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Places of Purpose, Purposeful Places: An Exploration of the Physical Environment of Primary Level Classrooms

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Places of Purpose, Purposeful Places: An Exploration of the Physical Environment of Primary Level Classrooms

Abstract

The physical environment of the classroom impacts teachers and students. In many settings teachers are given some autonomy but little guidance in the establishment of the physical environment of the classroom. Relatively few studies examine issues related to the totality of the physical environment of the classroom. This study is intended to provide a bridge between multiple disciplines and classroom application by describing and interpreting the intentions and decision making process of three teachers in the establishment of the physical environment of their classrooms.

The five questions that guided this study focused on intentions of the teacher related to the physical environment, her/his philosophical and pedagogical beliefs, if the intentions were realized (or not) within the practice; impact of physical environment on teaching practice and the significance of examining the relationship between the physical environment of the classroom and the teacher's values and intentions.

The methodology utilized for this study is Educational Connoisseurship and Criticism. This investigation provides detailed descriptions and interpretation of the experiences of three classroom teachers in vastly different school sites. Data collection includes multiple observations, interviews and artifact review.

Several key findings emerged: 1) Teacher intentions for the physical environment to of the classroom were influenced by personal experiences and educational beliefs, 2) There is a symbiotic relationship between the physical environment of the classroom and the other dimensions of the classroom including curriculum offerings, instructional strategies and pedagogical techniques, classroom structure and organizational systems 3) Architectural elements exerted force over several of Eisner’s dimensions of school including teacher intentions, and 4) the teacher's view of the flexibility of the space impacted both intention and use of the physical environment.

This study has a variety of implications within the field of education as well as across disciplines. Implications from this study impact teacher education programs, practicing school administrators and planners, the school reform movement as schools with specific philosophies seek to create environments which support their mission and cross-disciplinary issues related to building design and planning, school furnishing design, lighting and color theory, and environmental hazard and impact.

Document Type
Dissertation

Degree Name
Ph.D.

Department
Curriculum and Instruction

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Keywords
Architecture, Elementary school, Classrooms, Classroom design, Classroom environment, Spaces, Inspired

Subject Categories
Early Childhood Education | Education

Publication Statement
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PLACES OF PURPOSE, PURPOSEFUL PLACES:
AN EXPLORATION OF THE PHYSICAL ENVIRONMENT
OF PRIMARY LEVEL CLASSROOMS

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A Dissertation

Presented to
The Faculty of the Morgridge College of Education
University of Denver

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In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

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by

Shannon B. Jones

August 2012

Advisor: P. Bruce Uhrmacher, PhD
ABSTRACT

The physical environment of the classroom impacts teachers and students. In many settings teachers are given some autonomy but little guidance in the establishment of the physical environment of the classroom. Relatively few studies examine issues related to the totality of the physical environment of the classroom. This study is intended to provide a bridge between multiple disciplines and classroom application by describing and interpreting the intentions and decision making process of three teachers in the establishment of the physical environment of their classrooms.

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Chapter One
Introduction and Rationale

Introduction

Each day approximately twenty-one million children, age five to twelve, enter buildings dedicated to educating young members of American society (U.S. Census Bureau, http://factfinder2.census.gov/faces/tables/services/jsf/pages/productview.xhtml?pid=DEC_10_SF1_QTP2&prodType=table). Some tumble from cars to enter large, newly constructed suburban schools; others walk to beautiful historical buildings in gentrified urban areas; siblings and cousins walk hand in hand into industrial style buildings in urban neighborhoods challenged by issues of poverty; while still others climb on buses early in the morning for a ride to a centralized small rural school; some enter sleek, newly designed private school buildings; and others find themselves walking through the doors of a renovated private home that is now called “school” regardless of the setting. Between the ages of five and twelve these same children will spend just under ten thousand hours within these varied settings, all designed to educate, socialize and prepare future citizens (Ono, Stafford, & Juster, 2005). September to June, over half of a child’s waking hours are spent within the walls of their educational institution (Ono, et al., 2005). Those children who are enrolled in before and after school programs may spend a very small percentage of their waking hours outside of the school environment (Ono, et al., 2005).
Background of the Problem

The role of the American school has evolved over the relatively brief history of what many consider to be one of the largest social experiments: public education. Changes have mirrored or responded to societal circumstances and ongoing educational research (Pulliam & Patten, 2007). The most recent focus of educational change can be found in the reform movement targeting school improvement with special attention directed to accountability (Annenberg Institute for School Reform, Brown University; Education Commission of the States). This concentrated attention has affected the goals of the educational system and subsequently curricula and pedagogical methods. Other issues dominating conversations at the national and regional level include such things as dual language learners, charter and magnet schools, and teacher preparation and compensation (National Center for Policy Analysis http://www.ncpa.org/publ/?c=education). Special education has refocused and refined its purpose, moving from separate programming to programs that are almost solely inclusive in nature (Von Ravensberg & Tobin, 2008). The field of education is filled with competing and complimentary needs and responses, all intended to better meet the needs of 21st century students.

Further dysfunctions. Aging buildings, combined with concerns related to security and environmental responsibility, have contributed to a national focus on the buildings in which American children attend school (Filardo, Vincent, Sung, & Stein, 2006). Proposed funding has targeted capital building projects and renovations of schools across the country. Mill levies and bond issues have been prevalent in recent elections in
Colorado and other states. Private foundations, such as the Gates Foundation, have focused efforts on building projects designed to transform not only the environment but the focus of educational experiences. A significant number of school facilities, many of which were built between 1950 - 1969, require major renovations including new gridwork systems and overall re-design in order to serve the needs of 21st century students (National Clearinghouse for Educational Facilities, http://www.ncef.org/ds/statistics.cfm). School spaces of today must be designed or reconfigured considering such issues as increased technology use, internal and external safety considerations, changes in demand for online vs. print resources, variance in student population, before and after school programming and use, interior and exterior ecological considerations, and multipurpose furnishings (National Clearinghouse for Educational Facilities, http://www.ncef.org/ds/statistics.cfm). But the physical environment is not merely defined by the architecture of the building; it is defined by use and by the participants who inhabit the space.

**Role of the teacher.** Before each new school year begins, thousands of elementary teachers design engaging display spaces, arrange desks or tables, set up classroom libraries, and prepare activities for the first day. Some elementary classrooms house colorful plastic bins filled with math manipulatives, others wicker baskets holding small game pieces and some have shelves filled with books of all shapes, sizes and reading levels. Mismatched furnishings sit side by side traditional school tables. Computers can be found on various tables, computer desks and even countertops. Teachers work to establish classroom environments that support their goals for the
growth and development of their students. Some decisions are made with curricular and instructional methods in mind; others are made instinctively, while still others are based on convenience or habit, and some decisions will be made without any conscious intent. Why do some teachers place framed photos of the children and their families around the room, while others create carefully organized word walls? What basic beliefs about children, childhood and education help to inform the teacher’s decision making process? What do these decisions, and the way in which they are made, tell us about the teacher as a professional educator, and what do these decisions tell us about the educational experiences that will occur within the boundaries of these classroom spaces?

Research has examined the interface between educational facilities and learning climate including issues related to academic achievement and student satisfaction, but one area that remains relatively unexplored is the physical environment of the elementary classroom (Duke, 1998; Yielding, 1993). Findings in educational psychology and sociology have produced linkages between instructional environments and learning, but the majority of these studies have focused on university environments (Duke, 1998; Fraser, 1998). Other studies focus attention on the architectural elements of school buildings (Dudek, 2005). Limited research on the physical environment of the elementary classroom is reflected in teacher preparation programs and little, if any, time is spent on how to create an optimal classroom environments (Darling-Hammond, Chung, & Frelow, 2002).

**Focus on the physical environment.** Research that is available on the physical environment of the classroom can be found in the literature of the discipline areas of
environmental psychology and sociology. This literature, however, is not generally included in the body of work most readily accessed and utilized by educators:

At the present time, only a limited number of researchers and practitioners scattered across the country are focusing on issues related to different disciplines, they are unaware of one another’s work. Individuals publish in scholarly and professional journals with which others are totally unfamiliar. This leads to a situation in which research efforts are fragmented and practical knowledge is not shared. (Fromm, 2009, p. xiv)

There is a clear need to bring together the fields of early childhood education, applied child development, environmental psychology, sociology, teacher education, school planning and management, and architecture and design. The need to more thoroughly investigate and understand the impacts of the physical environment of the classroom should be a consideration among all educators.

**Purpose of the Study**

Studies from varied disciplines provide input from multiple perspectives. The voice of the teacher is especially critical in considering the juxtaposition of these multiple disciplines. Understanding the situation from within the context of the classroom and its various protagonists is critical to developing a holistic schema for analyzing the effects of the classroom environment. This study carefully examines the literature found within several disciplines in an effort to more clearly define critical elements in the establishment of the physical environment of the classroom.

**Potential Significance**

This study is potentially significant for several reasons. First, this study builds upon earlier work regarding the importance of the physical environment in the field of
early childhood education. Second, while there is a body of research related to teacher beliefs on practice, relatively few studies examine the impact of teachers’ philosophical beliefs related to the physical set up of their classrooms (Fang, 1996). Third, recognizing the vast amounts of time that students spend within classrooms and the research on environmental psychology and educational environmental ecology, it is critical that educators and policy makers have a more complete understanding of the impact of the physical environment on the experiences of student and teacher. Finally, an investigation of the beliefs and practices of teachers invested in creating optimal classroom learning environments may lead to new insights in classroom design for teacher preparation programs, practicing teachers and those involved in building planning and design.

Research Questions

The purpose of this study is to examine the intentions of the teacher with regard to the establishment of the physical environment of the classroom, understand the impact of the teacher’s philosophical beliefs on these intentions, and examine the effects of the physical environment on the practice of the teacher. In particular the study will address the following questions:

1. What is the intent of the teacher as she/he establishes the physical environment of the classroom?
2. How do the intentions of the teacher relate to her/his philosophical and pedagogical beliefs?
3. How are these intentions realized (or not realized) in the teacher’s practice?
4. What is the impact of the physical environment on the practice of the teacher?
5. What is the significance of examining the relationship between the physical environment of the classroom and the teacher’s values and intentions?

**Organization of the Study**

This dissertation is organized in five chapters. Chapter One examines the need for the research, defines the purpose, introduces potential significance, presents the research questions, and provides definitions of terms. Chapter Two presents a review of the literature that is germane to the understanding the physical environment of classrooms. Four major topics are addressed in the literature review: 1) the historical context of the physical environment of schools; 2) environmental psychology; 3) influences from educational philosophers; and 4) the voice of the teacher practitioner. Chapter Three delineates the methodology, including the research method and design, study participants, data collection procedures, data analysis and describes issues related to validity and reliability. In Chapter Four, three educational criticisms are presented. Interpretations are woven throughout the descriptions. Chapter Five details study findings providing more extensive interpretation related to the first four research questions. Themes that emerged through data analysis are presented and discussed. Implications are discussed and recommendations proffered in response to the final question.
Definition of Terms

The terms used in this study will be defined as follows:

- **Early childhood education** encompasses education from birth through age eight. (National Association for the Education of Young Children; http://naeyc.org/)

- **Intent** refers to the stated and unstated goals, objectives and beliefs of the teacher.

- **Physical environment** describes the architectural elements (permanent and transitory), size, student density, furnishings, lighting, heating and cooling, color scheme, displays, furnishings and furniture arrangement, teacher workspace, learning materials, student work, technology and storage.

- **Pedagogical beliefs** include personal ideas, goals and objectives related to purpose of education, purpose of school, subject-matter of education, nature of method, role of social progress and reform (Dewey, 1897).

- **Curriculum** is defined broadly here to include operational, intended, received, hidden, explicit, implicit, null (Eisner, 1994; Uhrmacher, 2004).
Chapter Two

Literature Review

Introduction

The purpose of this section is to present a review of the literature relating to the inquiry into the interface between classroom environments and teacher intentions and practice.

An initial review of the literature revealed limited entries related to the topic of this study. Several search strategies were employed in an attempt to determine the scope of the available literature. Electronic searches using multiple key words and combinations of words yielded some potential connections but no resources that directly address the questions of the proposed study. Terms used included but were not limited to: physical environment of the classroom; physical environment of the elementary classroom; classroom environment; physical condition of classrooms; environment of classrooms; student learning environment; classroom design; design of elementary classrooms. Electronic searches were conducted using both scholarly and popular search engines and interfaced reference libraries. On-site searches of major educational journals at three university libraries revealed few qualitative or quantitative studies directly related to the topic of this study. The topic was registered with book referral systems on three major on-line book websites. This resulted in the location of two texts with potentially
promising references, but again yielded little information related directly to the proposed topic. The scope of the search was widened in an attempt to reveal relevant research.

Research was located on the topics of efficacy and satisfaction of college and university environments, learning environment as a sociological construct, open schools, and the impact of lighting. Dissertations and articles directly addressing the relationship between the physical environment and student learning were also found. These studies were seeking to identify a classroom or school environment that would positively impact student achievement. The body of literature in the field of architecture contained multiple studies related to the design of schools but did not address the physical set up of individual classrooms beyond the structural elements of the building. No studies directly related to the research questions were located.

The field of environmental psychology has a relatively short history and limited studies related to schools, particularly elementary schools. However, the work done in environmental psychology or sociology of place appears to be critical to a full examination of the questions posed in this study. The examination of educational traditions and philosophers also proved promising in more thoroughly understanding the issues related to the classroom learning environment. A solicitation of educators on multiple list-serves contributed recommendations of practitioner books and articles.

In order to establish a historical and theoretical framework for this study, the review is drawn from four bodies of literature. The first section provides a historical context and introduces current issues related to classroom environments. The second section focuses on ideas found in the fields of environmental psychology and sociology
or social psychology. The third section examines the works of educational philosophers Maria Montessori, Rudolph Steiner, Loris Malaguzzi and Nel Noddings. Their underlying philosophies and pedagogical theories are considered in regards to the physical environment of classrooms. The literature review concludes with a section focused on the views (voices) of current practitioners.

**Historical Context of Physical Environment**

A brief review of the history of school environments provides a framework for understanding the evolution of classroom spaces. The roots of western education can be found in the Hellenistic Era (500 B.C. – 200 B.C.). During this early period of formal education, there were no school buildings as they are now known. Instruction was carried out in the open air, in the shadows of the temples, under a tree, or in an enclosure that provided only minimal protection from the elements (Castaldi, 1977). Education was not characterized by a specific building, but rather was the coming together of boys with a teacher. Education was a relational event, the meeting place was insignificant and often incidental.

**The Early American Period**

The history of American schools begins during the Colonial Period and is grounded in the socio-political context of the time. With the settling of the Massachusetts Bay Colony in the 1630s, the Puritan’s sought to create a ‘good’ society, which would meet the approval of God (Spring, 1990). To this end, the goal of education was to maintain religious piety and promote social stability (Spring, 1990). The purpose of
reading and writing was to ensure that individuals could read the Bible and contribute to the community through their work and obedience to the laws of the time. These goals were outlined in the Massachusetts Law of 1642 and were further defined in the “Old Deluder Satan Law” enacted in 1647 (Council of Educational Facility Planners, International, 1976). Scholars have argued that these two laws are the foundation on which our current state public education system is built (Cubberley, 1922).

The schoolhouse of the Colonial Period was generally a small, one-room shelter. The buildings were relatively crude with simple wood walls, a roof and limited or no windows (Yielding, 1993). Much like the homes of the time, they were often inadequately illuminated, heated, and ventilated. Furnishings, in keeping with the puritanical backgrounds of the community, were simple, uncomfortable, backless benches. Although by today’s standards these schools would be seen as unappealing, their presence indicated recognition of the value of education and the need for designated spaces in which to instruct the children of the community. The building style of the one-room school was eventually replaced, as more and more students were educated in increasingly urban environments, but remained a mainstay in agrarian and rural communities until the middle of the twentieth century (Cubberley, 1922).

**Nineteenth Century School Facilities**

The next iteration of school settings were established at the beginning of the 19th century. Westward expansion, industrialization, and urbanization prompted significant changes. The most significant factor contributing to this evolution was rapid population growth, particularly on the eastern seaboard. Larger numbers of children required a
rethinking of not only how to educate but where (Moore, 1991). British schoolmaster Joseph Lancaster created a system of education intended to train large numbers of students in an efficient and cost effective manner (Upton, 1996). Lancasterian schools were characterized by large rooms (50’ x 100’) furnished with rows of benches facing a teaching platform. This method of instruction required a mere 10 square feet of space per student. Although the Lancasterian schools quickly spread throughout the eastern states, they virtually disappeared just as rapidly as they began (Upton, 1996). By 1840, few Lancasterian schools were still operating, but they left a legacy that has informed much of the current public education system in the United States: education for many rather than a few; education that is free and widely available; education that is funded by the larger public through taxes; and education that must be considered cost effective.

After the demise of the Lancasterian schools, the development of graded schools created a need for intentional design in the building of schools (Cubberley, 1962; Spring 1990). The concept of multiple grades required that each grade level have an enclosed classroom space. These individual classroom spaces differed little from the original one-room school house. Students were required to sit passively to receive information from the instructor either auditorially or in the form of written messages recorded on the banks of blackboards which covered three of the four walls in the room (Moore, 1991; Spring, 1990).

**The Changing Face of Education**

In 1924, Virginia Woolf recalled a visit to a Post-Impressionistic art exhibition. She stated quite simply, “on or about December 1910, human character changed”
(Brosterman, 1997, p.6). This observation reveals the thinking of many at the time. Straddling two centuries, Woolf and her contemporaries were clearly aware that the time period in which they were living was different from any that had preceded it.

Achievements and advancements were made across disciplines and around the globe. The face of art was transformed by movements such as Cubism. Architecture definitively rejected the historical revivals made popular in the nineteenth century. Literature and music were transformed by those such as Proust and Stravinsky. Sigmund Freud and his contemporaries challenged ideas about sexuality and the meaning of humanness. Modernism would define not only this generation but generations to come. What, besides the time period itself, contributed to such monumental change? Brosterman (1997) would argue that the seed could be found in education and particularly in kindergarten.

**Kindergarten.** In 1873, the first public kindergarten opened in St. Louis, Missouri (Yielding, 1993). The addition of this level of education had a radical impact on school buildings and design. As with the Lancasterian schools, the philosophical tenets of the purpose and method of education defined the space in which the children would learn. This first public kindergarten was intended to enable an individual to develop her full potential (Brosterman, 1997; Yielding, 1993). Each child was unique and would come to know her world both as an individual and as a functioning member of a larger social group (Moore, 1991). This early constructivist or social learning methodology encouraged children to work and play together, creating a demand for larger spaces, more
open floor plans, differences in furniture and a change in the materials available for use
(Cubberley 1922; Educational Facilities Laboratories 1960).

**Influence of manual education.** Yet another innovation in education to have an
impact on the design and use of space in schools arrived in the United States during the
course of the Philadelphia Centennial Exposition held in 1876. The president of
Massachusetts Institute of Technology was struck by the rich and powerful displays of
metal and woodworking (Moore, 1991; Spring 1990). These creations had been done by
students in Finland and Sweden within the construct of their manual education courses.
Manual courses soon became a mainstay in the curriculum of upper elementary grades
(Moore, 1991; Spring 1990). In the United States these courses were not designed as a
means to learn a trade, but rather were intended to work in harmony with other course
offerings to create a true liberal education. As the construct of liberal education
broadened, space needs and usage continued to evolve (Educational Facilities
Laboratories, 1960). With the shift from instructor at the podium to students engaging in
active learning practices, average square footage of classroom spaces increased
dramatically.

