and the tunnel question on page 2 provide information on student readiness for the first bullet; the thermometer (page 2) and line measurement items (page 3) provide information about students' readiness for the second bullet, and the remaining questions on page 3 supply information about students' readiness in terms of the third bullet.

If more information is needed, check students' yearly progress folders for mathematical ability scores (e.g., counting and grouping, estimation, etc.), which are generally updated each marking period.

Day 1 Lesson Plan
An Introduction to Measurement

Objectives:

As a result of this lesson, students will KNOW . . .

- . . . the instruments used to measure length (ruler) . . . and weight (scale).
- . . . the difference between nonstandard and standard units of measure.
- . . . examples of both nonstandard and standard units of measure.

As a result of this lesson, students will UNDERSTAND . . .

- . . . that we use measurement to describe things.
- . . . that standard units of measurement help us communicate with others.

As a result of this lesson, students will BE ABLE TO . . .

- . . . use problem solving, mathematical communication, mathematical reasoning, connections, and representations to . . .
 - . . . **compare objects in terms of standard and nonstandard units of measurement.**
 - . . . **describe the benefits of using nonstandard and standard units of measurement.**

Materials Needed:

- Children's book, *How Big is a Foot?* by Junko Morimoto
- Individual square-inch units—class set
- Rulers (class set of "primary rulers," 3 foot-long rulers, and one yard-long demo. ruler)
- Balance scale and weights
- Paper clips—both small and large
- A light toy or object that could be weighed with paper clips (e.g., a pencil)
- Activity Sheets (attached)

<i>Steps in Lesson</i>	<i>Comments</i>
<p>1. Full-group: Begin reading aloud the book, <i>How Big is a Foot</i>. Stop reading on page 12, where the chief carpenter tells the apprentice, "The bed must be three feet long to be big enough to fit the queen."</p> <p>2. Stop reading and tell students that they are going to have the chance to measure how long a bed must be to fit the class queen (or king). Pick a student (possibly the "leader for the day") to be the reigning queen (or king) and ask this student to lie down on the floor. Then, ask several students with different foot sizes to measure how long and how wide the bed must be. [<i>Hint: Use masking tape to mark where students should begin and end measuring</i>].</p> <p>3. Write results for each student's measurements on the board.</p> <p>4. Discuss results and ask students to predict what will happen next in the book. If needed, draw attention to the illustration which portrays how small the apprentice is.</p> <p>5. Continue reading the book. Stop with the question that asks, "Why was the bed too small for the queen" and ask for student responses. Draw attention to the nonstandard foot sizes of the three students who measured the queen in step 2.</p> <p>6. Finish reading the book and ask students how we can know the standard foot size in real life. Use a ruler to show what a standard foot size is. Explain that almost everyone in the United States understands that this is a foot and can communicate with each other because of that.</p> <p>7. Demonstrate how this standard unit of measurement enhances communication. Do this by asking three students to again measure the queen using the ruler [<i>Use same masking tape landmarks</i>]. Record results on the board, and discuss how they are the same, whereas the former nonstandard unit gave different results.</p>	<p><i>Make sure you choose a student with relatively large feet and one with very small feet. If you select three volunteers, the third should have average-sized feet.</i></p> <p><i>This is also a good time to introduce the concepts of "length" and "width." Explain these terms as you obtain and record measurements.</i></p> <p><i>You may need/want to read the next two pages and ask for students to refine their predictions.</i></p> <p><i>This is a good place to introduce the concept of "nonstandard."</i></p> <p><i>Refer to pre-assessment results: All students are familiar with the ruler, although only some students have a grasp on how to use it. As such, all students should be able to contribute to this discussion on some level. Select students strategically to answer questions based on the pre-assessment results.</i></p>

<i>Steps in Lesson</i>	<i>Comments</i>
<p>8. Tell students that they will now have the chance to practice with standard units of measure for length—inches. Use the giant ruler to show students that they will begin using the ruler at "zero" (where the red arrow is pointing.) Tie this in to the number line, and draw students' attention to it on the wall.</p> <p>9. Distribute differentiated assignments accordingly and allow them to begin work:</p>	<p><i>You will most likely have to assist students in rounding to the nearest foot during this process. You should select at least one student from the high-readiness group to measure the king or queen in terms of feet and inches.</i></p> <p><i>You may want to distribute several primary rulers and ask students to imitate what you are doing on the board.</i></p>
<p><u>Group 1— "Radical Rulers"</u> These students have demonstrated a high degree of readiness with the ruler. They began measuring at "0" and were curious about how to deal with the "in between" lengths. Give these students the primary rulers with the $\frac{1}{2}$ inch markings on them and demonstrate how to record such measurements before they begin work on their <i>Terrific Teeth</i> activity sheets.</p> <p><u>Group 2— "Fancy Feet"</u> These students will receive the regular primary rulers and the <i>Fancy Feet</i> activity sheet. Some students will still need direction in how to line the rulers up with the beginning point of each "foot" on the sheet. Guide them in using their fingers to point to the number they will write before they write each measurement. Students should check their answers by using the inch worm units to measure each object again. They should record their inch worm results next to their ruler results.</p> <p><u>Group 3— "Leapin' Lizards"</u> On the pre-assessment, these students selected or were directed to use cubes as measuring devices because they were not yet ready to deal with the rulers. They will use the inch-worm units to complete the majority of the <i>Leapin' Lizards</i> activity</p>	<p><i>See Pre-Assessment Results for Group Rationale:</i></p> <p><u>Group 1 (Terrific Teeth)</u> <i>List student names and indicate meeting area.</i></p> <p><u>Group 2 (Fancy Feet)</u> <i>List student names and indicate meeting area.</i></p> <p><u>Group 3 (Leapin' Lizards)</u> <i>List student names and indicate meeting area.</i></p> <p><i>Draw attention to the fact that, if we didn't have standard units of measure, we wouldn't be able to have this discussion!</i></p>

<i>Steps in Lesson</i>	<i>Comments</i>
<p>sheet, but will move to a practice with the regular primary rulers at the end of the activity.</p> <p>~~~~~</p> <p><u>CLOSURE</u>: Draw students back together and ask members of each group to share what they learned about how long and wide things are.</p>	

Day 2 Lesson Plan
An Introduction to Measurement

Objectives:

As a result of this lesson, students will KNOW . . .

- . . . the instruments used to measure length (ruler), height (yard stick or meter stick), weight (scale) . . . and temperature (thermometer).
- . . . attributes of comparison for length (shorter, longer), height (taller, shorter), weight (heavier, lighter), and temperature (hotter, colder).

As a result of this lesson, students will UNDERSTAND . . .

- . . . that we use measurement to describe things.

As a result of this lesson, students will BE ABLE TO . . .

- . . . use problem solving, mathematical communication, mathematical reasoning, connections, and representations to identify an appropriate measuring tool for a given unit of measure.
- . . . measure various items using standards units of measurement.

Materials Needed:

- Children's books, *Inch by Inch*, by Leo Lionni; *Who Sank the Boat*, by Pamela Allen
- Individual square-inch units—class set
- Primary Rulers and large demonstration ruler
- 1 balance scale and weights and small object to weigh (e.g., seashells)
- 1 bathroom scale
- Thermometers (several)

<i>Steps in Lesson</i>	<i>Comments</i>
<p>1. Full-group: Review lesson from yesterday in terms of the following ideas:</p> <ul style="list-style-type: none"> a. Standard vs. nonstandard units of measurement b. Length and width c. Inches and feet d. Grams <p>Review the unit of measure for temperature:</p> <ul style="list-style-type: none"> e. Degrees 	<p><i>You may want to begin this discussion by asking students to tell you everything they know about measurement, but be sure to lead the discussion to focus on each of the bullet points. Students should be able to tell you why we need standard units of measurement—to describe things and to communicate with others.</i></p>
<p>2. Read the book <i>Inch by Inch</i> to students and ask them why the inch worm was unable to measure the song.</p>	<p><i>You may also want to review ruler use using the demonstration ruler and the number line. Ask students to measure lines on the board with the demonstration ruler.</i></p>
<p>3. Follow-up question—Did the inch worm have the proper tools for this task?</p>	
<p>4. Extend this discussion to ask if the inch worm would be able to measure how heavy something is? How hot or cold something is? Tie this discussion into an introduction to the fact that we need the proper tools to measure the right things, and that just inches won't do!</p>	<p><i>The most likely answer to #2 is that the inch worm couldn't see it. This is a pretty abstract question, so simply use it as a spring board to #3—determining if the inch worm had the right tool for his task.</i></p>
<p>5. Discuss the fact that inches and feet are our standard units of measurement for length. Ask if we would use these same units to measure weight. When students respond "no," explain that we use grams to weigh things on a scale. Display the balance scale, and put a small object (e.g., sea shells) in one side.</p>	<p><i>To introduce the concept of weight, you can read Pamela Allen's Who Sank the Boat?</i></p>
<p>6. Distribute paper clips to two different volunteers—one volunteer should receive small paper clips, and the other large paper clips. "Weigh" the object using both sizes of paper clips and record results on the board. Ask students to explain the differences in results.</p>	<p><i>Ask for students to respond to the question, "Why did your friends get different answers?" Draw attention to the nonstandard paper clip sizes of the two students who measured shells in step 4.</i></p>
<p>7. Give two other volunteers 1-gram weights and allow them to measure the object. Record results on the board and discuss.</p>	
<p>8. Introduce the other tools of measurement and proceed with lesson as usual.</p>	<p><i>Draw attention the similarity of results and explain that this is due to the use of standard units of weight-measurement.</i></p>

Day 3 Lesson Plan

Measurement—Making Comparisons

Objectives:

As a result of this lesson, students will KNOW . . .

- . . . the instruments used to measure length (ruler), weight (scale) . . . and temperature (thermometer).
- . . . attributes of comparison for length (shorter, longer), height (taller, shorter), weight (heavier, lighter), and temperature (hotter, colder).

As a result of this lesson, students will UNDERSTAND . . .

- . . . that we use measurement to describe things.
- . . . that we use measurement to compare different things.
- . . . that we use measurement to help us make decisions.
- . . . that standard units of measurement help us communicate with others.

As a result of this lesson, students will BE ABLE TO . . .