**The advent of progressive education.** The turn of the century brought radical
changes in the way education was conceived and practiced (Cubberley, 1934; Rugg &
Shumaker, 1928). Negative reaction to the regimentation of school was increasing, birth
rates were falling and church-based schools were becoming more prevalent. This
combination of factors led to declining enrollment and smaller class sizes. While these
complex social factors were at work, educational philosophers were quietly, but rapidly,
reframing the very constructs of the purpose of education, particularly for younger children.

In the United States, John Dewey became the forerunner of these new ideas, described as progressive education (Educational Facilities Laboratories, 1960). Schools began to focus on observation and investigation rather than memorization. New subject matter including such things as science, geography, language usage, primary mathematics, instrumental music and physical education was added to the typical elementary curriculum. All fit the needs of a changing social system, and all required the rethinking of educational spaces.

Expansion of educational offerings. Between 1914 and 1958, during a time of national economic and industrial expansion, the number of schools rapidly increased (Yielding, 1993). Schools were larger and included more offerings than ever before. Programs varied from setting to setting and began to focus on purposes beyond educating students in preparation to serve as good citizens and members of a competent workforce. Music became a core element during World War I as the nation used song to build a sense of patriotic community through music (Yielding, 1993). Physical education, which had come under attack during the depression, re-emerged when large numbers of men were found unfit for service in World War II. New and expanded programs required a rethinking about the types of spaces in which children were educated. Such changes necessitated an examination of the nation’s school facilities leading to what many have deemed an educational building boom (Council of Educational Facility Planners International, 1976).
The massive school design and school construction projects of the 1950s dominated educational conversations (Council of Educational Facility Planners International, 1976). School design reflected the changes in programs as well as the evolving visions of the way in which children learn. Classroom size reflected a focus on more active learning; recreational areas were added; and materials such as steel, glass and concrete which had been limited or unavailable during the war years were now included in most large scale building projects.

**Radical Redesign**

The 1960’s saw the advent of radical social and political change and signaled a time of experimentation in the design and structure of schools. Open space schools, new technology support systems, advanced heating and cooling systems, moveable walls, temporary classrooms, and alternative energy sources all became common (Council of Educational Facility Planners, International, 1976; Spring, 1990).

Educators became aware of the impact of physical environment on students. In 1960, The American Association of School Administrators wrote:

The school climate influences teaching and learning. It envelops the child from the time they enter school in the morning until they leave at the end of the day. It is an encompassing atmosphere. Its quality is determined by each individual’s sensitivity to the mellowness or harshness, the pleasantness or unpleasantness of their physical surroundings and by their relationships with classmates, teachers, and principal. The child is a part of their environment and cannot readily or easily separate themselves from it. They take it as it is—they see it, feel it, absorb it—and scarcely are conscious of it. If it is too hot or cold, too noisy or too dark, too bright or too crowded, they are restless, uneasy, frustrated, and disturbed. Their learning is impeded and their mental growth is retarded. But if the environmental (climate) conditions are stimulating and satisfying, if they are at ease and comfortable, and have the tools they need for their work, learning will be as
natural as the growth of a vigorous and healthy plant. The beauty, order, warmth, and cheerfulness of the new environment become a part of their attitude, a part of their behavior—become a part of them. (p. 23)

Fortunately, educators, architects, psychologists and policy makers had, and have, guidance in determining what environmental elements are most critical in creating a positive and healthy learning environment. The following section of this literature review examines findings from the field of environmental psychology.

**Environmental Psychology**

The environments of children are not always environments for children: in many cases, the places where children grow up, play, and learn are, at best, designed for them by adults, at worst they are the spaces left over from the ‘adult world’. So it is not surprising that many researchers in this area do not remain neutral, but instead take an involved, action-oriented stance in their work.

Environmental psychology has indeed become one of the least neutral areas of the discipline of psychology, striving to work for better environments, working to discover the correlates of well-being, arming designers with the information that they need about people’s needs and perceptions, and providing the tools for evaluating places and buildings as they affect behaviour and well-being. (Spencer & Blades, 2006, p.1)

The field of environmental psychology explores the relationship between people and their physical setting or environment. Drawn from the disciplines of architecture, sociology, psychology, developmental psychology, geography, and education, environmental psychology of children and adolescents (referred to as the more general ‘environmental psychology’ through the remainder of this document) examines the impact of educational environments on student behavior, attitudes and achievement (Spencer and Blades 2006). Initial work in the field of environmental psychology focused primarily on physical characteristics of the environment. More recent studies
have begun to attend to issues associated with sense of place, type of educational practice, aesthetics and learning styles (Burke & Burke-Samide, 2004; Cookson Jr., 2006; Read, 2007; Weinstein, 1979;).

The central phenomenon of interest to environmental psychologists is the issue of optimal stimulation and arousal (Duke, 1998; Gallagher, 1993). Humans seek a comfortable level of sensory input and arousal. However, individuals seek differing levels of arousal and degrees of stimulation at various times and for multiple purposes, preventing environmental psychologists from identifying a generalized, optimal level of sensorial stimulation (Duke, 1998; Gallagher, 1993). In today’s American society most individuals function at the high end of the stimulation spectrum for too long each day. An increasingly urban, technologically connected lifestyle means, for many individuals, almost constant sensorial stimulation. Excessive amounts of stimulation can trigger stress and anxiety, preventing relaxation and deep thinking (Gallagher, 1993; Weinstein, 1979). The consequences of excessive stimulation are even more significant for the developing child (Gallagher, 1993; Weinstein, 1979).

Children are highly sensitive to levels of stimulation. This sensorial vulnerability is heightened by the child’s lack of control over the environment (Gallagher, 1993). Behavior, thinking and learning are a product of an individual’s ability to match his or her physiological and psychological makeup with environmental conditions to maintain optimal arousal (Gallagher, 1993). Clearly, in the case of students in classrooms, individuals have little control over the environment. It is therefore critical that educators utilize work done in the field of environmental psychology to inform their decisions
about space and place. Although individuals respond to environments in varied ways, there are some general conditions which speak to creating an environment that optimizes sensorial stimulation (Gallagher, 1993).

In addressing the phenomenon of stimulation and arousal, theorists and researchers have identified several physical and psychological factors that are considered to have a significant impact on learning climate and achievement: size and capacity, functional adequacy, illumination, acoustics and noise, structural conditions, thermal conditions, air quality, and sense of place (Duke, 1998). More recently, issues related to adequacy of access to 21st century technologies, safety and security, and connection to the natural world have been raised (Nabhan & Trimble, 1994; Technology in Schools, 2002). Much of this work reflects an examination of conditions at the building level rather than at the classroom level, but certainly there would be little argument that the impact of these conditions is felt within the classroom as well as in the hallways and common areas of the school building.

**Size and Capacity**

Size may indicate physical space or student population and can be examined at both the school and classroom level (Duke, 1998; Tanner, 2000). The majority of educational studies related to size focus on student population. Such studies attempt to determine optimal school size by defining an ideal student enrollment. Less researched are the issues related to the physical space. Capacity appears to be fairly clear cut; formulas have been derived to allow school planners to determine how many square feet per student are necessary (Duke, 1998; Tanner, 2000). These formulas are then used in
both short and long term school planning. In general, these formulas have been dependent on research related to health and safety codes with relatively little research focusing on psychological or pedagogical considerations (Duke, 1998; Weinstein, 1979).

While there are multiple studies focused on square footage, research on perceived size is minimal (Duke, 1998; Weinstein, 1979). Research needs to focus on issues of perceived size, as well as on the dimension and arrangement of space. Issues related to density are significantly influenced by perceptions, dimension and the purposeful use of space. Wohlwill & van Vliet examine the impact of high density on student achievement. This study found that the consequences of high density conditions included “excess levels of stimulation; stress and arousal; a drain on resources available; considerable interference; reduction in desirable privacy levels; and loss of control” (Wohlwill & van Vliet as cited in Tanner, 2000). Social distance theory examines issues such as those listed above as well as conditions of social privacy (Duke 1998; Tanner, 2000). While it is clear from an examination of the literature that the issues of size, capacity and density are conditions for consideration in school planning, it is unlikely that the impact can be fully understood without a more complete understanding of the perceptions and characteristics of individual students and teachers inhabiting classrooms.

**Functional Adequacy**

Functional adequacy is concerned with the appropriateness of spaces for teaching and learning (Duke, 1998). The study of functional adequacy is concerned with square footage, and is in fact, dependent on square footage. Unlike the study of size and capacity, however, functional adequacy is concerned with the way that square footage is
configured and organized. As such, functional adequacy may be impacted by the educational philosophy and/or mission of a setting or an individual teacher.

Few would argue that spaces are, in part, defined by the activities that take place within their boundaries. The physical space needs of a high school science teacher will be different than a history teacher or a second grade reading resource teacher. Yet, in most school settings, classrooms assignments are based on multiple or varied criteria such as placing teachers together in teaching communities (‘departments’ or ‘pods’), teaching seniority, population fluctuations and access for students with disabilities. Functional adequacy examines the relationship between space and use. Schools concerned with functional adequacy make decisions regarding space based on criteria such as the mission of the school, the types of students represented within the program, and the teaching strengths and styles of the faculty (Duke, 1998). As more programs focus on particular missions, such as Core Knowledge, expeditionary learning, constructivist learning, and pre-International Baccalaureate, there is a strong need to determine if there are more effective designs which will satisfy criteria related to functional adequacy. While some school communities have begun to experiment with innovative designs, there has been limited evaluation of these settings (Duke, 1998).

Environmental Conditions

Lighting. Illumination, acoustics and noise, structural conditions, thermal conditions and air quality are all considered elements of environmental quality. Lighting studies were prolific in the mid 1960s. The results are almost counterintuitive to the thinking of today, but had a profound impact on the design of mid-century buildings.
Early studies in the field of illumination found that the impact of natural light within classrooms was generally minimal, but when there was an effect, a decrease in attention and achievement was noted (Weinstein, 1979). These findings contributed to the development of the open classroom building design in which multiple classrooms shared a space with no internal walls and limited windows (Dunn, 1985; Weinstein, 1979).

While natural lighting was found to have negligible impact, lighting itself is critical to the intake of visual stimulation. More recent studies have supported earlier findings that optimal lighting has a direct impact on student performance, but also that such lighting contributes to the aesthetics and psychological character of learning spaces (Jago & Tanner, 1999). Studies now suggest that a combination of natural light and indirect lighting are critical in creating effective learning environments (Jago & Tanner, 1999; Yielding, 1993). More is now known about the impact of different types of indirect lighting, such as eye fatigue caused by incandescent lights and the visual vibration of fluorescent bulbs (Jago & Tanner, 1999).

More recent recommendations for classroom lighting include issues such as placing light banks parallel to chalkboards in an effort to limit glare, using full spectrum artificial light to help stabilize mood and behavior, and adjusting light levels over the course of the day to maintain attention and prevent eye strain (Yielding, 1993). While many of these lighting conditions are part of the overall building design, research in the field of environmental psychology suggests it is important for users to exert control over their environmental conditions (Yielding, 1993). In the case of classroom lighting, this might include having banks of lights controlled by individual switches allowing teachers
to utilize sections of the lights depending on time of day, type of work and amount of natural light entering the room. Teachers might also consider the addition of ambient light sources such as table or floor lamps to change the amount of illumination as well the perceived purpose of the space.

**Acoustics.** Broadbent argues that schools must carefully attend to issues related to acoustics. He believes the eye and ear to be the primary sensorial conduits to the mind (Harris, 1977). As such, noise may have a significant impact on both students and teachers. Buildings and classrooms should be designed with thought towards providing an optimal acoustical learning environment. While it is clear that some students and teachers are more affected by extraneous noise than others, Glass (1985) found ill effects related to noise throughout the population. Constant or excessive noise or sound level dulls mental processes, impacts judgment and ultimately reduces performance (Glass, 1985). This effect would likely be compounded in a school setting where students are asked to cognitively attend for sustained periods of time.

Sound and noise can be difficult to control in a school setting where the spaces are utilized for varying purposes. For example, students moving from class to class create movement and sound in the hallway and those traveling to and from recess may still be laughing and using ‘outdoor voices’, while those who have already returned to class may be engaged in listening to the teacher read aloud. Issues related to multiplicity of use and competing needs exist even within a single classroom. One group of students might be conducting a heated discussion while other students independently read the next chapter in the book.
In addition to recognizing the disparate levels of sound related to different educational purposes and experiences, it is important to recognize that individuals have differing levels of response to auditory stimuli. This becomes a critical consideration when establishing the environmental conditions of a classroom (Glass, 1985; Jago and Tanner, 1999).

**Structural conditions.** Structural condition refers to the physical condition of the overall facility. While architectural details such as window and door placement are critical elements of a facility, structural conditions refer to issues such as whether windows are easily opened and closed and the functioning of the weighted, swing hinge of the door. As American school buildings age, issues related to structural condition have become increasingly problematic. The need to address the structural conditions of America’s educational infrastructure is not in dispute (Duke, 1993). Federal and state legislatures and local educational officials are seeking solutions for a host of issues related to deteriorating school buildings (Duke, 1993; National Center for Education Statistics, 1999). Some buildings have structural conditions that primarily impact the aesthetic—such as dated or chipped tiling; while others affect not only comfort but safety. Lead pipes, aging asbestos tiles, and rotting subfloors represent genuine risks for inhabitants of many current school facilities.

While large scale renovations and new construction attend to issues of such safety concerns, conflict exists regarding the overall impact of the structural condition of buildings on desired student outcomes (Duke, 1993). In a review of research, McGuffey identified seven studies that address this question (1982, p. 11). Findings suggest a
relationship between structural conditions and learning. Additionally, a relationship between other desired outcomes was found. These outcomes included student attitudes toward school, self-esteem, security, comfort and positive social behaviors (Weinstein, 1987). There is also evidence to suggest that pride in place can impact not only the performance of students but define the importance of school and learning in the larger community (Fromm, 2009). A well cared for building demonstrates a clear message to the overall community regarding the value of the inhabitants and their work.

Although teachers and students can be notably impacted by structural conditions neither can affect significant control over these aspects of a classroom environment. It is therefore important that teachers and other school personnel work to ameliorate negative affects using strategies suggested by research in the field (Duke, 1993; Weinstein, 1979).

**Thermal condition.** The study of thermal condition is concerned with temperature, ventilation, humidity and air quality. Each factor is part of a controlled internal environment balanced to respond to and support the needs of the inhabitants. Differing working conditions suggest the need for differing thermal conditions. The thermal environment of elementary schools must then support the learning environment by creating conditions that respect the work in which students are engaged.

The most obvious thermal condition is that of temperature. The human body works to maintain a constant body temperature of 98.6 degrees. Environments that are too cool or too hot require the body to expend more energy to adjust to the thermal stress of the external conditions. Data suggests that human performance deteriorates rapidly when the external temperature falls outside what is generally considered the ideal thermal
range of sixty-nine to seventy-four degrees Fahrenheit (Yielding, 1993). Day’s work found that students experience a two percent reduction in learning ability for every degree the temperature varies from the ideal thermal range (1980). While there is a clear impact on comfort and performance when the temperature varies from this range, excessive heat is more detrimental than cold (Bernardi & Kowaltowski, 2006). Thus, it is imperative that temperature control become a major focus for both school planners and personnel.

Ventilation, humidity and air quality are primarily controlled through the air filtration components of heating and cooling systems. Children and teachers come together each day in small, enclosed spaces. The human density in most classrooms is significantly higher than in many other built environments. Over the course of the day, children and adults utilize oxygen and release carbon dioxide. They use materials such as paint, permanent markers and various papers. They play outside in the warm sun or wrapped in layers of snow clothing. Some members of the class will come in each day after having played with a family pet or riding in a car with someone who smokes tobacco. In short, classrooms are filled with a variety of odors and contaminants from bodies, clothes and materials. Ventilation is essential in moving the air through the space and helping to eliminate the accumulation of odors, contaminants and carbon dioxide.

Media coverage has alerted the general public to the issue of indoor air quality with terms such as ‘sick building syndrome’ and ‘toxic mold’ becoming part of our cultural lexicon. In reality, there are multiple types of indoor air pollutants. According to Wesolowski (1984) two primary categories of pollutants have been identified (as cited in
Yielding, 1993). The first includes those substances or contaminants that enter the building through the overall filtration center. These might include fertilizer components, car emissions and industrial emissions. The second category of pollutants reflects the use of the building. These contaminants may include toxic construction materials such as carpet glue, furnishings, fragrances, and cleaning supplies. Appropriate and well maintained heating and cooling systems remain the primary defense against poor indoor air quality. Recent health reports have also recommended that simply opening windows to prevent toxins from accumulating indoors may significantly reduce indoor air pollution (Toxic America, CNN.comLive, June 2, 2010). Most governing agencies have focused their attention on industry, with limited legislation and research directed toward educational settings. A coordinated focus is needed to support the development of more efficient heating and cooling systems for school buildings as well as to suggest remediative approaches for existing spaces. New systems and remediation strategies need to include elements that can be controlled by the users: teachers and students.

Color

The use of color has been extensively examined in fields such as psychology, behavioral science, environmental psychology, marketing, art, design and architecture. Businesses such as supermarkets employ specific color schemes to trigger appetite and therefore impulsive purchasing (Birren, 1997). Health care providers utilize colors that are both soothing and easily cleaned. Color in fashion moves in trends from the bright, vivid shades found in economic downturns to the pastels of economic opulence (Birren, 1997). There are colors generally thought to be associated with childhood. Bright primary
colors have become a mainstay in preschool classrooms. The use of red, yellow, blue and green was originally intended as a teaching tool supporting young learners in the acquisition of color identification skills (Engelbrecht, 2003). Over time, these colors have become a mainstay of elementary classrooms.

Smith (1980) examined the role of color in classrooms and found each developmental level has a different psychological preference for color. Primary classrooms should be intimate, secure, warm and informal. Smith identified red, blue, green, violet, orange and yellow as colors that support such an atmosphere. These colors reflect the primary colors typically associated with childhood. While young children prefer and are stimulated by bright colors, high contrast between colors has been found to contribute to fatigue. Smith’s recommendation to alleviate this effect is to avoid high color contrast by painting rooms with warm colors (such as peach or pale yellow) and add bright, primary hues as accents.

In Jago and Tanner’s (1999) examination of color in school settings, they found color related impacts on attention span, the teacher’s sense of time, student absenteeism and the positive or negative feelings of students regarding their school experience. In general, warm colors have been found to raise blood pressure, increase stimulation, and increase muscle contraction. Cool colors have been found to contribute to relaxation and induce sleep. Early work in the field of color theory suggests an association between specific colors and emotive qualities such as conflict, outgoingness, calmness and self-awareness (Aaronson, 1971; Plack & Shick 1974).
When these findings are applied to a school setting and paired with Jago and Tanner’s assertion that color matters within a school environment, it becomes apparent that there is a need to more fully explore the use of specific color palettes within the context of the classroom. A cool color palette contributes to feelings of well-being and relaxation but may induce sleepiness, thereby impacting attention. The continual stimulation of a warm palette might contribute to increased focus and energy but eliminates the opportunity for necessary periods of low energy or ‘down time.’ While carpet and paint color may be dictated by the overall building design, teachers may be able to exert some control over other uses of color within their classroom environments. Additional investigation may reveal combinations of palettes with optimal impact on teacher and student engagement and comfort.