- . . . use **problem solving, mathematical communication, mathematical reasoning, connections, and representations to . . .**
 - . . . **compare objects in terms of standard and nonstandard units of measurement.**
 - . . . **identify an appropriate measuring tool for a given unit of measure.**
 - . . . **compare and order objects according to their attributes.**

Materials Needed:

- a shoe box and 2 books—one big enough to fit in the box, and one that's too big
- Individual square-inch units—class set
- Primary Rulers (class set—attached)
- Balance scale and weights
- Bathroom scale
- Thermometers (several)
- A cup each of cold (refrigerated) water, room-temperature water, and hot (microwaved) water
- Cookies or candy of various weights and lengths (enough for all students to eat)

<i>Steps in Lesson</i>	<i>Comments</i>
<p>1. Full-group: Review previous lessons in terms of the following ideas:</p> <ul style="list-style-type: none"> f. <i>Standard</i> vs. <i>nonstandard</i> units g. Length and width h. Inches, feet, degrees, grams i. Tools of measurement <p>Make sure that students are able to tell you why being able to measure things is important.</p> <p>2. Explain that measurement can help us to <i>compare</i> different things. Explain this concept to students by calling up volunteers and comparing them in terms of height, hair length, weight (via bathroom scale), etc.</p>	<p><i>You may want to begin this discussion by asking students to tell you everything they know about measurement, but be sure to lead the discussion to focus on each of the bullet points. Students should be able to tell you why we need standard units of measurement—to describe things and to communicate with others.</i></p> <p><i>You can also remind students of the comparisons they made in their Day 1 differentiated activities.</i></p>
<p>3. Explain that comparisons are helpful because they help us make decisions. Ask students to think about how comparisons may help them make decisions.</p> <p>4. Display a shoe box and explain the scenario that you are planning to send a book to your friend through the mail. You want to discover which book will fit in the box. Measure the width and length of the box and record your measurements on the board. Then, ask student volunteers to measure the length and width of each of the books and record results. Have students decide if the box is big enough to send each of the books. Ask them to explain their answers using the numbers on the board.</p> <p>5. Explain that students will have the chance to use measurement to make comparisons and to make decisions. Divide them into teams for stations. Each team should rotate through each station.</p>	<p><i>You may have to help students think of examples. The "Store" is a great example—they compared the cost of items to decide which ones to buy. You can also draw two "cookies" on the board and ask students to decide which they would pick.</i></p> <p><i>[Note: Group Name indicates station at which the group will begin its rotation. Groups are listed here from most to least ready in terms of the concepts of comparison and addition as indicated on the pre-assessment.]</i></p>

Additional challenge will be provided to the *Measuring Maniacs* at the measuring station, and the *Degree Dudes* will receive additional support/scaffolding, as necessary, and as indicated on activity sheets. Allow for approximately 10-15 minutes per station.

Measuring Station (Differentiated—See attached sheets)

Students will measure trucks to see which vehicles are the proper width and height to go through a tunnel.

- *Measuring Maniacs* will use rulers and will also be given the task of using addition to decide which "topper" can go on a truck and still get through the tunnel
- *Gram Greats* will use rulers (but have inch worms for back up).
- *Degree Dudes* will use inch worms, and check themselves with rulers.

The *Measuring Maniacs* will need assistance with addition when applying the concepts of addition to the "topper" exercise. They should be directed in how to write the numbers on the correct lines of the equation. The other two groups will probably need a review about the concepts of greater than and lesser than. Finally, be sure that the degree dudes understand that if a line does not take up a whole inch worm, it doesn't count as an inch (in other words, no half-inches).

Weigh Station (Not Differentiated—See attached sheets)

Using the balance scale and gram/5 gram weights, students will weigh different kinds of treats (cookies and candy) and record their weights on a sheet. They will be told that they can select one kind of candy and one kind of cookie to eat for a snack, but that they will only get a certain weight of snack to eat. Students have to decide if they want a small amount of the heavier snack or a large amount of the lighter snacks (give students a treat "weight limit" such as 30-40 grams). Students should first weigh one of each single treat and record how much it weighs, and then record how many pieces it takes to reach the "weight limit" you've established.

Measuring Maniacs

List student names

Gram Greats

List student names

Degree Dudes

List student names

Use treats with significant differences in weight (e.g., *Teddy Grahams*—1 gram each; *jelly beans*—3 grams each; *Gummy worms*—8 grams each).

1, 5, and 10 gram weights are available. You can "micro-differentiate" in the amount of freedom you give students in counting by fives and tens to select the appropriate weights to represent the "limit."

At this station, it would be helpful to have three Styrofoam cups labeled "#1—Cold," "#2—Room," and "#3—Hot."

Temperature Station—(Not Differentiated—See attached sheets)

At this station, you should have three cups of water: one should be cold (from the refrigerator); one should be room temperature; one should be hot (from the microwave).

- Let students test the water temps (on the outside of the hot cup) and guess where the mercury will be in the thermometers on their sheets.
- Test actual temperatures and record by filling in thermometer drawings
- Make decisions about which water they would want to drink, to swim in, to make hot chocolate with.
- If time remains, record the temperature inside and outside. Students should then choose an activity they like to do outside and estimate the best temperature for that activity. If time remains, they may illustrate this.

Closure: Full Group discussion and review about how measurement can help us be good decision-makers. This discussion can draw from each of the stations.

You may want to call on students who are usually reluctant to participate, as they have something immediate and concrete from which to draw for their answers.

Student's Name	Comparisons (5 Total) * = Challenge Correct	Concept of Addition (+, √, or —)	Measurement: Temperature (+ or —)	Measurement: Length (+, √, or —)	Comments
Alexandra					
Ben					
Caitlin					
Catherine					
Darius					
Domenic					
Erin					
Imani					
Javier					
Jermaine					
Kaley					
Maddy					
Mary					
Sam					
Sharika					
Sierra					
Sydney					
Tyler					
Will					



FANCY FEET

Measure Each of these Feet



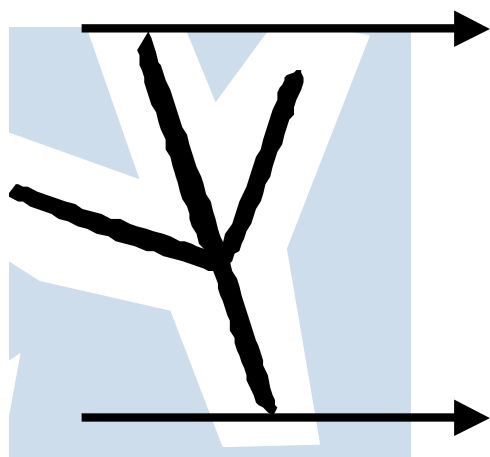
Name: _____



Baby



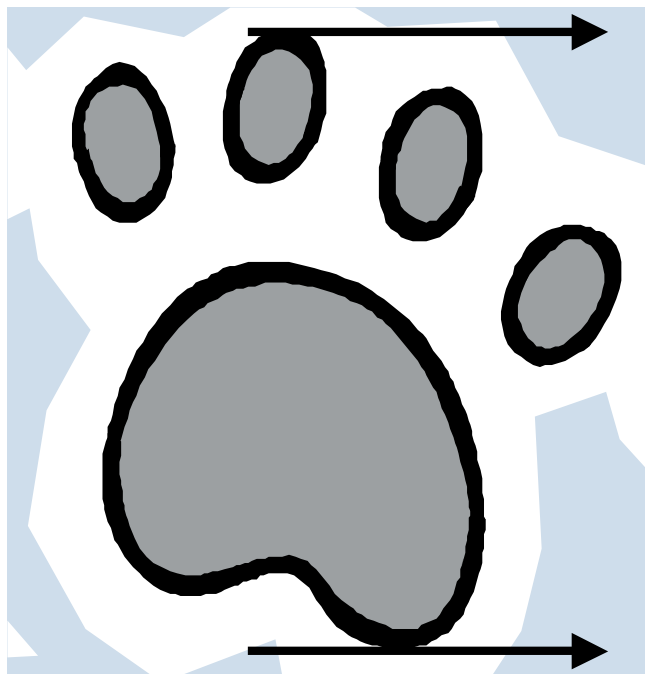
_____ inches



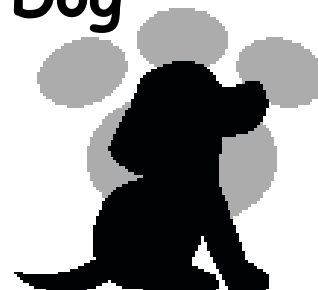
Chicken



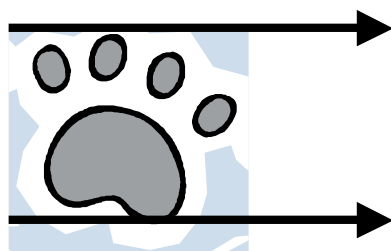
_____ inches



Dog



_____ inches



Kitten