Each area of the physical environment has been the focus of multiple investigations, but missing from the research is the potential impact that users have on specific spaces. It is clear that many factors related to environmental condition are outside the control of those who use the space. It is less clear what impact modifications made by either teacher or students have on physiological and psychological comfort. Small measures designed to counteract some of the negative conditions could potentially improve the quality of experience of students and teachers. Bernardi and Kowaltowski (2006) argue the need for further investigation when he/she reflects on the “user’s behavior in relation to the environment and spontaneous adjustments to the environment” (p. 15).
Influence of Educational Philosophers

If we put before the mind’s eye the ordinary schoolroom with its rows of ugly desks placed in geometric order, crowded together so that there shall be as little moving room as possible, desks almost all of the same size, with just space enough to hold books, pencils, and paper, and add a table, some chairs, the bare walls, and possibly a few pictures, we can reconstruct the only educational activity that can possibly go on in such a place. It is all made “for listening”—because simply studying lessons out of a book is only another kind of listening; it means comparatively speaking, passivity, absorption; that there are certain ready-made materials which are there, which have been prepared by the school superintendent, the board, the teacher, and of which the child is to take in as much as possible in the least possible time. (Dewey, 1956, p. 31)

Maria Montessori

Maria Montessori’s seminal work is entitled *The Discovery of the Child*. The title encapsulates many of Montessori’s key beliefs. These beliefs have inspired educators around the globe, many of whom will never teach within a Montessori school.

At the core of these beliefs is Montessori’s ideal that children be free to express themselves and to reveal their personal needs and desires (Montessori, 1967). The teacher’s role is to act as observer, to discover what children are trying to “say” with their play and work, to learn more about the child in order to act as guide and facilitator of learning and discovery. While the child is about discovering the world of learning, the teacher is focused on discovering the child. The environment can either permit this process of illumination or restrict or repress it (Montessori, 1967 pp. 46 – 49; Turner, 1992).

Classroom environment. While some educational theorists and philosophers have alluded to issues related to the environment, Montessori directly addresses the topic. Indeed, she identifies “this part of the problem, which had not as yet been taken up by
educators, that seemed to me to be the most important and most pertinent to teaching since it has a direct reference to a child’s vital activities” (Montessori, 1967, p. 46). In identifying what she believed to be a key problem, she set about to define a set of possible solutions. It is these potential solutions that are evident in Montessori classrooms around the world.

Montessori chose to address environmental concerns at the classroom level rather than at the architectural level. The name of her schools, “The Children’s House,” provides a glimpse into her overall vision of and educational institution for young children (Montessori, 1967). Classrooms are designed to simulate the environment of a home. As such, the typical Montessori classroom is divided into sections or subject areas, much like a home is divided into purposeful places. A pioneer in thinking about education and the environment, Montessori is one of the first educational philosophers to propose the idea that the environment is not only critical but must also respect the different needs of specific developmental stages (Montessori, 1967; Montessori, 1973; Turner, 1992). She established a set of criteria for examining and developing a stimulating classroom environment as well as creating specific guidelines for the development of materials to be used within these classrooms. Montessori dealt with the practical as well as ideals related to beauty and aesthetics.

Proportion. Her first observations attended to the practical considerations of size, such as furniture that was proportionate to the age of the child (Montessori, 1967). Tables and chairs were designed to accommodate the growing toddler and preschool age child. Chairs were constructed in proportion to a child’s body rather than being smaller versions
of adult chairs. Tables were designed at different heights and in varying shapes. This reflected their varied uses and the fact that children spent limited time seated at tables and much of their time standing or working at tables. The furnishings were light enough to allow children to move the furniture with ease. These practical considerations were balanced with Montessori’s vision of “house.” The tables were covered with tablecloths and held flowers or plants. Cupboards and shelves were no higher than the child’s shoulders.

**Order.** Early on, Montessori recognized that playthings such as those typically found in housekeeping or dramatic play areas were much less compelling than real objects. Her educational philosophy valued the idea of purposeful work for children. This required that the environment contain materials that allowed for this purposeful work. The highly organized and brilliantly clean spaces encouraged the young children who inhabited these classrooms to maintain the pristine environments. While parents of young children typically covered their floors in surfaces that hide dirt, Montessori advocated the use of light colored flooring, polished to a high sheen that would show each and every spill and smear. In this way, developing students would learn to begin to care for their environment by being active participants in the upkeep (The Montessori Foundation: The International Montessori Council, http://www.montessori.org). Noddings noted that Montessori recognized a natural and innate love of order that appears in children at critical periods of development. This love of order and control over one’s environment is necessary for peace and happiness. Thus, the physical order in the Montessori classrooms
is intended not just as an opportunity for growth and development but is also designed to induce serenity of the soul, or what Montessori called grace (Noddings, 1992, p.140).

**Aesthetics.** In addition to her consideration for the practical, Maria Montessori had a deeply held belief in exposing children to works of beauty and aesthetic principles (Montessori, 1967). She believed that through such exposure children would come to attend to the world in a more aware state (Montessori, 1967). Montessori wanted to influence the way in which young children came to know the environment and world through their senses. In her work, *The Discovery of the Child*, Montessori states

> The training and sharpening of the senses has the obvious advantage of enlarging the field of perception and of offering an ever more solid foundation for intellectual growth. The intellect builds up its store of practical ideas through the contact with, and the exploration of, its environment. (Montessori, 1967, p. 99)

Montessori carefully considered these ideas in furnishings, materials, and classroom set up. Light weight tables and cool, smooth tiles provide a sensory experience of their own, but they also provide opportunities for learning and self-correction. A chair or table that falls to the ground as it is moved by a child clatters and “announces” the need for different care. In this way, Montessori advocated the use of the environment as a tool for self-correction, understanding and further development.

The senses are not only a method to understanding the literal and practical world. They also offer a method of knowing in an aesthetic sense. Montessori advocated for the inclusion of elements designed to evoke feelings, create an opportunity for understanding of self and the support of relationships. As the senses are sharpened through environmental opportunities, children become more nuanced in their understandings (The Montessori Foundation: The International Montessori Council,
http://www.montessori.org). Flowers are found in the room, not simply to bring nature into interior spaces but also to expose children to the balance and symmetry of the petals, the strength of movement found in the stem and the delicate signs of aging as the edges of leaves and petals begin to darken and wither. Textiles such as hand-woven throws bring an understanding of the strength and beauty created by bringing many single elements together. Paintings help to tell a story not merely of the content of the work but of humanity. The original Children’s House displayed historical or sacred pictures that could be changed daily or remain in the same place for months or years. Montessori, who was intensely spiritual and held strong religious beliefs, selected Raphael’s Madonna of the Chair as the symbol of Children’s Houses;

The children cannot understand the symbolic meaning of the Madonna of the Chair, but they see in it something greater than in the other pictures of mothers, fathers, grandparents, and infants, and they will enfold it in their hearts in simple piety. So much for the environment. (Montessori, 1967, p. 47).

This succinctly describes Montessori’s beliefs regarding the importance and power of the environments in which children learn.

**Cultural context.** Maria Montessori’s groundbreaking work in the field of education has truly transformed the experiences of children, families and educators. The above speaks specifically to her ideas as they relate to the environment of the school and the classroom, but to truly understand Montessori’s beliefs regarding the import of environment, one must have an understanding of the historical context. It would be negligent to view these ideals as carefully conceived theoretical constructs developed by a gifted educational philosopher. Rather, Montessori’s ideals, as those of other eminent thinkers, are bound within a cultural and historical context. The neighborhoods in which
the original Children’s Houses opened were frightening and unstable tenement areas of extreme poverty and vice (Montessori, 1967; Turner, 1992). The role of mother and home were in flux and did not match the vision of “home” that Montessori describes as the basis for her school settings. The inaugural address delivered at the opening of the Second Children’s House in 1907 poignantly describes this dichotomy. It becomes clear that the environment is not merely a component of a well thought out educational plan, but is part of a larger goal of social reform.

The only excuse I will make for myself is that school was in the last degree unsympathetic to me; its materialism, its coarseness, its coldness were so abhorrent to my nature that I thought of the most incredible ways of escaping from it, if only for a short time….I have not the last doubt that school developed in me nothing but what was evil and left the good untouched. (Edvard Grieg)

I must remember also the peculiar smell of the school, and of every classroom; warm oil on the wood floor, chalk dust, desks, old books, paper, pencils, pencil shavings, ink, the teachers herself. The wretched smell of school. Every school has it. Emerson school had it bad…I resented school, but I never resented learning. (William Saroyan)

Rudolph Steiner

Grieg and Saroyan’s thoughts describe an extreme response to a school environment. One senses in their words the visceral response to the sensorial input during the early years of their formal education. Some might argue that as a musical genius, Grieg had a heightened sensitivity to stimuli and as such his response to this educational environment was beyond what most would experience in similar circumstances. It is tempting to make this assumption for it relieves educators from the burden of
responsibility of such impacts. The work of Steiner, however, speaks directly to this sort of impact as he echoes Grieg’s feelings, stating,

   How it is to be deplored …. that the schoolrooms for our children are a veritably barbaric environment for their young hearts and minds. Imagine every schoolroom …. shaped by an artist in such a way that each single form is in harmony with what his eye should fall upon when the child is learning his tables. (as cited in Uhrmacher, 1995, Stockmeyer, 1965, p. 238)

Steiner intends to move us beyond an understanding of the import of environment and into the realm of action in creating more humane schools and classrooms.

   Steiner, a prolific writer, has extensively examined many topics related to education. Waldorf schools around the world stand as testament to his beliefs, vision and leadership. In addition to Steiner’s own work, much has been written regarding the Waldorf method of education. Uhrmacher has posited that to understand Steiner’s beliefs regarding the environment of schools and classrooms one must first understand his broader beliefs related to cosmology, spiritual ideology, art and architecture (2004; 1995). A profoundly spiritual man, from his earliest memories Steiner attributed much of his understanding to spiritual, intuitive or metaphysical experiences. His ideas were refined over years of study from what would typically be described as philosophical to mystical. Uhrmacher has noted that accepting the spiritual and, in Steiner’s case, accepting Christ, “is to open up one’s powers of perception and moral sensibilities” (Uhrmacher, 2004, p. 101). This openness to perception and moral sensibility can be felt in Grieg’s poignant description of his school experience.

   Architecture. The second area identified by Uhrmacher as critical for a more complete understanding of Steiner’s beliefs as they relate to environment is that of art and
architecture. Art exists not merely for the experience of expression or for the sake of the work itself. Rather, art reveals ideals and understandings that cannot be known through other avenues. Steiner describes a type of aesthetic understanding, the heightened sensory awareness of beauty, an awakening to the natural wonders or “secret laws of nature” (Uhrmacher, 2004 p. 102) that remain veiled without the lens of art to bring them into a conscious focus. In Steiner’s view, the physical or manmade environment cannot be neglected; a form of art and architecture must reveal to the user of the environment truths that cannot be found through other mediums. The environment acts as a stimulus and support for the types of ideas that one hopes to encourage. In Steiner’s view, these ideas would encompass the retreat from the everyday, materialistic sensibility to a more harmonious and spiritual existence.

These basic beliefs inform both the architecture and the interior spaces of Waldorf schools. Steiner was active at both the visionary and physical implementation of phases, leaving a mark that is still present in classrooms nearly a century later. Steiner was involved in the design and building of multiple school settings. Some have described Steiner’s architectural work as an extreme form of expressionism but an expressionism that pays homage to functionality, for ultimately Steiner designed buildings that would be used, lived in, learned in, and celebrated in by teachers, students and families. As such the buildings needed to be responsive to both individual and group needs, with ‘needs’ being defined as spiritual growth and development (Steiner, 1999).

Steiner’s work does not provide educators with a prescription for setting up a classroom environment. His ideas evoke compelling arguments that teachers might
consider as they try to determine what type of environment to create for their students. Steiner does make some specific recommendations, and visitors to Waldorf schools around the world would find more similarities than differences in the environments, for the vision of these schools has been informed and continues to be informed by Steiner’s beliefs (Steiner, 1997; Steiner 1999).

**Role of developmental theory.** As with other educational philosophers, Steiner clearly believed that human beings move through levels of development over the course of their lifetime. He identified three stages of child development (Steiner, 1997; Uhrmacher, 2004). These three stages indicate the need for specific environmental considerations. Central to these ideals is Steiner’s beliefs related to color. As his work on color is described, it is critical to remember that Steiner’s work significantly predates the traditional study of color in environmental psychology and reflects his focused study on Goethe’s ideas related to color. As such, the colors described as appropriate for specific developmental stages and evocation of feeling or mood may be in conflict with what is currently recommended by those who analyze the impact of color on the psyche (Steiner, 1997; Uhrmacher, 2004).

Steiner’s first stage of development encompasses birth through age six or seven. Children at this stage are imitative, willing to forgo self for that which surrounds them. Steiner believes that children in this stage of development should be actively engaged in the world of imagination, of creating reality with thoughts and wonderings. Steiner’s view of the environment and materials for this age and stage may appear somewhat austere. The classrooms contain minimal toys, and many are ‘incomplete’ or open ended;
for example, dolls without facial features and wooden food objects without specific identifying characteristics. These objects and materials are intended to provoke students to create their own reality, to use their imagination to complete the story that they wish to tell.

As children begin to lose their baby teeth, they reach a stage of development that Steiner considers to be a ‘time of feeling’ (Uhrmacher, 2004, pp. 110–113). This ‘time of feeling’ (ages seven through fourteen) requires the use of multiple visual images and artifacts, for it is through these pieces that feelings are awakened and subsequently understood. Images are often spiritual in nature and may depict scenes from the Bible. Artifacts include religious items, items from nature, items of purpose (such as tools for measurement) and items of fantasy (such as fairies and gnomes created from organic materials).

During this stage students begin to spend more of their time immersed in art-focused experiences; the walls are lined with various studies. There may be twenty identical but unique color studies. The color studies are consistent and share common characteristics, techniques and tone studies, but they serve what Steiner believes is a higher purpose. Through the formal study of the principles of the visual arts, students become more aware of aesthetics and role of color. This is the beginning of a very specific type of experiences and understandings, a type of literacy that will act as the foundation for future development (Uhrmacher, 2004, pp. 110–113). As with each of the developmental stages, the rooms are painted in a specific color palette reflecting the needs of the students. This age of ‘coming to know the world through feeling’ is the level
at which the rooms are generally painted yellow. Steiner believed this subtle golden hue would usher children through this critical period of coming to know themselves and their world through their feelings. The warmth and peacefulness of the yellow is intended to support this development (Steiner, 1992; Uhrmacher, 2004, p. 112).

The final stage begins at the critical onset of adolescence at approximately age fourteen. This stage, much like Piaget’s onset of formal operations, is marked by a move into abstractions. Until this time children have functioned primarily in the world of feelings while being grounded through their interaction with real materials. As students enter this final stage of childhood, they begin to move from understanding the world through feeling, to understanding the world through thought (Uhrmacher, 2004, pp. 110-113). The onset of the transition to adulthood is marked by internal chaos. Steiner believed that as a counterbalance the classroom should become a refuge of calm. As it is at the youngest levels, calm is established by providing an austere environment with limited external stimulation. Religious artifacts and natural materials remain key components of the classroom. The color palette moves to a cool blue, intended to induce a feeling of calm in a time of stress. Steiner draws attention to the need for environmental calm at the juncture of childhood and adulthood.

**Color.** Color is clearly important in Waldorf schools. The classroom wall color is intended to support the spiritual development of students by engendering specific feelings and conditions, but in addition the walls must be beautiful, welcoming and create a feeling of home. The walls are not painted in traditional satin or flat finish, but rather using a technique referred to as “lazure.” In this method of painting the color is layered,
creating a striation and depth of tone and hue that is intrinsically complex. Lazure painting draws the eye around the room, encouraging visual movement and a search for connection and understanding, almost de-materializing the walls. Steiner believed that, when this technique is applied to an interior space, it recreates the soothing glow of dawn or sunset skies, alleviating stress and nurturing a sense of beauty and wholeness.

Materials. In addition to the architectural and aesthetic principles espoused by Steiner, Waldorf schools are characterized by specific types of materials. In fact, there are companies dedicated to the creation of Waldorf materials for home and school. Materials reflect ideals related to nature, simplicity, multisensory experiences, balance and harmony. The materials also reflect what appears to be the unlikely combination of fantasy and religious tradition, a testament to Steiner’s unique beliefs. As described earlier, materials often appear partially unfinished: doll furniture may be simple wooden shapes, suggestive of purpose but not defined; blocks are likely to include birch cuttings, (simple ovals and rounds with the bark left intact); dolls lack facial features; and dramatic play areas are filled with rich textiles rather than princess dresses or firefighter garb.

Organization. The above description is likely to suggest a specific type of environment to the reader. One might expect to find the rooms open and divided by the centers of play found in progressive, constructivist programs. It is essential that the reader understand that the classroom environment supports the curricular and instructional beliefs of the Waldorf method. While developmentalism and socialized behavior are key components, the method for employing these philosophical constructs is somewhat different in a Waldorf school than in other settings focused on similar tenants. The
Waldorf method can appear to be rigid. The work of the children may evoke a similar assumption: all children are likely to be recording specific passages or written responses in similar books. The teacher is the director of movement, and as such there is a well defined sense of order not only in the materials but in the overall organization of the room. Many Waldorf rooms appear to be highly traditional settings with desks in linear arrangements and a specifically designated instructional area (Oberman, 2008).

Waldorf teachers are involved in specific training programs to support a more thorough understanding related to Steiner’s beliefs about education. Waldorf schools are part of a united organization that acts as guide and overseer to ascertain that the ideals of Steiner are accurately reflected in the individual schools that carry the Waldorf name. As such, Waldorf environments around the world appear to be similar and will bear the mark of Steiner’s work.

**Loris Malaguzzi**

Much has been written about the early childhood centers of Reggio Emilia, a small municipality in Northern Italy. Founder Loris Malaguzzi identified seven core ideals that guide early childhood centers serving infants through kindergarten age students. Building around the core belief that children are, from birth, intelligent and capable beings, Malaguzzi developed the following ideals: 1) *relationships are formed through social interaction and collaboration*; 2) *curriculum emerges from the ideas and interests of the child*; 3) *the environment acts as the third teacher in a triad that includes child and teacher*; 4) *the role of the teacher is as nurturing guide rather than leader*; 5)
learning should be made visible to all protagonists; 6) partnership between family and school is critical; and 7) children have multiple languages with which to formulate theories and share their discoveries (Malaguzzi, 1998). These ideals are based upon the work of educational scholars and philosophers including Jerome Bruner, John Dewey, Erik Erikson, David and Frances Hawkins, Susan Isaacs, Humberto Maturana, Maria Montessori, Jean Piaget, and Lev Vygotsky (Cadwell, 2003). Readers of Malaguzzi’s work are also likely to recognize themes found in the writings of Eliot Eisner, Howard Gardner, and Nel Noddings (New, 2003).

While each of the seven ideals is detailed in the many writings on the Reggio Emilia centers, the ideal that directly addresses the issues involved in this study is the premise that the environment acts as the third teacher (Cadwell, 1997; Edwards, Gandini & Forman, 1998). One of the most visible and easily implemented of the Reggio influences is that of the environment as the third teacher. The environment is designed to support the image of the child as a strong and capable learner. It is the stunning images of thoughtfully developed environments that have captivated the attention of educators and parents from around the globe. A more thorough examination of the Reggio principals reveals much about the purpose of the light-filled open spaces, piazza-like common areas, organically shaped furniture, and materials that are regaled for their beauty and the manner in which they are displayed and organized.