_____ inch

Who has the **BIGGEST** feet? _____

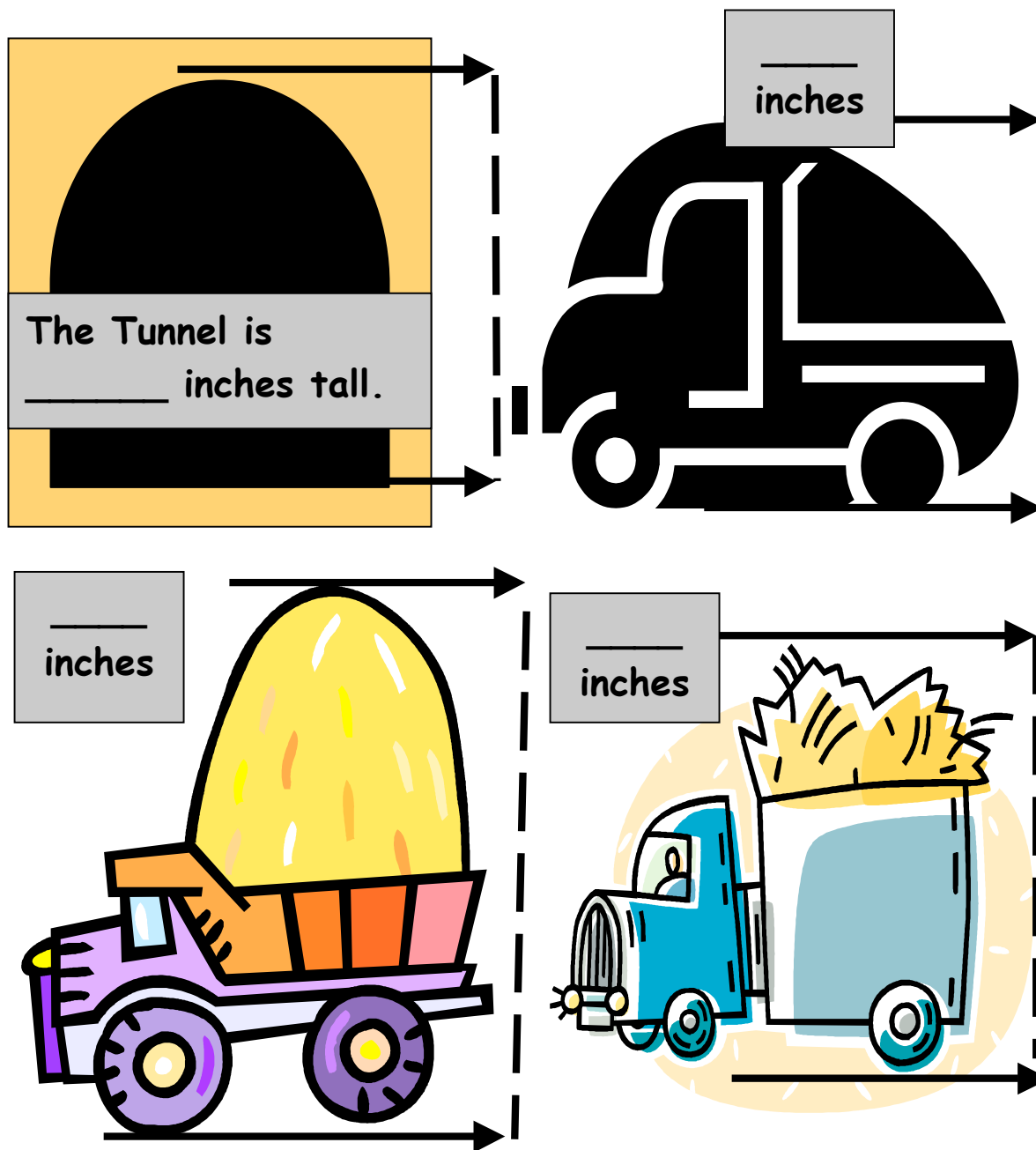
Who has the smallest feet? _____

Name: _____

Directions for Students:

1. Measure the height of the tunnel and write the answer in the box.
2. Measure the height of each truck and write the answers in the boxes next to the trucks.
3. Decide which trucks are the right heights to go through the tunnel. Circle those trucks.

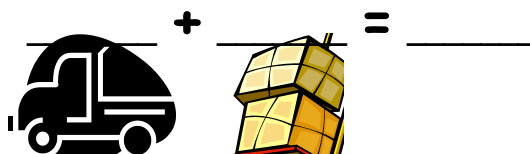
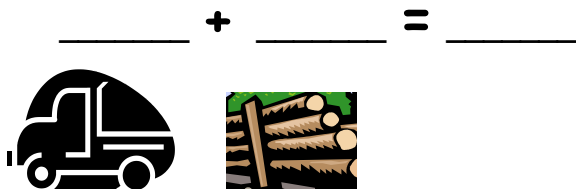
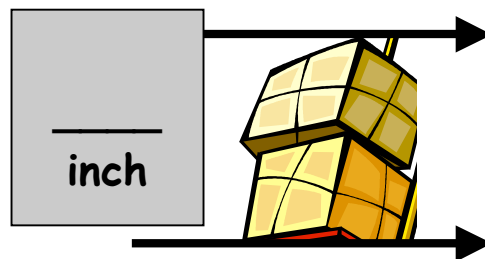
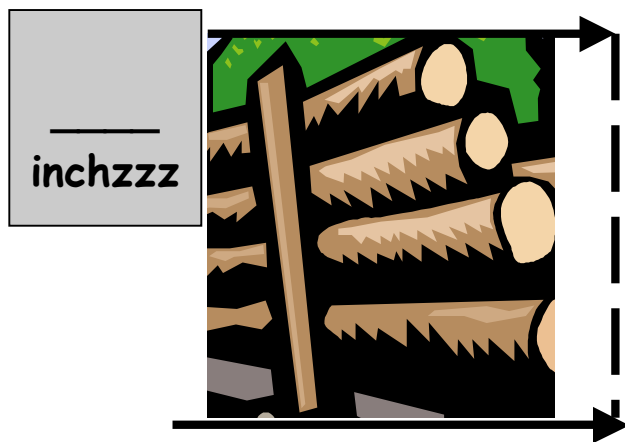
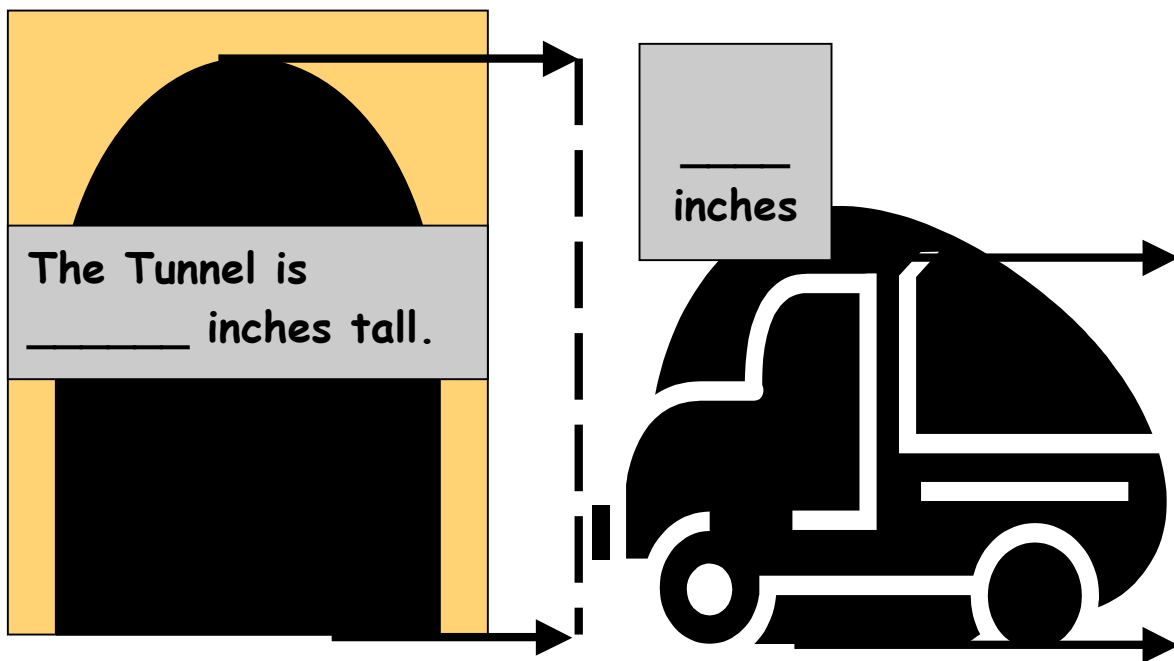
Note to Teacher: Review less than and greater than and help children with their decision-making processes.