American educator and researcher, Louise Cadwell has outlined her experiences with the Reggio Emilia approach in the book entitled Bringing Reggio Emilia Home. After years spent working in elementary classrooms, in 1991, Cadwell traveled to Reggio
Emilia to learn more about this unique approach. She observed environments that are the product of thoughtful reflection of the image of the child, the purpose of education and how children learn. She found spaces with specific identities and purposes, spaces that were cared for and respected by children and adults. No space was considered marginal or unimportant. Evidence of the social nature of learning permeated the environment. There were large spaces for groups to come together for a variety of purposes; there were spaces for dancing and spaces for building. There were places for organizing, finding and working with materials. There were small spaces to work privately or with a small group and spaces that allowed for full concentration with no distraction (Cadwell, 1997, p. 95). These spaces were, at once, highly personalized and part of a larger community.

Many begin the exploration of the Reggio Emilia approach by trying to replicate the beautiful learning environments. Companies dedicated to Reggio inspired tools, materials, and furnishings abound, but

Without a philosophical basis that gives meaning to the educational experience to be lived in a space, the identity of the space will not emerge; in fact the risk is to try and live an experience disconnected from the space. (Edwards, Gandini & Forman, 1998, p.166).

A design team may build a beautiful school, purchase furniture and materials from specific companies and hire consultants to work with teachers in setting up classrooms, but ultimately if the teachers who work within these classrooms do not reflect on their practice or deepen their understanding of what it means to create a space of purpose, then at best nothing happens and at worst miseducative experiences occur. For Malaguzzi and his followers, the environment as third teacher is only productive and meaningful within
the larger context of the ‘image of the child’ or what others might call the purpose of education (Ceppi & Zini, 1998).

Environment as culture. Malaguzzi has outlined several considerations that are critical to a thorough understanding of the environment as a third teacher. The first, and most complex, consideration is the idea that environment is culturally situated. Malaguzzi firmly believed that the school is a smaller subsystem of the larger cultural environment. He was interested in a broad based definition of culture, one that encompasses physical geography, history, language and custom. Vecchi, a follower of Malaguzzi, has described this type of culture and examination of the environment as a series of concentric circles (Edwards, Gandini & Forman, 1998). The first and largest circle starts with humanity, then the particular cultural heritage of a group of humans, then the area and history of the group, the governing system and community, the school within the community and finally the individuals within the school.

The design of the schools in Italy reflects each of these elements of culture and community. The open space in each school mimics the piazza that is the center of each township and light sources mimic the role that natural light plays in the agricultural northern provinces of Italy. The beauty and harmony of useful objects are obvious in the materials of the school just as it is apparent in the long standing tradition of design and detail in the field of custom footwear, dinnerware and architectural elements. Ultimately, at the center of this, is the construct of the importance of socialization and community. The spaces are designed to encourage, indeed demand, social interactions between children, teachers, service staff, parents and community members (Cadwell, 1997;
It is the complexity of the environment as culturally situated that makes it difficult to merely emulate the striking physical environments of the Reggio Emilia childcare centers.

**Space defined by tradition and time.** The second ideal that Malguzzi explores is the importance of time. One might be tempted to relate this to the idea of time as a cultural construct, but the time that Malaguzzi is referring to is related to history and development. It is a sense of ongoing relationships of parents and schools: families seeing multiple children through the same school and ultimately new generations of children learning in the same spaces as their parents and grandparents. In terms of the environment, the school becomes documentation of the history and learning of the community. There are multiple documentation panels throughout the schools. These panels allow all community members to revisit learning experiences. Children may become inspired by a project done by a group of children several years before and continue to build on this after viewing a documentation panel (Cadwell, 1997; Edwards, Gandini & Forman, 1998).

Malaguzzi also considered the construct of environment as a way to accommodate children’s natural sense of time. Spaces in the rooms and throughout the school are subdivided to match the way that children ‘use time.’ The environment reflects the recognition that all humans have a natural body clock that moderates their day; periods of high energy, periods when physical closeness is necessary, periods when energy is regained through quiet reflection or food, and periods of time when individuals seek refuge in isolation. Beautiful social areas are available for children to come together to
enjoy snacks and meals; smaller, quiet areas provide places for sleeping; and large, open spaces allow children to engage in movement activities. These areas reflect a deeply held belief that environment must respect the natural, biological rhythms and needs of childhood (Ceppi & Zinni, 1998; Edwards, Gandini & Forman, 1998).

**Social constructivism.** Malaguzzi’s work was greatly influenced by the ideas of Lev Vygotsky (Malaguzzi, 1998). Like Vygotsky, Malaguzzi felt that knowledge was socially constructed. Through shared activity, communication, cooperation and conflict, children come to know the world and themselves. While there are clearly multiple curricular implications for such a view, there are also environmental considerations (Rinaldi, 1998). Malaguzzi strongly believed no space was marginal and that no work done within any space was of greater or lesser importance (Ceppi & Zinni, 1998; Edwards, Gandini & Forman, 1998). Each space provides a unique opportunity for social learning experiences. Bathrooms invite children to interact with their mirrored reflections or with the reflections of a friend. Babies and toddlers spend their days in spaces with glass walls so that they may watch and ‘inhabit’ the world of the older children from a space that is safe and developmentally appropriate. Small work spaces with shared easels require collaboration between children as they negotiate the use of both space and materials. Kitchen spaces are open, allowing children to watch adults preparing food and enabling them to become part of the process through the setting and clearing tables. Classrooms are subdivided into smaller spaces encouraging children to interact, negotiate and take responsibility for their own relationships and learning. This view of the
environment as an interactive protagonist in the learning process is distinctly different from the traditional classroom (Cadwell, 1997; Edwards, Gandini & Forman, 1998).

The belief that learning is socially constructed is evident in all aspects of the Reggio environment. Furnishings, materials and organizational systems all reflect this belief. Furniture is designed to encourage interaction and engagement with others. Soft polypods with low curved walls support the developing back muscles of infants while positioning them in a social context. The infants are clustered together within the pod not to negate the need for an adult caregiver but to provide the babies with the opportunity to face each other, to examine one another’s reaction to stimuli and to study the movements and shapes of faces, hands and feet. Furnishings for older children include small benches pulled up to beautiful wooden tables. The benches are intended to encourage interaction as children move the bench, reach for materials and talk with one another while engaged in their work (Play + Soft, 2007).

**Materials.** Authentic materials are used whenever possible: tables are set with china and silver; quality paints and brushes are used in the atelier; the block center is filled with varied blocks and branches of trees cut into cross-slices, shells, stones, cones and tubes (Cadwell, 1997). The use of authentic materials rather than the plastic replicas and toys that dominate traditional early childhood environments signal a level of import and respect for children as members of their community. Dishes must be carried with care, shells separated from stones, and brushes washed to maintain the bristles. All tasks can be accomplished by even the youngest community members if one believes in
Malguzzi’s image of the child as intelligent and competent (Edwards, Gandini & Forman, 1998).

Malguzzi attended not only to the type of materials but to the way in which they are displayed and organized. There is eloquence to the organizational systems. Materials act as an invitation for interaction. They are easily accessible and yet carefully and aesthetically organized. Children come to the materials rather than materials being placed before them (Cadwell, 1997). They are driven by their curiosity and their desire to learn and master the boundaries of the materials. These explorations occur in a social context, by mixing paints together to discover the qualities achieved by adding white to create tones or by trying to utilize an arch block in a large tower. In an interview, Malaguzzi described this view of an optimal environment,

I believe that our schools show the attempt that has been made to integrate the educational project with the plan for the organization of work and the architectural and functional settings, so as to allow for maximum movement, interdependence, and interaction. (Edwards, Gandini & Forman, 1998, p. 173)

Few educational philosophers and practitioners have thought so deeply about the purpose of space and the physical learning environment. Malaguzzi and the schools of Reggio Emilia have drawn attention to an often neglected aspect of the educational experience: the premise that the image of the child, pedagogy, curriculum and personal development are intimately connected with the environment within which they occur. Carla Rinaldi, a close colleague of Malaguzzi, has examined these beliefs and ideals for many years. In doing so, she has defined what she believes to be the purpose of educational spaces for children, teachers and parents. Ultimately, what Rinaldi has discovered is that “the relational qualities between the individual and his/her habitat are
reciprocal, so that both the person and the environment are active and modify each other in turn” (Edwards, Gandini & Forman, 1998, p. 116). The environment therefore must be flexible enough to change and respond to the needs of the varied inhabitants. Thus, the “environment as the third teacher” is not merely another descriptor but rather a vision of the physical space as a living component of the educational process (Cadwell, 1997; Edwards, Gandini & Forman, 1998).

**Nel Noddings**

Noddings envisions schools as centers of care in her books *The Challenge to Care in Schools: An Alternative Approach to Education*, *Critical Lessons: What our Schools Should Teach* and *Happiness and Education*, Noddings describes a set of pedagogical beliefs that are significantly different than those generally ascribed to formal educational settings. These beliefs include differentiated educational experiences based on talents and demonstrated interests, concentric circles of care, and the idea that “the focus on centers of care and the development of capacities must be filtered through and filled out by a consideration of differences that are associated with race, sex, ethnicity, and religion.” (Noddings, 1992, p. 62) While Noddings does not specifically address the physical space of schools, her belief system suggests environmental elements that might be found in educational settings based on the premise of ‘centers of care.’ These considerations include the care of materials and objects, order and organization, use and application of technology, and the purpose of education.
Care of materials and objects. Noddings develops the theme of care to include “care for self, care for intimate others, care for associates and distant others, for nonhuman life, for the human-made environment of objects and instruments, and for ideas.” (Noddings, 1992, p. 47) The issue of care for materials and objects is particularly relevant to an examination of the physical environment of the classroom. Noddings highlights her observation of Japanese culture where a deeply held tradition of aesthetics permeates the manner in which objects are used and treasured. She recommends that educators overtly teach the care of space, objects, artifacts and materials of other cultures as a window into a world beyond the typical American consumer mentality. Noddings sees this not as an ideal but a necessity in helping students develop a personal moral code. Her arguments include both the manmade and natural worlds with a deep reverence for the relationship between man and nature.

Part of a caring response to materials and objects is reflected in the constructs of order, structure and cleanliness. Echoing the ideas of Maria Montessori, Noddings believes that from the time children are very young they should be involved in purposeful work (Noddings, 1992). While Montessori bases her beliefs on the premise that young children are naturally drawn to order, Noddings believes that we must overtly teach the importance of order as well as the reasons for this importance. She likens this to the Victorian age when ladies were trained in the ‘art’ of stocking a linen closet or creating an elegant tablescape (Noddings, 1992). Noddings argues that there are specific and valuable skills involved in establishing and maintaining order and the goal of such order is to achieve an environment that is both pleasing and efficient. These ideas can be used
to guide teachers in creating classroom environments that embody Noddings’ intent. One can envision storage systems for materials that teach the skills involved in the organization and maintenance of the environment as well as creating aesthetically inviting displays and work spaces. For example, pegboards with the outlines of commonly used tools such as scissors, tape dispensers and power cords would assist students in practicing the use of such an organizational system each time they gathered or returned tools (Noddings, 1992, p. 142). Such displays enable students to efficiently procure materials and support their cognitive awareness of the benefits of an orderly environment.

**Order.** Order can be defined both as an organizational construct and a method of control (Noddings, 1992). Noddings specifically addresses both types of order. While the previous paragraph describes order as an organizational construct, this paragraph will examine Noddings beliefs related to order as control or management. One common strategy for establishing external order is that of placing desks in rows, thus eliminating the distractions that may occur when students are clustered together. Noddings argues for a different form of order: facilitative order (Noddings, 1992). Facilitative order is an order that is created and implemented by the members of the community rather than established by a central control figure (Noddings, 1992). Using the example of the desk arrangement, in a facilitatively ordered environment students would be asked to decide how the desks should be arranged to meet the educational needs of the group. Classroom practitioners often fear the idea of facilitative order because they assume, rightfully in many instances, that students will elect to sit with friends or to choose arrangements that
are not supportive of their learning environment (Eash, 2005). Noddings would argue that by developing relationships between and among students and teachers, individuals come to know their own needs. Using this self-awareness, and the support and guidance of a caring adult, students are then able to make suggestions for the arrangement of desks that is responsive to their personal learning needs (Noddings, 1992, p. 140). In her examination of facilitative order, Noddings introduces the connection between physical environment and classroom management. Limited research is dedicated to this connection.

**Technology.** Noddings’ assertions regarding the use of technology have elicited thoughtful and heated discussions. Some have argued that Noddings is anti-technology, but she posits that in order to function successfully in the world of technology, the living world must not be neglected (Noddings, 1992). Throughout the United States, current classrooms and schools are being retrofitted to accommodate vast changes in the way technology is incorporated into education. These technology related upgrades often come at a significant, if not prohibitive, cost for many school settings, leaving less funding available for other programs and materials. In addition to the financial challenges presented by the addition of technology, Noddings also identifies issues related to the use of space and application of pedagogical methods. Noddings describes a type of learning where one comes to see the world with wonder, in order to embrace and revere the living world (Noddings, 1992). There is an inevitable tension between nurturing and carefully observing a pair of breeding mice and breaking down genetic code using an online
program. While Noddings would likely argue that there is a place for both, it is evident that she would find greater benefit in immersion in the process of nurturing new life.

** Purpose of education.** One of Noddings’ core beliefs regarding the purpose of education has significant implications for the physical environment at the school and classroom level. Noddings does not support the current trend of liberal education for all (Noddings, 1992; Noddings, 2003). Rather she advocates for varied educational systems and approaches to better match individual needs, aspirations and passions found in a diverse society. While all settings should be centers of care, some should be dedicated to traditional liberal arts programs, some to vocational programs, and some to a combination of the two. Regardless of the focus, schools would prepare students not only for a successful ‘life of the mind’ but for a happy life (Noddings, 2003). In Noddings’ view this means preparing students for what is often termed the ‘real world’ with preparation in parenting, simple home and car repair, money management, and career options (Noddings, 1992). This broad view of the purpose of education suggests a different type of classroom and school environments than is traditionally found in the United States. To learn to make simple home repairs, classroom spaces would require storage for tools, simple machines and materials for repair, along with adequate space in which to work on them. Few electrical technicians resolve issues related to wiring by removing the wiring box and sitting at a desk (Noddings, 1992).

The pedagogy of place is a unique synergy between educational theory, psychology and sociology. Noddings has identified multiple ideals that weave together the ideas of each field to create a vision for schools as centers of care. Those who value
these ideals will likely find her work to be an inspiration not only for programmatic consideration but for environmental considerations as well.

**Voice of Teacher Practitioner**

This literature review has attended to issues related to the physical environment of the classroom through multiple lenses. A historical analysis of classroom environment examines the subject in relation to an evolving American educational system. The field of environmental psychology contributes to a more thorough understanding of the meaning of space and place as well as considering key elements related to comfort, functionality, and psychological wellness and connection. Ideals of educational philosophers have been considered as they describe pedagogical beliefs linked to the physical environment of the classroom. There is, however, an additional view that should be considered in order to provide a comprehensive understanding of the topic.

It is critical to consider the voice of the teacher in this literature review. Novice and master teachers alike are confronted with creating purposeful classroom spaces. Often teachers arrive days or weeks before students and begin to think about the arrangement of the classroom environment. Furniture is arranged, displays created, books and materials are sorted and set out for use. In many elementary classrooms, ‘home like’ elements such as area rugs, beanbag chairs or small lamps are added.

Elements of the classroom environment may also reflect pedagogical beliefs or practices of the teacher. Job charts may indicate a belief in purposeful work or a value on independence; desks clustered together in small groups may indicate an intention to
utilize cooperative learning groups. Teachers collaborate with one another, sharing favorite display materials and visiting one another’s classrooms to become inspired or solve a specific problem. These teachers seek guidance in books and articles, but unlike the researcher, practitioners generally seek advice from peers who they perceive to have experience and expertise in the field. This section of the literature review examines some of the ideas found in written work that is both accessible and relevant to the teacher practitioner.

An examination of these works reveals the importance of a teacher’s beliefs about teaching and learning as they pertain to establishing the physical environment of the classroom. Many of the articles and books directed towards teachers contain questions designed to support teachers in identifying key beliefs. Clayton and Forton pose the questions “What are my most deeply held beliefs about education?” “Why do I teach?” “How do children learn?” “What are my ideals?” (Clayton & Forton, 2001, p. 8). Teachers are then prompted to query, “Is the physical environment of my classroom consistent with my belief about teaching and learning?” The purpose of such questions is to help teachers make informed decisions about their classroom space: “A classroom that is not centered on educational beliefs is a room of disconnected details, a room of convenience rather than purpose” (Clayton & Forton, 2001, p. 8).

Echoing the work of Clayton and Forton, Diller describes her experience in examining her learning environment and finding elements in conflict with both her intentions and the curriculum (Diller, 2008). The contradictions led to a feeling of discomfort on the part of the teacher, as well as transmitting a series of mixed messages
to students. The classroom, rather than supporting the work of the protagonists, hindered them, creating new and unanticipated impediments to learning. The well-designed classroom is a concrete representation of the teacher’s philosophy and beliefs about teaching, students, and curricular goals. The creation of such a space is an ongoing process; the environment continues to evolve as teacher and students work together over the course of the school year (Kristeller, 1993).

**Recommendations for Practice**

While traditional research articles and books identify key issues and suggest areas for future research; articles and books directed toward teachers provide direct recommendations to practitioners. Clayton and Forton, Diller and Garcia focus on several areas they believe teachers should consider in the establishment of classroom environments (Clayton & Forton, 2001; Diller, 2008; Novelli, 1990). While each author represents a different philosophical perspective or area of expertise, there are several commonalities in the recommendations. Each identifies the need to create spaces in the classroom that are flexible and can be redefined quickly and easily by moving furniture or reorganizing materials. Student work spaces, whether desks or tables, should be considered in the context of how students will be working within the classroom.

**Developmental stages.** Developmental stages should be considered as well. For example, very young students spend more time learning and playing in small groups, often on the floor. They may struggle to pull chairs around a table in such a way that allows for eye contact and easy access to shared materials (Montessori, 1972). The teacher considering this situation might choose to establish work spaces on small area
carpets. A teacher of pre-teens might recognize that developing adolescents need to establish identity and as such might choose to utilize desks with personalized elements. To support the need for student collaboration, the teacher would select desks that are lightweight and easily maneuvered.

**Teacher work areas.** In addition to defining student work spaces, each of the represented authors recognizes the need to establish appropriate work spaces for adults. Diller and Garcia, consultants, noted that elementary teachers often waited until the end of the day to complete their administrative tasks, even when there was adequate time during the school day (Diller, 2008; Novelli, 1990). After students departed, teachers spread their work out on the tables or desks of the classroom. An examination of the overall classroom environment revealed that the teacher’s desk was often a repository for student and teacher work. With the addition of computers on teacher’s desks, Diller and Garcia observed that teachers had no clear work space (Diller, 2008; Novelli, 1990). Additionally, the organization of teacher supplies and materials was not conducive to work efficacy.