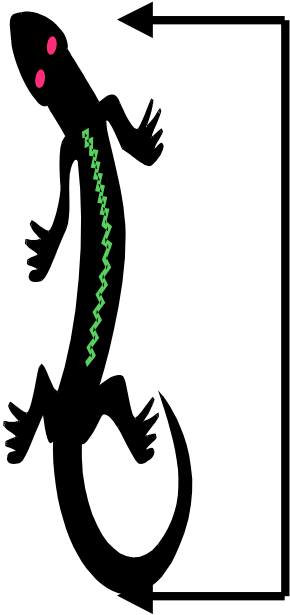
Name: _____

Directions for Students (ENRICHMENT):

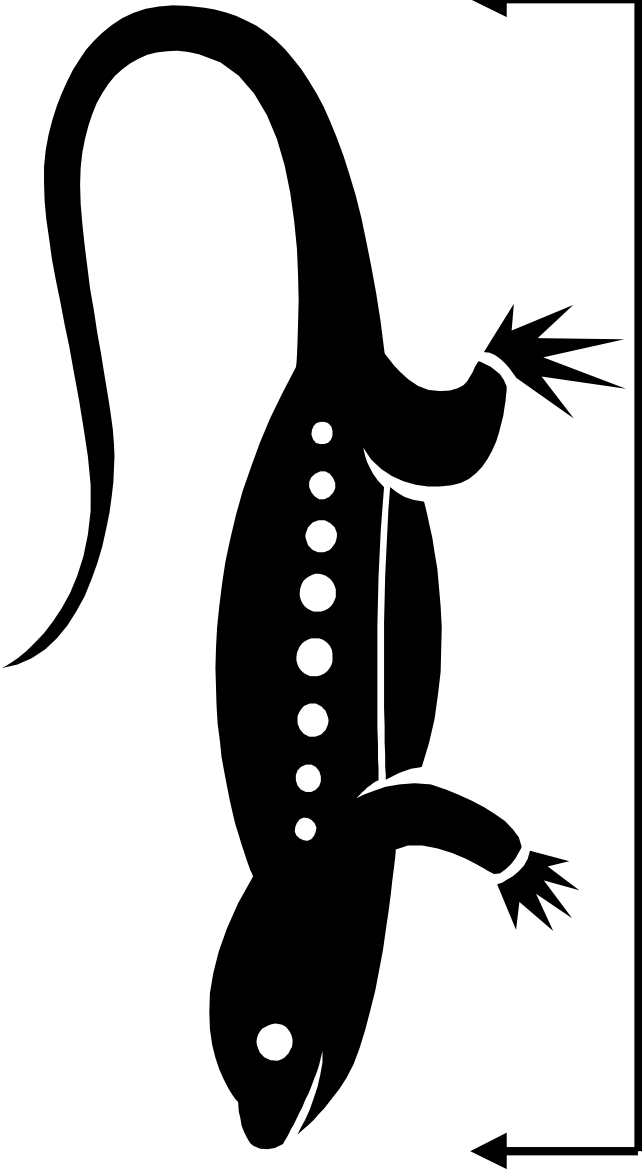
4. Measure the height of the tunnel and write the answer in the box.
5. Measure the height of truck and write the answer in the box next to the truck.
6. Measure each of the loads the truck has to carry and write their heights in the appropriate boxes.
7. Decide which loads the trucks will be able to carry through the tunnel. Circle those loads.



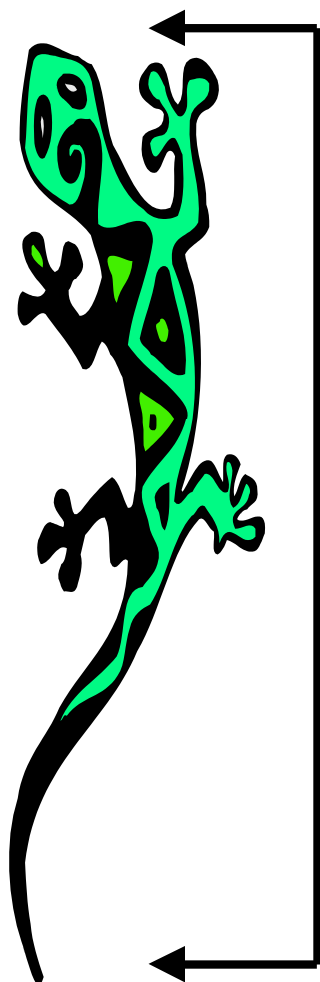
Leapin' Lizards!
Measure the length of each lizard