**Systems of organization.** Other areas that each of the practitioners noted as critical for consideration include the intentional use of wall space, color scheme, organization of materials, location of instruction, and access and organization of technology. Of these areas, the most prevalent theme is the need for systems of organization. Recommendations for optimal organizational systems include overall management, display and storage of materials. While some of the suggestions reflect a specific philosophical orientation, such as the literacy centered work of Diller or the
constructivist approach espoused by Curtis and Carter and Greenman, many describe underlying structural systems that simply try to bring systems of order to the typical classroom environment (Curtis & Carter, 2003, Diller, 2008; Greenman, 2005).

Teacher-researcher Maja Apelman analyzes a single classroom in an attempt to expose or make transparent such an underlying structure (Apelman, 1974). Apelman defines the issue of classroom organization as “classroom management.” Classroom management is the interaction of teachers and children over materials and ideas. Using this definition, Apelman posits that it would be difficult if not impossible to be a creative teacher unless the organization of the classroom itself, including the arrangement of furniture, the storage and display of materials, and the daily routines of using the environment, are carefully considered.

Apelman found, as others have noted, availability and organization of space and materials are critical to the successful operation of a classroom (Apelman, 1974). Materials should be well organized, plentiful, easily obtained, and well cared for. The organizational system must be clear, and the vision for the use of materials must be transmitted from teacher to student. Room arrangement must consider traffic areas, issues related to storage, surface spaces for working, private areas and group meeting areas. Each piece of furniture and each material must have a purpose and direct relationship to the vision of education held by the teacher.

Like Loris Malaguzzi, Diller forcefully advocates for the decluttering of the American classroom (Diller, 2008). She encourages teachers to keep only those items they will be using in the course of the current school year. Diller acknowledges that
teachers who have taught for many years will find this sort of purging difficult and may believe it to be unnecessary. She argues that the decluttering mentality benefits students directly by creating a more orderly environment, but also indirectly and effectively by providing an environment that feels both more controlled and supportive of creativity (Diller, 2008).

**Aesthetics.** In addition to practical considerations such as systems of organizations, there are factors that reflect ideals related to the human condition. Aesthetic elements have been well documented in the literature describing the early childhood centers of Reggio Emilia. Principles of aesthetics can also be found in the work of Debra Keller. Keller has re-interpreted the eastern tradition of Feng Shui for use in the classroom. Western cultures have often defined Feng Shui as an “environmental science because it involved manipulating the physical elements of a space to create a positive psychological effect.” (Keller, 2004, p. 9). In the case of a classroom, the teacher’s intent would be to create an environment that motivates, inspires, enriches, rewards, supports, comforts and encourages student and teacher alike. Keller provides teachers with a set of general guidelines and recommendations including placement of furniture, use of certain materials (bamboo, natural wood, stone), application of color (red to promote friendliness and decrease shyness, yellow to promote warmth and soften bullies, green to increase activity, blue to foster communication, and purple to promote success and a creative environment), living elements, reduction of clutter; creation of brightness through reflection, natural light, inclusion of personal souvenirs, temperature and ‘tools of power’ (tools of communication) (Keller, 2004).
**Technology.** The environment in which teachers work has changed very little since the early 1900s. But the advent of technology has impacted how instruction and learning occur as well as how the environment must be constructed and organized. As teachers heed the call to prepare students for the 21st century, they are confronted by challenges related to the physical set up of their classrooms. Buildings constructed between 1950 and 2000 have limited electrical grids and supporting outlets and ports. As early as the mid 1970s, Frank Garcia noticed the rapidly increasing demand for electrical outlets (Novelli, 1990). These outlets were being used to power televisions, video cassette recording machines and desktop computers that had become standard in most classrooms. Teachers today must set up classrooms that are being retrofitted to accommodate such items as PodKits, televisions, laptop carts, touchscreen computers and interactive whiteboards. While much is written about the use and benefits of technology, little has been written to assist teachers in how to incorporate these elements into the overall design of their classrooms (Webb & Cox, 2004). Equipping students with 21st century skills will mean creating classroom environments that support not only the development of skills but also the tools and materials needed to employ such skills.

**Criteria for decision making.** Clayton & Forton, Diller, and Garcia all recommend creating a formal plan for the classroom space prior to physically manipulating elements of the environment (Clayton & Forton, 2001; Diller 2008; Novelli, 1990). Eash found that teachers typically set up classrooms by unpacking supplies and establishing one area of key importance (Eash, 2005). For example, a teacher with a passion for literacy or with a large collection of books might first create a
shared reading area. The teacher determines that the reading area needs to be quiet and thus places the supplies (paper, pencils, markers) on the other side of the room so that those reading will not be disturbed by the bustle of those gathering supplies. The rest of the room is set up based on each of the previous decisions. This method inhibits the overall planning of space, but can create a domino effect if the users determine that a change needs to be made.

Diller believes that a well-developed plan for the classroom space creates the foundation for the classroom experience (Diller, 2008). She argues that teachers who encounter difficulties in their classrooms (behavioral, structural, instructional, physical or psychological) are often dealing with issues related to their use of space. A formal written plan, thoughtfully evaluated and revised prior to implementation, allows the teacher to examine the classroom environment from multiple perspectives using a specific set of criteria.

The issues described above are, to a great extent, within the control of the classroom teacher. Gray and Stewart describe aspects of classroom environment that may initially appear to be out of the control of the teacher (Gray, 2006; Stewart, 2008). These include color palette, lighting, acoustics, materials, furnishings, temperature, and the sharing of space. Reflecting upon recommendations found in the research on environmental conditions, practitioners argue it is critical that teachers remain aware of their control over the classroom environment and that they exert this control in a manner that supports teaching and learning (Classroom Organization; Gray, 2006). Teachers can modify lighting by utilizing lamps, turning lights on and off during the day and making
use of the available natural light. Temperature may be partially controlled by opening or closing doors and windows or adding fans or small heaters. Sound can be moderated through classroom management and organizational systems as well as by blocking or controlling external sounds when possible. Not all teachers work in settings where they are able to exert this level of control over the physical environment; however, many teachers can ameliorate potential environmental distracters by attending to them rather than becoming numb to them.

Research has shown that teachers “believe that they have some measure of responsibility, influence, and control over their physical setting.” (Lackney & Jacobs, 2004, p. 1) Teachers also believe that the physical environment has an impact on both their ability to teach and their student’s ability to focus. Many teachers spend significant amounts of time trying to establish environments that support both the social, emotional and academic growth of students. Lackney and Jacobs, however, speculate that teachers “lack adequate knowledge about effectively creating and managing classroom space to support their instructional efforts” (Lackney and Jacobs, 2004, p. 1). A review of the course offerings at several teacher preparatory programs supports the researchers’ belief that pre-service teachers receive little to no training with regards to the physical environment of the classroom. As a result, teacher knowledge regarding the physical environment must come from direct experience and exposure to the practice of other teachers. Thus, the written work generated by teachers and teacher-researchers attempts to amend the lack of formal training as well as filling a specific void in the overall literature regarding the physical environment of the classroom.
Buildings are designed with specific goals in mind … they influence how we feel, think and behave; consider a cathedral versus a Quaker meeting house. “Architects and designers attempt to give sensible form to the feelings, the moods and the rhythms of the life imagined within the setting.” (Greenman, 2005, p. 1) Environment impacts us physically, socially, emotionally, and cognitively. It also communicates values. As the teacher establishes his or her classroom environment, he or she communicates educational beliefs and intents (Greenman, 2005).

**Summary**

Limited research related to teacher intentions in the establishment of the physical environment was located during an extensive search of the literature. Research related to the topic of physical environment was located in such disciplines as school planning and management, architecture and design, and environmental psychology. The literature review for this study has examined issues related to the physical environment of the classroom from multiple perspectives and a historical review of American school facilities provided a framework from which to examine the physical environment of classrooms.

The field of environmental psychology supplied information related to issues such as size and capacity, density, functional adequacy, sensorial stimulation, lighting and color theory. Eminent educational philosophers introduced a theoretical perspective as well as specific guidelines for application and implementation. Drawing on the large body of teacher practitioner publications, information and recommendations related to the
establishment of the physical environment was examined. Each section of the literature review contributed a unique perspective necessary to a thorough understanding of the topic examined in this study.
Chapter Three
Methodology

Qualitative Research

Qualitative research is grounded within the social sciences, particularly in the disciplines of sociology and anthropology (Creswell, 2007; Maxwell, 2005; Wolcott, 2009). Since the early 1970s, qualitative research has increasingly been utilized in other fields such as education, nursing, and woman’s studies. Qualitative educational studies were initially met with resistance in academic settings as well as within the general research field. Acceptance of qualitative methods has increased in more recent years (Eisner, 1994).

The tradition of qualitative research remains firmly grounded in the anthropological and sociological perspective of narrative inquiry as a method intended to reveal and illuminate complex situations or problems. Characteristics of qualitative research studies include data collection in the field or “natural setting”, the researcher as a key instrument, the use of multiple forms of data, inductive data analysis, a focus on the participants’ meanings, a responsive or emergent design process, the use of a theoretical lens, interpretive inquiry, and an attempt to create a holistic account of a complex issue or problem (Creswell, 2007, p. 37 – 39). These elements appear, in varying degrees, in different qualitative research approaches.
Creswell describes qualitative research as an evolutionary process beginning “with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem” (Creswell, 2007, p. 37). Data is collected within the natural setting with a specific sensitivity to both the people and the place. As data is collected, the researcher builds a complex and holistic understanding of the situation. Data analysis and interpretation are part of an inductive process that focuses on identifying patterns of themes as they emerge from the data. Creswell places an emphasis on the process of a research study flowing from the larger constructs of the initial assumptions, worldview and theoretical lens of the researcher (Creswell, 2007). This process becomes the framework for the procedures, defining the particular inquiry approach.

A qualitative method was selected for this study for several reasons. The qualitative inquiry method allows for a more thorough and comprehensive understanding of the complexities involved in the establishment of the physical environment of the classroom. In this study it is critical that the participants’ voices are heard and that what they say is embedded in an understanding of the context of their individual classrooms (Creswell, 2007, p. 40). It would be difficult to capture the process involved in the creation and modification of the physical environment of a classroom through existing quantitative measures.

**Research Questions**

The research study focuses on the physical environment of primary classrooms in three different settings. The teacher is considered the primary protagonist in the evolving
story of the classroom environment. Specifically this study addresses the following research questions:

1. What is the intent of the teacher as she/he establishes the physical environment of the classroom?
2. How do the intentions of the teacher relate to her/his philosophical and pedagogical beliefs?
3. How are these intentions realized (not realized) in the teacher’s practice?
4. What is the impact of the physical environment on the practice of the teacher?
5. What is the significance of examining the relationship between the physical environment of the classroom and the teacher’s values and intentions?

**Research Design**

This study investigated the influences and beliefs, intentions and practices of primary level teachers as they pertained to the physical environment of their individual classrooms. Three classroom teachers in three types of school settings were invited to participate in this study. Teacher participants were identified using the following criteria: 1) demonstration of an interest in the physical environment of the classroom through practice or discussion; 2) work within a school setting that allows for flexibility in the establishment of the physical environment of the classroom; and 3) each setting represents a different educational approach or philosophy. Initial contacts were made with heads of schools and classroom teachers through personal contact and interviews.
Research Method

Educational connoisseurship and criticism. The research method selected for this study is education connoisseurship and criticism. Educational connoisseurship and criticism is a form of qualitative inquiry developed by Elliot Eisner. This method of inquiry is grounded in the social sciences and draws on traditions found in the arts and humanities. Eisner’s ultimate aim “is to contribute to the improvement of education” (Eisner, 1998, p. 2). He believes that the methodology of educational criticism and connoisseurship can be used as a form of inquiry to more clearly come to ‘know’ the issues and problems of schools and classrooms. The method of educational criticism and connoisseurship is a well established form of inquiry used to research a wide range of educational settings, situations, and experiences.

Educational connoisseurship and criticism is comprised of two major components. Connoisseurship is related to the art of heightened appreciation, relying heavily on perceptivity as a way of becoming aware of multiple qualities (Eisner, 1998, p.68). “Connoisseurs of wine, of art, of cabinetry are typically those who can discern the value of what they attend to” (Eisner, 1998, p. 69). These individuals possess a level of experience and knowledge of a topic beyond that of the typical layperson. “Connoisseurship is the means through which we come to know the complexities, nuances, and subtleties of aspects of the world in which we have a special interest” (Eisner, 1998, p. 68). For the educational connoisseur, this is the intricate and complex world of schools and teachers. The educational connoisseur must have both a level of
expertise and the ability to select the appropriate criteria of appraisal for the specific instance, situation, or setting (Eisner, 1998, p. 70).

The second component, criticism, “can be thought of as the art of disclosure” (Eisner, 1998, p. 86). The critic makes public the “art of appreciation” of the connoisseur (Eisner, 1998, p. 86). The educational connoisseur has come to understand something (or a great many things) about a school, a classroom or an experience. The educational connoisseur who is also an educational critic, reconstructs and translates these understandings into a critical narrative. This narrative involves illuminating the educational value of what has been observed and understood from the natural setting. The educational value will be determined, in part, by what Creswell has described as the assumptions and world view of the researcher (Creswell, 2007).

**Dimensions of educational criticism.** Four dimensions of educational criticism provide a potential structural framework for the critic. The dimensions are description, interpretation, evaluation and thematics (Eisner, 1998). The dimensions are neither mutually exclusive nor sequential. Rather each is an element in a synergistic relationship making sense of what the critic observes. Description creates a nuanced portrait of a place or process. Description enables readers to visualize a dynamic educational environment or experience. Readers come to know that which can be gleaned through the five senses but also to vicariously experience the events or places described in the written text. The critic does not attempt to write about all that is seen, rather the critic is selective in what is included (Eisner, 2002, 1998).
The critic is interested not only in helping the reader to visualize that which has been experienced, but also in making meaning of these experiences and observations. Eisner explains that “if description can be thought of as giving an account of, interpretation can be regarded as accounting for” (Eisner, 1998, p. 95). The processes of description and interpretation blend together. Description is rarely adequate without interpretation. The focus of interpretation is to place the “how” and “why” in the natural context. Accuracy of interpretation is dependent on both skills of awareness combined and an accurate understanding of relevant background knowledge.

Evaluation appraises and judges the educational significance of what is described and interpreted. Building on the work of John Dewey, Eisner advocates the use of a framework of appraisal that identifies experiences as educative, noneducative or miseducative (Dewey, 1938; Eisner, 1998). Eisner makes it clear that the dimension of evaluation requires the critic to make judgments. There are no definitive standards by which to ascertain the overall quality of experiences. What might be miseducative for one individual might be educative for another. The judgment, like the experience is grounded within the context of the setting and includes the assumptions and worldview of the critic (Creswell, 2007).

The final dimension, thematics, is the process of naturalistic generalization. The formal generalization of traditional research, particularly quantitative studies, are not applicable to most forms of qualitative research. (Creswell, 2007). Qualitative studies yield themes, generally multiple themes. “The formulation of themes within an educational criticism means identifying the recurring messages that pervade the situation
about which the critic writes” (Eisner, 1998, p. 104) These themes can be considered the “moral of the story.” It is critical to note that themes tend to emerge after, not prior to, an investigation. Therefore the researcher does not begin the investigation with a set of selected themes for which they are seeking supporting evidence, rather the themes emerge directly from what is observed. Themes are embedded within a specific context and situation, but extend beyond the situation itself (Creswell, 2007, p. 103). The themes identified in one setting can be useful in helping educators and researchers know what to look for in other settings (Eisner, 1998; Uhrmacher, 1993).

The four dimensions described by Eisner—description, interpretation, evaluation and thematics—constitute the structure of educational criticism.

**The Researcher.** As with most qualitative traditions, the researcher is the instrument of data collection and analysis. Eisner asserts that the role of the critic requires a specific set of skills and dispositions. The researcher must possess adequate background knowledge to act as a connoisseur but also has a temperament and set of traits that allows the researcher to truly see the essence of the educational experience or setting being studied. Additionally, the researcher must be aware of her or his assumptions and world views. Skills, dispositions, temperament, assumptions and world views all impact the critic’s appraisal and judgment (Creswell, 2007; Eisner, 2002).

This raises the question of whether the researcher should make explicit her values and background expertise in advance. Eisner presents concise arguments on each side of the issue. In the literary style of educational connoisseurship and criticism it is likely that the researcher’s values and world views will become clear to the reader. With this said, it
remains common to include some information regarding the researcher in a doctoral dissertation.

My interest in the physical environment was sparked during my first teaching experience. I began my career in an alternative school environment in which a master teacher was paired with a teaching assistant. The master teacher to whom I was assigned had developed many different organizational systems for operating her classroom. The director of the program had a clear vision of how classrooms throughout the school should be arranged. The environment was purposeful and the subject of thoughtful conversations. Over the course of my career, I became increasingly interested in the physical environment of the classroom. Immersion in the literature describing the schools of Reggio Emilia exposed me to a new way of thinking about the meaning of the physical environment. Visits to a variety of school settings continue to fuel my excitement and interest.

My qualifications as a connoisseur stem from my ongoing involvement in direct practice. I have a compelling reason to work for the continual improvement of education. Having been both teacher and administrator, I have a keen respect for and understanding of the complexity of classrooms and the teacher’s relationship to her or his classroom space. Frequent formal and informal classroom observations have enabled me to become part of the background in a classroom as well as aiding me in establishing trusting relationships with teachers.

Eisner asserts that it is not the number of years spent in a position or role that grants a level of connoisseurship, but rather it is a combination of experience and
discernment (Eisner, 2002). The science and art of discernment can be found in Creswell’s description of the role of insight, intuition, and impression (Creswell, 2007). Too often these elements have been perceived as “soft,” not indicative of the rigor needed in educational research. The methodology of educational connoisseurship and criticism not only makes room for these elements, but demands them. My disposition towards insight, intuition and impression, combined with my background experience, qualify me for the proposed study.

**Research Participants**

Three sites were selected for the study. Direct contact was made with each of the school heads/directors at which time verbal and written approval were secured for researcher access.

Site selection is a critical aspect of a qualitative study (Creswell, 2007). Care has been taken to select sites that are likely to produce rich data on the proposed topic. The following criteria were utilized in site selection; accessibility, elementary school settings, self-identification of interest in the construct of physical environment, dynamic leadership that encouraged teacher autonomy, and the use of an integrated curriculum/instructional model.

The three participants in the study teach in settings serving preschool or kindergarten through eighth grade students using distinct educational philosophies with specific missions and goals. In each setting, parents are actively selecting the school rather than traditional neighborhood based enrollment. Two of the schools are private and
one is public school of choice. Two are located in the Denver metropolitan area and one in Tampa, Florida. The schools varied in architectural style, size/capacity, age of building, school grounds and community settings. Each setting was socio-economically and ethnically and/or culturally diverse but percentages of diversity varied among the schools. Each of the three teacher participants had an expressed interest in the physical environment of the classroom prior to the study. All three participants were teaching in kindergarten classrooms at the time of the study.

Informal initial visits to each site established entry data points and confirmed the appropriateness of the setting and teacher participants for the design of the study. Observation, formal and informal interviews and artifact review totaled 75 – 90 hours in each setting. Observations occurred when the classrooms were unoccupied, during teacher planning times and during regularly scheduled class hours.