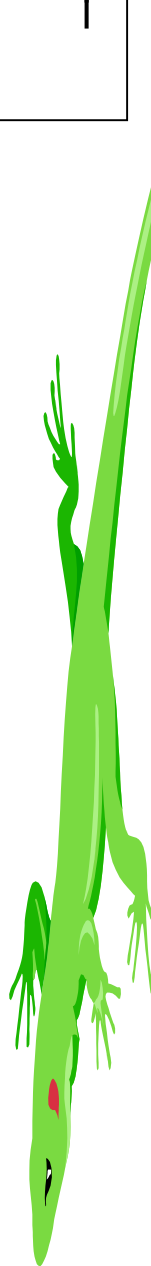
Ground Skink: _____ inches



Texas Horned Lizard: _____ inches



Gecko: _____ inches



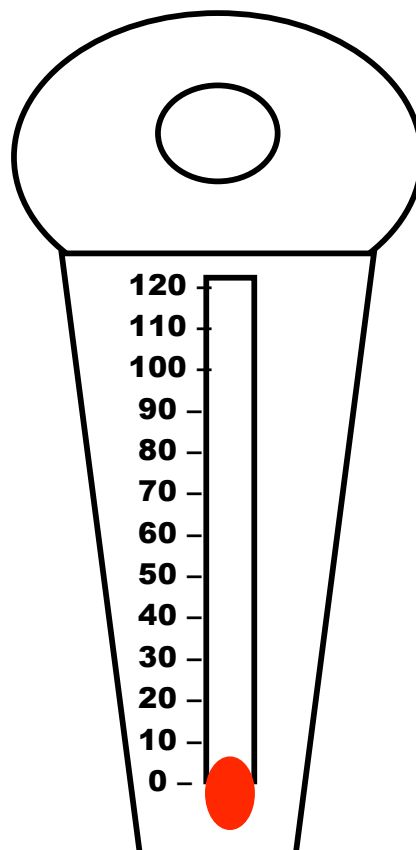
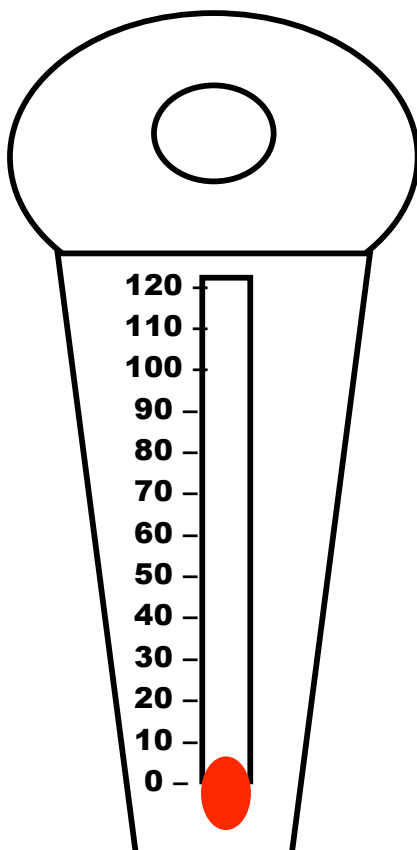
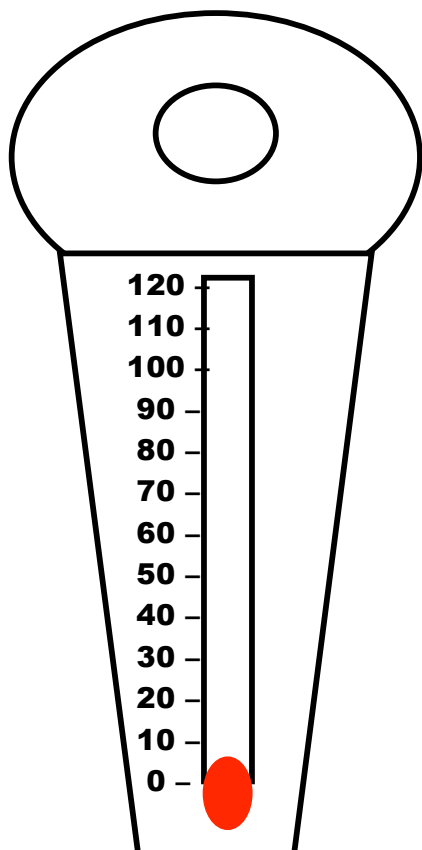
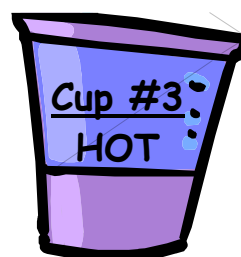
Greater Earless Lizard: _____ inches