<table>
<thead>
<tr>
<th>Site One</th>
<th>Site Two</th>
<th>Site Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klee Creative Arts Academy</td>
<td>University Center</td>
<td>Grant Academy</td>
</tr>
<tr>
<td>Miss Richards</td>
<td>Miss Smith</td>
<td>Miss Colleen</td>
</tr>
<tr>
<td>- Public magnet school</td>
<td>- Private, non-profit</td>
<td>- Private, non-profit</td>
</tr>
<tr>
<td>- Integrated Arts; Experiential</td>
<td>- Integrated Curriculum Model</td>
<td>- Integrative Education Model; Content Acceleration</td>
</tr>
<tr>
<td>- 650 students</td>
<td>- 240 students</td>
<td>- 90 – 100 students</td>
</tr>
<tr>
<td>- Kindergarten – 8th grade</td>
<td>- Preschool – 8th grade</td>
<td>- Pre-K though 8th grade</td>
</tr>
<tr>
<td>- Established 2009</td>
<td>- Established 1984</td>
<td>- Established 1982</td>
</tr>
<tr>
<td>- Admissions: visit and lottery</td>
<td>- Admissions: observation + testing</td>
<td>- Admissions: observation + testing</td>
</tr>
<tr>
<td>- 1950’s building; SW Denver, Colorado; residential neighborhood</td>
<td>- Custom designed and constructed building; central Denver, Colorado; University campus, combined commercial and residential neighborhood</td>
<td>- Renovated 1970’s private residence; Tampa, Florida; residential neighborhood</td>
</tr>
</tbody>
</table>
Data Collection

Data collected for this study includes observations, formal and informal interviews and the collection and review of artifacts.

Observation. One of the most significant data sources in educational connoisseurship and criticism is observation of the educational setting (Eisner, 1998). Within each setting I conducted multiple full-day observations. Initial observations included teacher preparation prior to the beginning of the school year and the creation of a researcher created map. Subsequent observations occurred during regularly scheduled student contact days. An observation guide (Appendix B) provided a framework for observations that focused on specific elements of the physical environment as impacts on the practice of the teacher (and teacher control of the physical environment). Observations were recorded in the form of field notes and renderings of the environment. Interviews were conducted during the same time period as observations and were utilized as a form of constant comparison. Information gleaned during the interviews was used to inform further observations.

Interview. Both formal and informal interviews were conducted with each of the teacher participants. Interview is a mode of inquiry that enables the researcher to better understand the experience of others. Interviewing is the process of gathering a participant’s ideas, stories, and awareness of place, relationships, and events. One of the primary goals of the qualitative researcher is to capture the authentic voice of the involved parties (Creswell, 2007; Wolcott, 2009).
Work by Johnson (2002), Rubin and Rubin (1995) and Maxwell (2005) guided the development of the interview guide and the interview process. Interview hazards, including bias, reflexivity, transparency, coherence, and credibility have been identified and were minimized or mitigated throughout the data collection and data analysis phase. Issues related to reflexivity and bias were minimized by remaining cognizant of interactions throughout the interview process. Coherence was addressed during the interview process. Interview data collection consisted of note taking and audio recording. Transparency is best mitigated through relationships with other researchers. For the purpose of this study, the dissertation proposal committee, dissertation committee and Institutional Review Board have been utilized as a check system.

Formal interviews were conducted with each of the teacher participants. Three interview time periods were scheduled with each participant. All formal interviews occurred in the teacher participants’ classrooms allowing teachers to more easily share examples as well as to increase their personal comfort. A semi-structured interview protocol with open ended questions was utilized (see Appendix A). The initial interview focused on each teacher’s philosophical and pedagogical beliefs and professional experience. This initial interview lasted between sixty and ninety minutes. Subsequent interviews were conducted during the time period in which classroom observations occurred and were scheduled at the convenience of the teacher participant. Secondary and tertiary interviews focused on general beliefs related to the physical environment, teacher intentions for students and the physical environment, descriptions of the process used in
arranging the classroom, and issues related to functionality. Tertiary interviews focused on ideas raised during the earlier interviews and classroom observations.

Informal interviews included casual conversations, email correspondence and participant observations.

**Artifacts.** Artifact collection and document review provided additional data. Artifacts and documents were useful in providing additional information regarding what was happening in each classroom, but was also used to corroborate and validate information gleaned through observations and interviews. Document collection and review for this study included the collection of brochures, website content, informational booklets, newsletters, schedules, architectural specs, sound recordings of background noise, and blog entries.

**Data Organization and Storage**

Data organization and storage was carefully considered when designing this qualitative study (Creswell, 2007). Qualitative research in general, and the tradition of educational connoisseurship and criticism in specific produces a multitude of data. This data was organized and sorted to allow for comprehensive analysis and interpretation. This research study produced digital recording, transcripts, interview notes, observation guides, drawings, photos, ambient sound recordings, and classroom and school artifacts. A data collection matrix was developed that identified which types of data were collected at each site. Data storage systems will include secured files on a computer dedicated to
the research study, notebooks of artifacts, files of original drawings and measurements, and photo albums (photos have also been stored electronically).

**Data Analysis**

Data analysis in qualitative research begins during the course of data collection (Rubin and Rubin, 2005). According to Creswell, data analysis in qualitative research consists of preparing and organizing data, coding the data, condensing codes into themes and finally representing the data (Creswell, 2007). The overall process of data analysis is inductive, moving gradually from specifics to generalities. The methodology of educational connoisseurship and criticism exposes complex and subtle aspects of the educational environment and the experience of teaching. Data analysis begins the process of constructing and reconstructing that which is perceived, therefore deepening understanding. The process of data analysis is permeable. The researcher is collecting data and analyzing data separately and simultaneously. This unique permeable analysis allows for a naturalistic emergence of meaningful themes.

Data analysis was informed by the recommendations of Wolcott (1994) and Creswell (1998). These strategies included daily review and summary of field notes, transcription of interviews, initial identification of codes, reduction of codes, and the identification of patterns. An electronic format for field notes that includes a large margin for reflective comments, subsequent memos and coding symbols was developed (Miles and Huberman, 1994).
Data Presentation

Researchers using educational connoisseurship and criticism are encouraged to represent their data in multiple or varied forms (Eisner 2002; Mears 2006). Recent dissertations completed at the University of Denver have employed multiple supporting methods of representation while relying primarily on the prescribed written format. Supplementary forms of representation have included dramatic presentation (Thompson, 2006), poetics (Mears, 2006) and photo documentation (Ganus, 2010). Even within the traditional written format there are many variations. The data presentation of educational connoisseurship and criticism methodology is grounded in richly developed descriptions that may include a well-defined metaphor that helps to more completely illuminate the themes. This educational criticism utilizes a parallel construction model. Each site or participant is represented individually through rich narrative with thematics that encompass the findings in each of the settings. This format highlights each setting or participant and supports the reader in fully understanding the complexities of the individual site or participant. Each of the three educational criticisms contains supporting photographic documentation. These photographs are not intended to replace the written description; rather they are intended to further understanding (Eisner, 1998). This method of data presentation is rooted in the sociological and anthropological traditions of photo-ethnography (Shuster, 2009).
Validity and Reliability

Eisner has identified three sources of evidence that will support the research validity of an educational criticism. These include structural collaboration, consensual validation, and referential adequacy (Eisner, 1998, p. 110–114). Structural collaboration is similar to triangulation and is the process “through which multiple types of data are related to each other to support or contradict the interpretation or evaluation of a state of affairs” (Eisner, 1998, p. 110). Data in educational criticism generally includes direct observation, examination and analysis of artifacts and interviews. Qualitative researchers seek a convergence of evidence that enables the researcher to feel confident in her/his observations, interpretations and evaluation. Consensual validation is the “agreement among competent others that the description, interpretation, evaluation, and thematics of an educational situation are right (Eisner, 1998, p. 112). Agreement might be found in one dimension or in a combination of dimensions. Generally, consensus is not generated by multiple critics, but rather “won from readers who are persuaded by what the critic has to say” (Eisner, 1998, p. 113). The aim of educational criticism is to illuminate and “bring about a more complex and sensitive human perception and understanding” of an educational setting or experience (Eisner, 1998, p. 113). This underlies the construct of the third source of evidence used to achieve research validity: referential adequacy. Referential adequacy is achieved “when readers are able to see what they would have missed without the critic’s observation” (Eisner, 1998, p. 114).
Limitations

Limitations are inherent in all research studies. Limitations in this study included the use of a convenience sample. Sites were selected to which ongoing and open access would be granted. While not originally designed to exclusively examine kindergarten classrooms, the research participants who best matched the initial criteria were all currently teaching kindergarten. Another limitation is the gender of the teacher participants. Common stereotypes and expectations espouse that female teachers are more concerned with the environment of the classroom. As stereotypes often are grounded in some shared understandings, it would be important to include both male and female teachers in further studies. Additionally, while there was significant diversity in the student population served, all teacher participants self-identified as “white.” No rural or geographically isolated school was included in this study. These factors limit the generalizability of the results.

Potential Benefits of Study

Educational criticism is a method of research that seeks to improve the quality of education by examining and appraising complex settings and experiences (Eisner, 1998). The literature has revealed several different areas of consideration in the establishment of the physical environment of the classroom. This study is expands upon the literature as well as bringing together the varied disciplines that address the subject. Including the voice of the teacher protagonist provides a more comprehensive picture. Implications and
lessons learned in this study may become a catalyst for future study or may inform the practice of teachers.

Summary

This chapter addresses the methodology and study design. Chapter Four includes the educational criticisms for three different settings including the descriptions, interpretation, evaluation and thematics in context of the settings to make more meaning from the data.
Chapter Four

Descriptions and Photographs of the Physical Environment of Primary Level Classrooms

Introduction

This chapter offers detailed descriptions of three kindergarten classrooms. Each of the descriptions is divided into seven sections. The first section, *Introduction*, provides contextual background on the school setting and initial entry into the classroom. The second section, *Structure*, examines the physical environment of the classroom as it pertains to the architectural elements of the setting, furnishings and materials, and room arrangements. Within these areas, the constructs of size and capacity, functional adequacy and environmental conditions are considered. The third section, *First Impressions*, includes information about initial meetings with the teacher and observation in the classrooms. Section four, *Classroom as a Living Organism*, is a vignette that describes the room in use. Section five, *Protagonist*, outlines the philosophical and pedagogical beliefs of the teacher. This section provides information on personal and professional background of each teacher. Section six, *Setting*, is a second “room in use” vignette. The final section, *Intentions*, reveals the intentions of the teachers.

Eisner’s (1998) intentional, structural and pedagogical and Uhrmacher’s (2004) aesthetic dimension were used as a lens that helped to illuminate the themes revealed
through observations and interviews. Interpretation and evaluation are interwoven throughout the descriptions bringing together the first three dimensions of Eisner’s educational criticism and connoisseurship methodology.

The first dimension, description, can be characterized as “epistemic seeing a (is the) kind of knowledge secured through sight” with a recognition that sight is intended to encompass all the senses (Eisner, 1998). Descriptions in this chapter are focused on providing the reader with the opportunity for a visceral experience within each setting. Utilizing sensorial descriptions, the descriptions are intended to evoke previous experiences within the reader creating a connection which enables a more complete understanding of each setting. Extensive photographic documentation is intended to supplement the narrative description.

The role of interpretation, Eisner’s second dimension, is to help explain the meaning of what has been observed, to put this information into context and to illuminate the potential consequences of observed practices and to provide reasons that account for what has been seen. The contextualizing process is guided by the question “What does this situation mean?” At times, the process of contextualization raises additional questions, which will contribute to discussions of thematics, significance of the study, and suggestions for further research in Chapter Five.

Eisner’s evaluative dimension of educational criticism is essential. Researchers are taxed with appraising what they see in order to serve the ultimate purpose of more completely understanding issues related to education and educational settings. In this study, this evaluative component relies heavily on understanding the relationship between
the teacher’s philosophical and pedagogical beliefs, personal and professional background and intentions for students. The intersection of these areas helped to situate the judgments about each of the environments in the appropriate context. As with interpretation, evaluation is woven throughout the descriptions and is addressed through the identification a match or mismatch between teacher intention and implementation. These mismatches are identified in this study as challenges.

Klee Creative Arts Academy

Introduction

The building is a series of rectangles, stacked as if of blocks, on a lot of varying elevations; a 1950’s school that hints of an industrial application of Frank Lloyd Wright’s prairie style homes. A park separates the school from the major arterial road to the north. The school acts as a gateway into the post World War II veteran housing neighborhood. Surrounded by a large city park and recreation center on two sides, the urban school building is situated next to large trees, open green space, a pond and facilities such as tennis courts, playfields, and playground equipment.

This neighborhood continues to evolve and change; from initial middle class suburban roots, to the disenfranchised and forgotten southwest corner of Denver to early stage regentrification interrupted by an economic downfall. Klee Creative Arts Academy school was built to serve approximately 1500 middle school students from the surrounding neighborhoods. The struggling school had been closed by DPS the year before due to a combination of low performance and low enrollment. A long time DPS
principal, innovator and visionary leader of another school of choice, has been selected to create what will ultimately be a K-12 school devoted to an integrated arts approach.

Just months before the opening of the school in the fall of 2009 a second school of choice is assigned to share space with the fledgling integrated arts program. The second school is West Denver Prep. In keeping with the districts focus on creating high performing schools of choice and to maximize use of underutilized facilities, the two, very different programs, will share common spaces such as the gymnasium, theater, lunch room, outdoor spaces, and, of course, hallways in what is termed a “shared campus.” District officials acknowledge that such sharing requires extensive collaboration between leadership teams but limited interaction between students and teachers to support the individual identity of each school. Careful coordination of space use and schedule is required.

The 2010–2011 school year is the second year of KCAA (Klee Creative Arts Academy) and students from kindergarten to eighth grade are enrolled in the program with a student population of 660 students. The high school will open in 2011–2012 with a grade added each year until the first matriculating class in 2015. The high school will enroll 600 students total. Students from kindergarten through sixth grade have been selected for enrollment through an application process and lottery system. Students who were previously enrolled in Klee Creative Arts Academy Middle School prior to the closing of the program were granted automatic access to the new program.

I visited the school the previous year to learn more about the unique programming. My visit included an opportunity to tour the building, observe in
classrooms, and a meeting with the administrative team. Throughout the tour, I tried to create a mental blueprint of the building. The layout of the school can be confusing to those unfamiliar with the overall floor plan and the layered elevation makes it difficult to get a sense of the overall floor plan. I feel no more confident in my spatial understanding on my return to the building, but follow the direction provided to locate the kindergarten classrooms located on the lower level of the building in what were originally the science lab and woodshop.

Late in the day in mid August, the building is deserted. A handful of staff members are in the building unpacking newly delivered materials and the office staff is completing preparations for the return of faculty the following week. The hallways are long and wide with high ceilings and perfectly polished vinyl tiles. Walls on both sides of the hallway are lined with full size metal lockers, an atypical feature for an elementary school and an obvious reminder of the intended population of the school building.

I follow the long hallway to the stairwell leading to the lower level. As I move down the split staircase, the metal lockers give way to open faced wooden lockers and cubbies. The hallway ceiling is lower on this level, but once you enter the classrooms, high ceilings again dominate the initial impression of the space.
Rooms along the lower level corridor, like those upstairs, are filled with stacks of furniture resting in the middle of the room. Chairs are wrapped in plastic, tables and other unknown pieces hide beneath sheets. Computers are wrapped in black trash bags, sealed with tape to provide extra protection. Tubs, baskets and boxes of materials are stacked, often precariously, atop the mound of furniture. Cupboard and closet doors are open exposing bare shelves or in some cases a “pack rat’s” accumulation of stored materials. Walls are bare, floors perfectly polished. Boxes of new supplies are stacked in hallways and “assemble yourself” furniture leans against walls waiting for a handyman.

The kindergarten classroom is a stark contrast to the beginning of the year chaos found throughout the rest of the building. The teacher who has agreed to participate in the study is away on vacation. She will return at the onset of staff development. To accommodate her vacation schedule and the requirements of staff development, Miss
Richards has worked throughout late July to set up her classroom. Tables and chairs sit ready for students. The blond wood tables and matching chairs march down the center of the room. Green mesh grocery bags hang from the top finial of each chair. Student names are displayed on cubbies, books are on shelves, and computers are readied with log in information neatly displayed on each monitor. A fish tank on the west wall burbles quietly, more fountain than aquarium.

I find a place to quietly sit and absorb the features of the room. My first impression is related to the size of the space. Huge, it is a teacher’s dream, open, with a full wall of windows, high vaulted ceilings, custom built-in storage covers one full wall, large walk in closets flank each end of the room with a beautifully renovated bathroom on one end and a second sink area on the opposite end of the classroom. And everywhere, beautiful new materials for use in all areas of the kindergarten experience.

In the weeks to come, the features of the classroom will continue to be revealed as teacher and students work together in the space in which they will spend approximately 1200 hours by the end of the school year.
During this time of observations and interviews several themes emerge that will be highlighted through the following descriptions and vignettes.

**Structure**

*Architectural*

Architectural features dominate the impressions of the 25’ x 50’ physical space. The room is a long rectangle with the north and south walls the shorter of the legs. The high ceilings and size of the room speak to the institutional nature of the space. The east wall is comprised primarily of windows. A low built in set of shelves runs the length of the room. For an adult, or the previous middle school students, the shelves are hip high and the remainder of the 15 foot height is consumed by windows. The current kindergarten students can peek through the windows if they walk directly to the shelves and look out, their eye level just above the top of the shelves.

The windows are double pane with interior blinds. In each window the blinds are lowered with all slats positioned parallel to the floor, maximizing the natural light without allowing heat and glare. Augmenting the natural light, three suspended lighting banks run the length of the room.
The west wall consists of a series of built in cabinets, closets and shelves, and entry and exit doors at opposite ends of the room. The only open wall space begins above the eight foot high custom cabinetry. The north wall contains a newly installed sink and vanity, drinking fountain and large closet. Two doorways are centered along the south wall. One leads to the classroom restroom and the other to a large walkthrough storage area that connects the two kindergarten classrooms.
The room is a curious mix of original 1950’s architecture and recently updated features. The pale green ceramic brick of the fifties flanks the windows and runs throughout the classroom. The color is muted, yet this structural element determines some of the additional color choices. In this room, the green is complemented by a brighter teal paint trim around the doors and bulletin board frames. Other signs of the dichotomy of new and old can be seen in an examination of the doors. Some of the beautiful, highly polished light wood doors have the original copper knobs and hinges, while others have been replaced with the more common stainless steel crash bar. The newly installed neutral dove grey VCT tile of the classroom bumps up against the original brown swirl tile still found in the closets.

The class bathroom reflects new school code requirements and is a combination of various ceramic tiles. The bathroom is modern in style and well appointed. The “all new” aspect of the bathroom seems a sharp contrast to the overall context of both the classroom and the building.
There are more subtle signs of updates such as the ceiling mount heating and air conditioning system that has replaced the original baseboard system, individual controls for the lights, newly installed lighted exit signs and the self-contained window blinds. These elements blend into the original architectural design of the space.

The architectural bones of the classroom are appealing and the challenges inherent in the space are not immediately apparent.

Furnishings and Materials

The most striking feature of the furnishings and materials is, that by and large, all are brand new. Rarely are classrooms, let alone schools, filled with all new materials at any given time. In opening a new school, the principal had the luxury of a year of planning and a designated start up budget that supported the purchase of furnishings and materials. While one might be tempted to envy, it was a daunting task when coupled with the other elements involved in opening a new school of choice. Many would argue that principals don’t have the same classroom experience or sensitivity to classroom needs that a teacher would have when creating a master purchase plan. Ideally, one would have
a committee of teachers working with the administrative team, visiting other schools, meeting with vendors, and analyzing images of other schools, prior to such large scale purchases. But the ideal is rarely the reality from which schools operate. Dr. Howard needed to order furnishings and materials based on a time line that would guarantee all would be in place in the weeks prior to the 2009 – 2010 school year opening. The founding principal, Dr. Howard, researched the schools of Reggio Emilia with a special eye toward the role of the environment. Her planning for the kindergarten program included sensitivity to the environment as the third teacher and she selected major pieces of furniture in keeping with the general philosophical vision of the Italian schools. Teachers had not yet been hired when the bulk of the ordering needed to be completed but Miss Richards did join the staff in time to have some influence on portions of the purchasing. Dr. Howard’s reflections on the environments found in Reggio Emilia and the purposeful hiring of Miss Richards helped to cement a common vision for the furnishings and materials.

Round, blonde tables create a neutral visual backdrop. The shape of the table encourages students to engage in conversation while working, supporting social co-construction of knowledge. The perfectly smooth surface of the all wood tables creates a pristine work surface that allows pencils to skim over paper and brushes an unimpeded stroke. At the same time, the surface provides for easy clean up, restoring them immediately to a like new appearance.

Originally, small flame-colored plastic chairs have been ordered for the space. Miss Richards joins the school staff in time to advocate for the small wooden chairs that
are ultimately purchased. The small wooden chairs are only found in the kindergarten classrooms. A set of six of the original burnt orange chairs is found in the studio area of the classroom. The wooden chairs are aesthetically pleasing, the blonde tone matches the tables and chairs and the smooth straight Mission-style lines are a counterpoint to the round tables throughout the room. Dr. Howard has sought out a more moderately priced wooden chair and while these are sturdy, in their second year of use they are showing signs of stress with some of the decorative cross bars releasing from their positions. The chairs, while beautiful, present some unique challenges. The seats are completely flat. They lack the slight curve of a more custom chair. This creates a surface that is somewhat uncomfortable when sitting for extended periods of time. They lack the ergonomic curve that relieves nerve stress into the legs. It also makes it difficult for small bottoms to stay firmly in place. Wiggles cause children to slide off the front or sides of the slick wood surface and while few capsize, children often slip off of the seats when trying to readjust or enter from the side without pulling the chair out from the table.

Shelving is a mix of the blonde wood and industrial grade steel shelving. The shelving has been selected for specific purposes throughout the room. The custom math manipulative shelf and art shelf are blonde wood as are some of the book shelves, while the leveled readers are stored on a brilliant royal blue metal shelf.
An additional point of color is added by the cherry red wire shelving found in another section of the studio area. There are few pieces in the room that aren’t new…the maple nursery style rocker in the circle, a small two drawer grey metal filing cabinet, a bedside table near Miss Richards’ work table, and a beautiful light oak cabinet repurposed from the woodshop classroom that now houses props for the block area.

The materials throughout the room are recent purchases as well. The books in the class library are primarily hardback picture books with a few softcover picture books mixed in as well. Math manipulatives are pristine as are the sorting containers. Easels in the gathering area and in the art area are new as well. The large carpet in the gathering area is a solid blue with the teal tape lines running vertically across the rug. There are two small clamshell floor seats in the library area.
All the elements of the room “match”, a somewhat unusual circumstance for a classroom. The few items not recently purchased from a standard school source, are the pieces that appear to be unique to Miss Richards. These items are mostly small, decorative elements such as the string of blue paper lanterns, the long stuffed reading caterpillar in the library, green glass bottles in the window, small porcelain bud vases, and the sets of wasabi bowls and shot glasses in the studio area.

Room Arrangement

The initial impression when entering the long rectangular room is that of possibilities. The “head” (and heart) of the classroom is directly opposite the entrance. As with many kindergarten classrooms, the instructional area in this room is defined by a carpeted area where students gather on the floor. The instructional area is in the corner of
the classroom, bounded by the wall of windows on one side and the bathroom door marking the boundary on the other.

Tables are arranged in a linear manner in the center of the room creating a walkway on either side running the length of the room. The writing area, library, block area and studio area are located along the window wall, butted up against the non-functioning metal heating casements. Along the opposite wall are a computer area, math manipulatives, storage and areas designated for student work and parent communication. Each area of the room is defined by purpose. The materials, special furnishings and equipment guide what will occur in each section of the room. With few exceptions, areas are divided by pieces of furniture. For example, the writing center is comprised of a small table which backs up to a shelf in classroom library. In general, these work areas are square areas that back up to a wall, bounded by furnishings on two sides with an opening into one of the main traffic aisles, egg carton style.
The teacher area is not immediately apparent. Halfway between the two doors, a space defined by a built-in open shelving unit, creates a teacher work area. Miss Richards has selected a kidney-shaped table rather than a desk.
Nearby, a small end table holds a lamp. The open shelves behind hold small containers filled with typical desk supplies. Unlike a typical teacher desk or work area, the table surface is relatively clear, free from both supplies and accumulated clutter.

**First Impressions**

Miss Richards’ background is such that she appears to be a research participant crafted to meet the needs of a study. She came to Klee Creative Arts Academy just prior to the 2009 – 2010 school year. Her previous teaching experience includes a Denver Public School Montessori school of choice and a child care/preschool setting in Boulder inspired by the practices of schools of Reggio Emilia. Miss Richards is currently enrolled in an English as Second Language Endorsement program and anticipates completing her master’s degree at the end of the 2010 – 2011 school year. Her previous educational
experience includes an alternative licensure program largely comprised of an internship in the Boulder childcare/preschool setting and then an additional full year of Association Montessori International USA training in Portland. Other relevant and influential educational experiences include her participation (along with the rest of the inaugural faculty of Klee Creative Arts Academy) in the University of Denver, Morgridge College of Education Aesthetic Institute and a Reggio Emilia study tour group.

Her current school administrator, founder of Klee Creative Arts Academy KCAA, has recommended Miss Richards as a potential research participant. Initial email contacts were positive and she agreed to participate in this study. At Miss Richards’ invitation, I visited the classroom several times in the weeks leading up to the mandatory professional development time. Miss Richards has been out of town and I’ve had the opportunity to study the set up of the classroom and become somewhat familiar with the physical environment. Today, Miss Richards will be finishing final details in the organization of the classroom in preparation for the students’ arrival. We will meet together briefly to select dates for observations and to schedule an initial interview.

Miss Richards is average height, but very petite, almost spare. Her long limbs and graceful, athletic countenance appear almost catlike as she moves about the room. Short, slightly tousled red hair plays against the milky White skin that is associated with either southern women of the 1800’s or the unfreckled Irish. Her eyes are a brilliant icy blue that is arresting even across a room. Miss Richards is delicately beautiful, yet her movements are strong and sure and she is perfectly at ease in her body and her space. We talk briefly as she continues to work around the room, putting last details into place.
For many elementary teachers, the beginning of each year is a time to begin again from scratch and rebuild; shelves are purged, spaces rearranged and new wall décor or teaching tools are hung. Miss Richards’ room feels as if it has simply been wrapped in protective plastic for the summer and the plastic peeled away for her to begin work. Remnants from the year before remain, a string of paper lights that are faded from sun exposure after a year spent hanging in a window; the “Meet your Teacher” chart shows Miss Richards, but with a different haircut. Yet I know from the way the rest of the school is setting up that everything was indeed packed up and stored in the center of each room to be reassembled. Two options present themselves, either Miss Richards was perfectly content with the set up of her room the previous year or she is not compelled by the common practice of reinventing the classroom each year.

The room is perfectly organized, as many rooms are prior to the start of school. Name labels adorn the wooden lockers in the hallway. Name tags mark library pockets attached to the wall. Books are displayed on the ledge beneath the window. Small photos of students (likely those from last year) are placed in various parts of the room, indicating the use of the space through a visual cue.
Objects of purpose and objects of aesthetics are placed carefully and with obvious thought throughout the room. Yet, like Miss Richards, there is a certain spare, minimalistic beauty that in this large space hovers just on the verge of feeling coldly institutional. The room is, despite the burbling of the fish tank and the gentle cheeps and calls of the lovebirds, suspended in time, waiting for its purpose to be realized. Will the perfect order of the room remain when students fill the space or will it evolve and perhaps devolve as the natural disorder of children learning to be together and learning together begins? There are hints that the organization will remain. Miss Richards has selected an open teacher area, no desk drawers to hold pens and pencils, no desk under which to drop a tote bag or change out of boots. Would a teacher who found it difficult to maintain an organized space select such a public work space? Perhaps, but it seems unlikely.

Just as the space provides a sense of the import of organization, one can begin to discern the type of teaching that might occur in this space. The rug with the tape lines running parallel to the white board indicates an expectation of ordered seating while in this central gathering space.
The rocking chair and the hand painted 1950’s wooden high school chair indicated a special space for sharing or presenting. A stack of small whiteboards and dry erase markers stacked under the large easel is indicative of shared instructional experiences. And the small broom, dustpan, and wash clothes in the back hint of an expectation of student involvement in clean up.

The environment provides clues as to what type of teaching occurs in this space, just as it hints of who Miss Richards is as a person. Small pieces of rich textiles are stashed in places throughout the room. A Chinese dragon marionette hangs nearby a small piece of paper with something written in Chinese brush strokes. In the art area, hand held pencil sharpeners are nestled in wasabi bowls. A collection of mismatched green glass bottles is lined up in orderly fashion in the farthest window of the room.

The environment is meticulous. Questions abound as to how Miss Richards and the students will interface and function within the environment.
Classroom as Living Organism

I arrive mid day during the first week of school. As kindergarten students, these children represent the school entry point. They are learning about their environment, their routine, one another, and the social experiment that is formal education. This week will be filled with firsts as students come to know how to use their classroom and how to function within the context of their new environment.

It is quite warm, the air is heavy and still in the classroom despite the standing fans stationed in the gathering area and at Miss Richards’ teaching space. The children are wearing shorts, t-shirts, sandals, and tank tops. Miss Richards is dressed in flowing capris, Teva sandals, and a light unstructured silk shirt. Sunglasses perched on top of her head act as a headband to capture some of the side curls that threaten to fall into her eyes. Playground noises drift in through the partially opened windows. All along the wall, the lower panel of the windows is cantilevered open to try and allow for outside air to enter the room. The modified drop panel doesn’t allow for air to flow in and out even if there were a cool breeze to capture…today the opening of the windows does little except to allow some of the built up heat in the room to escape.

Students enter the room as they return from a visit to the school library. Miss Richards provides direction on how to put library books away safely and guides them to the seating area where they are to “glue their bottoms to the carpet.” As they settle onto the carpet, arranged in a circle rather than on the tape lines, I wonder how they know when to sit in which configuration. Perhaps the tape lines are used for something entirely different and don’t indicate a seating arrangement. Miss Richards shares with the
students what they will be doing next. The play sounds that entered through the windows have given way to the sounds of adult conversation that seems to be just outside the windows. A low thrum of traffic noise or air traffic combines with the subtle “conversation” of older buildings. Miss Richards and the children don’t seem to notice the sounds; no heads turn to try and identify the sources of the various noises.

The lights are off and while there is adequate light, the mood of the room is influenced by the low light atmosphere. The sun has moved to the other side of the building and the light that enters the room is now dispersed rather than direct. There are lamps scattered throughout the room; a tall floor lamp occupies the corner behind the easel, a table lamp is placed next to Miss Richards work area, and another small lamp is on the ledge near the writing center. None are currently lit.

Miss Richards continues her instructions as a few children move to the drinking fountain at the back of the room, a few to the plastic tub filled with individual water bottles, some to the hall to store things in their backpacks or cubbies and one child moves to the bathroom located inside the room adjacent to the gathering area.

I note the first challenge in the set up of the classroom. Miss Richards is fully engaged with the class in the meeting area. The drinking fountain and sink are at the opposite end of the room. A boy becomes engaged in water play in the drinking fountain and as he is out of the sight line (and the vocal reach) his behavior accelerates as he is stimulated by the sensory experience. Having located soap at the nearby sink, he begins to wash his hair in the drinking fountain. His head fully lathered, water and soap drip onto the floor around the fountain. The event comes to a natural conclusion after he rinses
his hair, gathers paper towels, which he uses to dry his hair and then to mop up some of
the soap and water from the floor, and moves to rejoin the group. This is my first
glimpse of the difficulties posed by such a large room.

**Protagonist**

*Beliefs*

The evolution of a teacher matters; with a plethora of alternative teaching
programs, the closing of traditional teaching colleges and the advent of on-line programs,
teachers are a more heterogeneous group than ever before. Understanding more about
how someone becomes a teacher and what they consider to be major influences in their
work illuminates the decision making process that effects all aspects of teaching.

A creative individual, Miss Richards went to NYC to study drama, film and art
history with the goal of completing a PhD in art history and museum education with the
intent of becoming a museum curator and academic. After completing her undergraduate
degree, Miss Richards traveled to France to teach English and to reflect on her senior
thesis experience and her intended goals. The life of academia, solitary time spent
researching in libraries, turned out to hold little appeal to Miss Richards. The lack of
contact with others, while perfect for a museum curator and researcher, failed to
intellectually or emotionally engage Miss Richards. In examining the times in which she
had felt most connected and fulfilled in her past experiences, Miss Richards realized that
her happiest moments had been those in which she was working with a group of children
in some form of museum education.
After returning to Colorado, Miss Richards learned of a unique teacher licensure program coordinated between CU-Denver and the Boulder Journey School. Circumstances aligned; Miss Richards had few commitments and as a Colorado resident, the program was almost without cost. Without any background in Reggio Emilia, but an encouraging friend in the field of Montessori education, Miss Richards began the internship/immersion program that combined coursework and practice.

The program at BJS was wonderful, creative, process oriented, but I didn’t get a strong sense of what a three year old, a four year old or a five year old child was supposed to do. The emergent approach of the integrated curriculum was both purposeful and wonderful, but I wanted both. I wanted to pair the BJS observation with my neurological interests, and I wanted to know more about general patterns of development. And this understanding of materials, and taking turns, of being a child, and learning about child development. I wanted more.

(Miss Richards)

And so, after completing the alternative licensure program which granted her a Colorado Teaching Provisional Teaching License and a Master’s degree, Miss Richards once again became a student. She joined a cohort of 30 – 35 teachers in Portland, Oregon who would immerse themselves in the Montessori model. As a student at an official Association Montessori International training center, Miss Richards trained in what is considered the “pure” Montessori methodology. The director of the program is part of a new wave of Montessori experts, an individual dedicated to helping shape the future of the Montessori method in the context of a rapidly evolving world and a changing educational system.

Her goal is to prepare teachers for varied Montessori settings around the country.

Over a twelve-month period, Miss Richards rotated between a month of immersed practice and a month of sustained, guided observations. From the beginning, it was clear
that “it was experiential and hands on in a very different way” than the BJS program and model.

After completing the program and returning once again to Colorado, Miss Richards accepted a position at a newly formed DPS Montessori school of choice.

It was more difficult to weave the theory and practice together. My cohort and I had an ideal view of what a classroom would be like and then I took my first job in DPS in a low income school and it was a completely different point of view from what I had seen and what I had been taught. It was particularly different from the Montessori setting I observed in, where things were so well organized and they just flowed. When I was practice teaching, the six year olds had been there for three years, the routines were really well established. In the DPS school we had new children coming each day, they didn’t speak English, they didn’t speak Spanish, they spoke Afrikaan dialect. It was a struggling context. You learn it one way in the classroom as a student of the educational method and another being a classroom teacher. (Miss Richards)

After a year filled with challenges, Miss Richards follows the advice of a colleague who had encouraged her to become part of something new, to begin a school with Dr. Howard, a school devoted to the integration of the arts, a school whose kindergarten will be inspired by Reggio Emilia.

Miss Richards is formally trained in not one but two of the most influential methods of educating young children. And while there are many commonalities between the two methods, they are also very different, with philosophical ideals that dictate practices related to physical environment, instruction, curriculum and the affective domain. Miss Richards thoughtfully considers which method is most closely aligned with her own beliefs and practices.

Reggio. There is some calm I find in a sense of order, but I’m not a very orderly teacher. I’ve never had a very quiet classroom. The way that a Montessori classroom looks, is related to the teacher, but they tend to be more structured. This is how you use this material. I personally find it wonderful….I almost wish I
was a Montessori teacher because then my classroom would be more peaceful. Perhaps I want to reassure myself about the time and money that I invested in my training. That I am using it. And I feel like it will make me a better parent. I try to use some of the materials. There is a general spirit of appreciating activities that bring children into concentration, even if it is washing tables. Practical materials are really soothing and useful to children. (Miss Richards)

Miss Richards’ stream of conscience response is indicative of her internal conflict. Her immediate response is “Reggio” and yet all of her comments are specific to the Montessori method and resound a yearning quality.

I am startled by the comment about not being orderly; the room is a testament to organization and ongoing maintenance of systems. Miss Richards presents as self-contained, assured and orderly in her approach and I wonder at the internal questing or turmoil that prompts her self-observation, and subtle critique, of being disorderly or having created an environment that lacks the meditative calm that she seeks. As she continues to develop her thoughts, it becomes clear that this line of reasoning relates to issues of classroom management, an area that her previous administrators have identified as an area where she can exert more control. At the heart of this, and throughout my observations, I witness a teacher who is deeply conflicted about the role of class disciplinarian and classroom management vs. an engaged, active child directed environment.

The Setting

It is the Tuesday after Labor Day. The room, even the building feels completely different than it did in the first weeks. The first weeks felt as if school was interrupting summer….today it feels more settled, as school has finally commenced. Perhaps it is the slight change in weather. This morning there is dew on the grass and as the children and I
walk through the grass on the way to enter the building our shoes collect the cool moisture. Today, for the first time this year, students are wearing pants or sweaters. The weather hints that summer is drawing to a close. The building is subtly changed as well. Student work has begun to replace the welcome back notices and signs in the hallway. Children move with increased confidence through the hallways and the kindergarten students are able to independently put their things away in the open lockers and cubbies, ready to begin their morning routine.

In the Montessori tradition, each child enters the room, stopping at the door to shake hands with Miss Richards who personally welcomes them to school. Children move to their designated tables, which are delineated by a cool or warm color (purple, yellow, orange, green, red, blue) as well as labeled with their names. At each student’s space, an activity or task waits. Some tables’ students work individually but on a common task, at other tables individual students have their own activity, differentiated for their personal needs. The center of the table holds a basket of books for quiet reading and a basket filled with supplies that may be needed: pencils, colored pencils, and scissors. The supply baskets are a permanent fixture of the tables while the book baskets will be carried by a student to the library at the end of the morning warm up time.

Music is playing softly in the background; one of Miss Richards’ many childrens CD’s. The piece this morning is primarily instrumental, slightly folk influenced with occasional almost indiscernible lyrics.

The banks of lights remain off. Two of the east-facing windows allow sunlight to enter the room, although the elevation of the building prevents sun from streaming in the
full wall of windows. A small beam of diffused sunlight bounces off of the carpet square in the block area and reflects onto the mason canning jars that contain color sorted markers in the studio area. The sunlight invites students into these areas, but they won’t be open for use until much later in the day.

At this stage in the year, the students don’t seem to fully understand the cueing system of music and lighting that Miss Richards is using to try to support a calm and peaceful transition to the academic portion of the day. Students are delighted to be together and the sounds of their bright chatter (the five year old version of a whisper) competes with the music, the burbling fish tank and the morning sounds of the love birds. Many settle to their tasks, others focus on establishing a social connection with friends and still others use this time to make a personal connection with Miss Richards or paraprofessional Miss Maria.