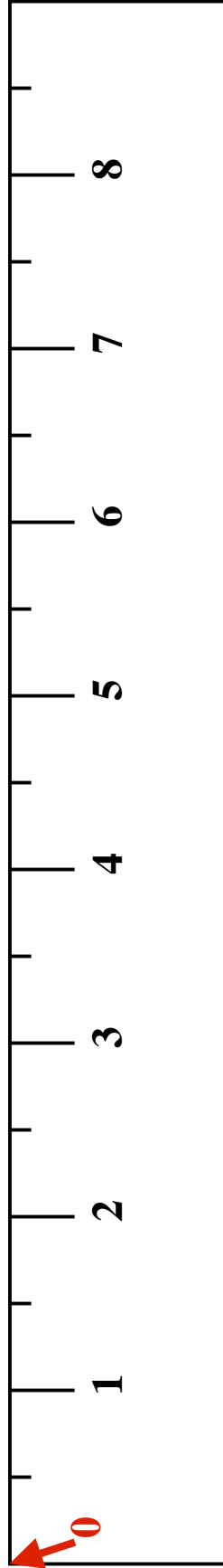
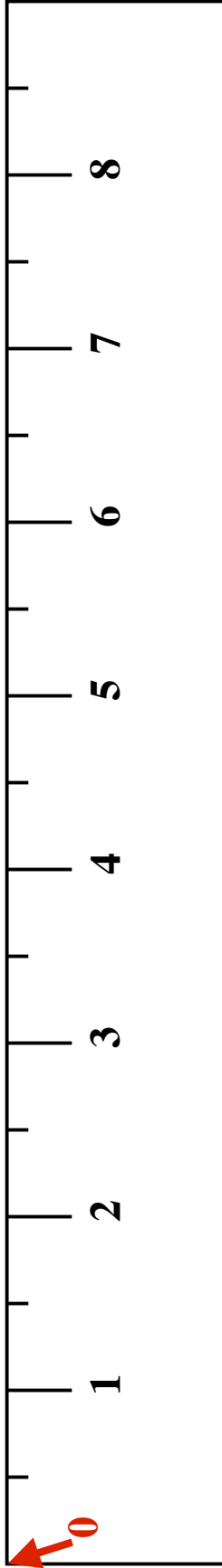
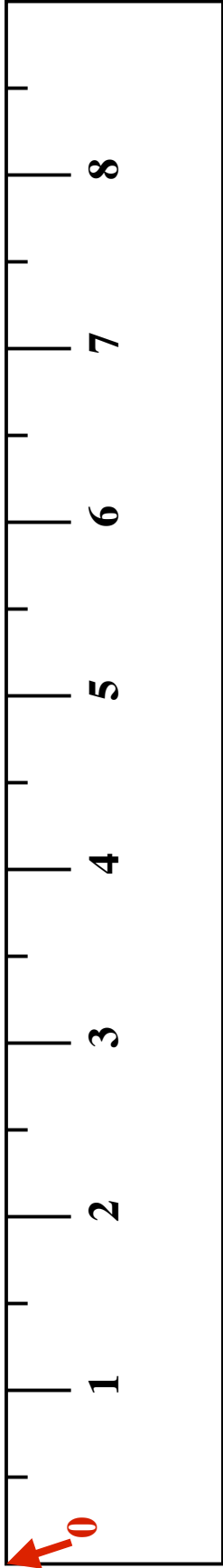
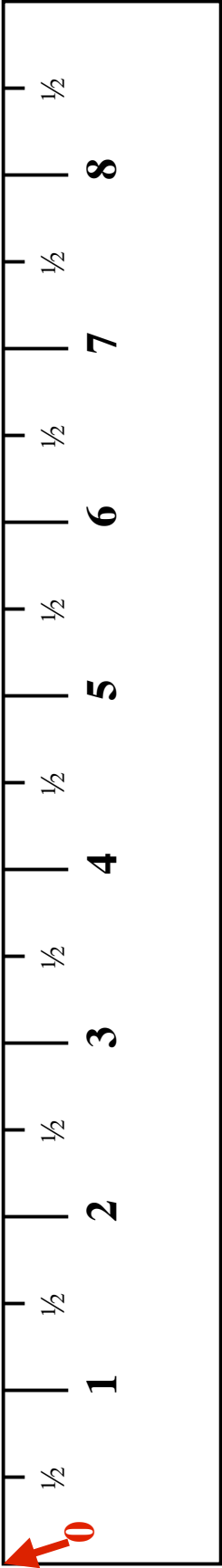
- Put an "X" next to the **LONGEST** lizard.
- Circle the shortest lizard.

Name: _____

Directions for Students:

1. Test the water in each cup and guess where the mercury will be in thermometer when you measure it.
2. Put the thermometer in the water and wait one minute (watch the second hand on the classroom clock).
3. Look at each thermometer and color in the mercury up to the degree mark that shows the temperature of the water in that cup.
4. Draw a line from each activity below the dotted line to the thermometer that shows the water temperature you'd like to have for that activity.







TERRIFIC TEETH



Name: _____

Measure each of the following animal's teeth.



Shark



_____ inches



Horse



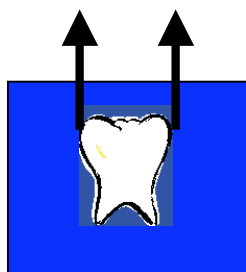
_____ inches



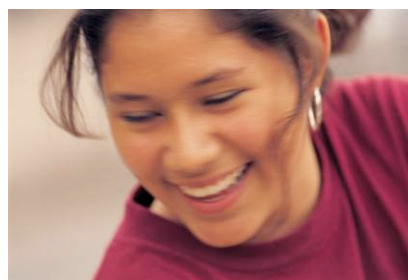
Tiger



_____ inches



Person



_____ inches

Who has the BIGGEST teeth? _____

Who has the smallest teeth? _____

Research Monograph

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2131 Hillside Road Unit 3007
Storrs, CT 06269-3007
www.gifted.uconn.edu

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