As arrival time comes to an end, Miss Richards moves to the front door and picks up a small brass bell from the shelf. As she rings the bell, she raises her hands in the
“surprise” gesture, waiting for students to emulate the gesture back indicating that she has their attention. The ring of the bell carries through the length of the classroom and students stop and return her gesture and respond to her direction to come to the gathering area. Miss Richards turns off the CD player located by the front door and moves to the meeting area where she turns on a second CD player. She begins to sing along quietly with the lyric based “two by two” song. Initially, no one joins in singing but they are orienting to what needs to be done next. Miss Richards remains in the meeting area; she does not move about the room organizing clean up or providing ongoing verbal directions. She simply sings while sitting quietly, waiting.

Students place books back in baskets, papers into mailboxes, pencils into the center supply baskets, push chairs under the table and in some cases move chairs back to their rightful tables. A few children move to the back of the room for a drink of water from the fountain before coming to the meeting area while a few others use their individual water bottles stored on the shelf just inside the front door. Within a few moments all the students have arrived in the circle. One child finds his sensory seat cushion and moves it to a space on the carpet and sits down, two students pull rocking chairs onto small carpet squares just off the back of the main rug area and take their places in the rockers.
One boy remains at his table, fully immersed in what he is doing and without recognition that the class gathered together. Miss Richards sits on the carpet, a member of the learning group, rather than in the rocking chair that she frequently uses for instruction.

The CD player is turned off and Miss Richards begins to sing the “Respect Song.” Fingers waving high to low she chants respect.

*Respect, respect, respect, respect*
*I choose to respect and take care of myself (self hug)*
*I choose to respect and take care of others (put out arms to others on each side)*
*I choose to respect and take care of my classroom, my school, and my environment (small box with arms, large box with arms, big circular globe movement).*
After some additional morning meeting activities, Miss Richards divides the students into instructional groups. At this point in the year, the groups are often quite large as she does not yet expect them to work independently. As such, half of the students are generally with Miss Richards while the other half are with Miss Maria. Today the students will be working in direct instruction literacy groups with two additional independent work stations.

Miss Maria’s group works in the studio area. A large rectangular table dominates the center of this area which is dedicated to activities related to the arts. Miss Maria has organized the area for instruction while Miss Richards conducts the morning meeting. Individual laminate covered placemats cover the table and a small tray of clay tools lies in the middle of the table. Small individual containers of commercial play dough are located on each placemat. The table comfortably seats eight children.
The other structured group meets with Miss Richards at her teacher workspace, a kidney shaped table located in the middle of the room along the west wall. The two instructional spaces are located within fifteen feet of one another; quite close in relation to the overall size of the room. The remaining children work independently in the classroom library directly across from Miss Richards area or at a listening station at the entry to the room. The majority of students are clustered in the rear third of the room.

While Miss Maria’s work space has been set up during the morning meeting, Miss Richards must gather her supplies. Her immaculately clean work space holds a single two pocket folder. From her seat at the “dip” of the kidney table she is easily able to access the materials she needs from the open shelves directly behind her. No time wasted looking for materials or moving from place to place. Everything Miss Richards needs is within an arm’s reach.

The sounds of the two groups overlap one another. Miss Maria’s soft, lilting voice can be heard from the middle of the room as she gives students instructions in how to practice forming letters with the play dough. Miss Richards voice is both gentler and firmer at the same time. It carries through the room, as many teacher voices do, but she is not raising her voice. The sounds compete with one another and neither group feels fully self-contained. While there is no membership switching, the sound gives the groups a somewhat permeable feel. Those forming letters hear those who are working to decode and then reform single syllable words and vice versa. From the library, students chatting with one another add to the overall sounds of the classroom. As time elapses, the noise level continues to increase.
Miss Maria’s group is engaged in an activity that allows for them to have conversations while working to form their letters. The group in the library is looking at books, which at this age includes much discussion and sharing of pictures and ideas. Those using the listening center are relatively unaffected as they wear large noise muffling headphones. Miss Richards’ group is involved in structured literacy activities that require call and response and some follow up exercise but which does not allow for much conversation. This group is most likely to be impacted by the sounds throughout the classroom.

By the end of the literacy center time, the students demonstrate typical signs of fatigue for young students. They are struggling to remain focused, their bodies begin to move with less control, conversations begin to erupt into disagreements and the quality of the work begins to disintegrate. As Miss Richards calls an end to the work time with another bell signal, the students are eager to shift their attention. The clean-up is less controlled and requires more intervention than the earlier transition. Miss Maria orchestrates much of the clean-up process while Miss Richards again gathers the students together in the meeting area and prepares them for the next learning experience.

**Intentions**

Meeting with Miss Richards helps to clarify what I have seen in the classroom. Her thoughtful reflections shape my understanding of her intentions and the functioning of the classroom.

I have a vision of children really enjoying learning, not just easy, fun activities…but really enjoying rigorous learning and challenge. Thinking of something new and being inventive. Challenging and exhausting all at the same
time. I want them to feel this way. That feeling of at the end of the day it is such a treat to read my email because e-mail communications can be solved with a yes or no…I share that because I know what the kids who are at this school are going through. I also want the children to respect each other and to feel like they are respected and valuable. (Miss Richards)

Throughout my time in the classroom this dual purpose is clearly apparent in the classroom. The overall curriculum, length of day, and pacing of the curriculum and instruction create a rigor that is somewhat different than the rigor described by Miss Richards. The children are cognitively engaged and are intellectually stretched but the inventive and self-directed challenge that Miss Richards envisions is limited by the constructs of her current context. The demands of the school district appear to weigh on Miss Richards’ ability to fully act on her intentions; she clearly takes her responsibility to the district and the students in her care seriously. The required literacy and math periods consume a large portion of the seven hour kindergarten school day. The focus on the integration of the arts programming, rich with specialist teachers and classes, leaves limited time for the long blocks of exploration or project time that Miss Richards desires.

While the structural elements of the setting do not seem to support the first of Miss Richards’ goals, her second goal, that of respect, is woven throughout the tapestry of the children’s experience. They are fully immersed in a culture of respect. From Miss Richards’ morning handshake to the slightly modified Montessori birthday celebration, there is a focus on both the child as an individual and the child as a member of a larger community. The theme of respect permeates the environment. Overt caring for self, others, and the natural and man-made elements of the environment are directly taught and modeled.
Miss Richards describes how her intentions inform the process of creating the physical environment of the classroom. Her personal experiences are replete with a focus on how to establish a classroom environment. In both her Reggio and Montessori training, time was spent discussing how to sort, organize, store, and display materials. These influences are clearly apparent, particularly in the studio where clear canning jars hold markers or colored pencils sorted by color and Montessori work trays hold stitching exercises. The materials serve both useful and aesthetic purposes. The materials are easily accessed, yet their purposeful arrangement creates a still life tableau.

The studio is the first area that Miss Richards created within the classroom. Her process in selecting the space was related to the practical consideration of access to water (the nearby sink) and making use of the natural light by placing it against the west wall. This single decision regarding the placement of the studio area informed each subsequent
decision. With the east wall of windows, the west wall of built in cabinetry and the south wall holding the sink, a closet door and now the studio, the meeting area is located by default on the north wall next to the bathroom. A small 4 x 4 whiteboard is installed here and this second major decision about space begins to shape the next. The teacher area is in the middle of the west wall. It is centrally located in the room and has adequate storage and easy access to an outlet. Close at hand is the only data port located in the room and this too becomes a piece of the decision making process. The location of the data port results in the placement of the technology center next to Miss Richards’ work area.

Miss Richards describes coming into the classroom for the first time and thinking what a beautiful and amazing space it was…much the reaction that I had upon entering. And, yet, as she began to structure a space that would provide opportunities for rigorous intellectual adventure and the development of caring and respect, she ultimately realized
the space lacked flexibility. In large part, the lack of flexibility was a result of the architectural features of the classroom.

The classroom environment became such a challenge that Miss Richards sought out the advice of a former colleague. At the Boulder Journey School, Miss Richards had the opportunity to carefully consider her environment. The classrooms at BJS had a certain uniformity; a parallel aesthetic. In visiting the schools in Reggio, Miss Richards was struck by the heterogeneity of the classrooms, particularly by the elements that individualized them within their larger community context. With this in mind, Miss Richards experimented with a red couch cover. A colleague at the school, the drama specialist, helped her to recognize that the red was too “eye popping” for the kind of environmental aesthetic expected within the setting. Her school administrators offered to support Miss Richards’ environmental experimentations by hiring the drama teacher to spend a day over a weekend helping her to re-envision her space. The experience was so positive and affirming that when Miss Richards confronts her new space in Klee Creative Arts Academy, she again asks her former colleague to offer advice, guidance and support.

In addition to the architectural challenge, Miss Richards must also deal with other environmental conditions which impede her ability to fully realize her intentions. Some of the restrictions are overt, such as those related to the Denver Fire Code (no fabric, no soft furnishings, no upholstery). Others are based on the school culture; as part of a school rather than an early learning center, Miss Richards felt hesitant to include small nooks and private places where children could retreat. The idea of “surveillance” is forefront in Miss Richards’ mind as she establishes the various areas in the classroom.
Our conversation drifts in and out of the ideal and the stumbling blocks. And along the way, who Miss Richards is as a person continues to be reflected in her decisions regarding the environment.

I think that I am guilty of creating an environment that appeals to me. I spend money from my budget on the little glass vases and the paper lamps, but they (children) don’t really notice what kind of lamp I have. Maybe they do and I’m not giving them enough credit. I could loosen up and reflect on the kids. Examine the things that I think are important to me but not to them. (Miss Richards)

This push and pull of intent and action is apparent in the room. There are few elements in the room that speak of children making decisions about their environment or contributing to their environment. The personalized elements reflect either Miss Richards or perhaps the group of students who resided in the room the year before. It is early in the year and the marking of space, the coming together and living in one room, may simply not have occurred yet.

Organization and lack of clutter are at the forefront of Miss Richards’ aesthetic. The spare but elegantly colorful personal style that is Miss Richards is characteristic of what she describes as important. The idea of clutter, in her home and in her classroom, feels chaotic.
Miss Richards is committed to clean table tops, clutter free work spaces and limited belongings. But there is more to Miss Richards’ style than clean, clear lines. She describes her home as being filled with rich colors and textures from around the globe. There are hints of this aesthetic in the classroom; the math manipulative bag is a beautiful woven tapestry bag styled after the Harry Potter character Hermione’s “possibles” bag. The basket that holds the dry erase markers under the standard Lakeshore Learning easel is a rattan and silk brocade box, and even the paper lanterns add their own textural statement to the room.
But these elements are purposeful, not decorative. They are carefully chosen and limited. The overall sense of the room is one of clean lines, open space, and orderly precision. Miss Richards believes that this brings a type of intellectual and emotional calm that allows one to work in a relaxed and focused manner.

We talk about whether this is the result of her Montessori training or whether this is personal. In all likelihood, Miss Richards was drawn to the Montessori method, in part, because of the focus on order and care. As such, it isn’t one or the other; it is the gestalt of the experiences merging within the person. Miss Richards captures this as she describes her experiences in the University of Denver, Morgridge College of Education Aesthetic Institute the year before.
The experience was phenomenal, transformative. I really connected with Dewey’s themes. I reflected on it in my human learning class this summer, not teaching, learning. I wrote my paper for the class on Dewey, the role of sensorial acuity, elements of risk, joyful experiences that will be remembered. I talked about how I had read Dewey before, and I thought his ideas were good but I did not connect to his writing at all. At the Institute we had a chance to do it, really bring Dewey alive, once you experience it firsthand rather than just reading and studying it, is was more….more exciting, more meaningful, more complete. (Miss Richards)

There is a merging of ideals and experiences in a classroom. Personal beliefs, intentions, architectural features, structural conditions, the teacher as an individual, the students; each plays a unique part in the classroom. Eisner has described this interplay of the dimensions of school and asserts that changing one results in a change in all.

The question becomes whether one element controls another (and to what degree) or whether the elements represent some perfect balance in which each supports the other much as an Alexander Calder mobile. Does Miss Richards’ personal style or her intentions control the establishment of the classroom environment or are they part of an optimum tension, balancing issues related to curricular demands, fire codes and room size?
University Center

Introduction

The University Center for Gifted Children is a small independent school that serves 240 students. A part of the larger University, the University Center is an integral part of the College of Education. The 31,000 square foot modern red brick building is considered a gateway building of the University. The building is situated at the corner of the eastern boundary of the campus. The east side of the building is adjacent to an alley running behind several small local businesses. The west playground space acts as a buffer between the school and the law school and several fraternities. To the north is a small apartment building and the southern end of the building is separated from the street by a narrow outdoor courtyard. The school has two green areas, but is, in essence, a “land-locked building.” The current building is the result of a lengthy process that involved multiple stakeholders in the creation of a physical environment designed to meet the needs of students from three years of age through eighth grade. The custom building was completed in the fall of 1991.

Originally envisioned as outreach program of the education department of the University, the school’s first three and four year old students attended classes in rented space in a Denver Public School elementary school building. As the program grew, so too did the need for space. Requiring more space than the public school would allow, children attended classes in University buildings and eventually additional rental space in a nearby church. With the support of the University and financial donors, plans for a permanent space began.
The Director of the University Center along with teacher, parent and student representatives met regularly with the selected architect of record as well as the University architect. The planning process lasted for more than six months and the building project began in 1990. The facility opened in 1991 and in 1996 an extensive addition which added 12,000 square feet to the original size was completed. Original plans also included a freestanding gymnasium to be built on one of the current play fields.

The mission of the University Center is “to provide a dynamic and challenging educational environment that anticipates and responds to the individual, intellectual, social, emotional, physical, aesthetic, and cognitive needs of gifted children.” This mission was the center stone of the design process and unique elements can be found throughout the building from the apparently random pattern in the flooring (a fractal pattern designed by a student and teacher) to classroom windows at various heights that allow students different visual points of reference.

I have worked at the University Center for twenty-five years in varying capacities including classroom teacher, Admissions Coordinator and my current position of Director of Education. I have spent thousands of hours in the building and on the grounds and am very familiar with the overall layout of the building. My current position requires that I have a detailed understanding of the way in which the building is utilized.

The beginning of August finds the building relatively empty save for the administrative team and the office staff. The classroom I will be observing is a kindergarten classroom located in the Early Childhood wing on the north end of the
building. An open common area anchors the four classrooms in this wing. Floor to ceiling windows on the west wall look out into “Hazel’s Garden”, a beautiful butterfly garden that is in full bloom at this time of year. The plant life creates a natural barricade to the strong western sun and the light in the atrium area is dappled. The ceilings are lower in this space than in the entryway and lobby.

A small hallway off the open space provides leads to the two kindergarten classrooms. I visit the classroom at the end of the day. Lights are off throughout the building, but natural light filters in through the partially lowered shades. Shadows are at play in the empty corners and the space appears stark and undefined. The teacher who will spend her year in this space is a second year faculty member moving from the younger primary level to the kindergarten. She is anxious to begin the process of “setting up” her room and, in preparation, has spent time simply sitting in the space on several different days.

The contents of the classroom are stacked on the tile floor; part of the intricate cleaning schedule that requires that everything in the classroom be packed and moved onto the carpet at the end of the year and then moved once again after the tile is waxed to allow the carpets to be cleaned. Furnishings act as a steady base to what appears to be a mountain of materials. Bright orange plastic chairs are stacked and sheathed in plastic. Open cabinet doors reveal a multitude of materials. The furnishings and materials seem overwhelmingly disproportionate to the size of the room. It is difficult to envision what the room will look like in a few short weeks when students begin the new school year.
The room is ready; ready to be transformed by the teacher before she and her students come together to spend the year together in this 22’ x 30’ square foot space. One teacher will be responsible for deciding where each piece of furniture should be placed, for opening each box and making decisions about what should be stored and what will be used. Protective plastic will be removed and chairs will be unstacked as they are matched with tables. Empty corners will soon become miniature libraries, artist studios and listening centers. The teacher will create areas for project work, literacy and math activities, dramatic play and more. She will establish a parent communication center, develop organizational systems and create welcoming displays. All before she meets the students in her classroom for the first time. She will do this while considering a multitude of criteria, balancing conflicting needs and working with practical considerations. Does the education of the children begin during this process rather than when they arrive at school? How will the decisions that are made in mid-August impact the experiences of the students in October or February? What background does the teacher have to inform her choices? Does she have what she needs to attain her educational goals?
The following descriptions of observations and interviews will illuminate the decision making process, examine issues related to the questions above and explore the ramifications of these decisions.

**Structure**

*Architectural Elements*

Cupboards and hooks are located on the wall just outside the room. Entry to the square room is from the center of the west wall. This wall is dominated by casework. In addition to the door frame, the wall contains a sink with cabinetry above and below and a bank of built in cubbies with closed door cabinet storage above. Casework is a matte finish café au lait and blends into the slightly off white walls. The small section of open
wall holds the institutional black clock, two different heating controls, an outlet and the light switch.

Diffused lighting is the dominant feature in the room. Two walls, the north and east, contain large square windows. Unlike typical classroom or home windows, these frames are just inches above the floor with wide colored laminate window sills. The lower square panes of the window are fixed, with a cantilevering window pane above. Vertical blinds in a neutral oatmeal color cover the windows. The blinds are tilted to an open position and light easily penetrates the space. The standard height ceilings consist of acoustic tiles and covered recessed fluorescent bar lights.
The VCT flooring of the hallway flows into the classroom, covering approximately one third of the room. The tile colors: blue, salmon, yellow, oatmeal and teal, establish the color palette in the neutral tone space. While the fractal pattern continues in the classrooms, it is more difficult to discern specific elements. An industrial blue fleck carpet covers the remaining two thirds of the floor space. The only other color found in the fixed elements is a reading loft in the form of the large red barn, trimmed in glossy white and finished with black shingles.

A lone piece of installed casework is nestled in the southeast corner of the room. The tall narrow closet and file cabinet and storage cupboard is seated in the corner between the edge of the window on one wall and the chalkboard on the other. Drawers
and doors are easily opened and readily accessed, but the stand alone cabinetry creates both a visual and a utilitarian challenge.

The bulk of the south wall is characterized by vertical work spaces. A large blue chalkboard and a Plexiglas panel anchor the two ends of the room. The mounting of the chalkboard mimics that of the windows. The chalkboard ledge begins approximately ten inches off the ground rather than using the standard installation height. The four foot by eight foot piece of clear Plexiglas is slightly higher. Beneath the bottom edge of the horizontally mounted Plexiglas are several plastic window boxes. Typically used for flowers, are filled with paint spatters and left behind paint pots and brushes. Clips along the top of the Plexiglas indicate use as a large area easel. As with the other walls, outlets
are located in various places, all twenty-four inches above the floor. Centered between the chalkboard and easel is the port for phone and internet connectivity.

Architectural elements are clean and spare. The room is open with limited open wall space. The flooring division and the window placement create a unique feel to the room. Those unfamiliar with the space would likely wonder about such details. Teachers new to the environment often discover that these unique elements may create challenges in establishing the environment. As they spend time in the environment, the thoughtful attention to such details becomes apparent. There is a subtle tension ongoing among the focus on needs of the student, teacher autonomy and practical considerations related to the use of space.
Furnishings and Materials

The furnishings are a curious mix of old and new, standard school materials, custom built pieces and items typically found in a home environment. Together, the furnishings speak of how the room is used. Visitors to the room are able to tell something about the age of the children who spend their days in this space, to imagine how part of each day is spent and will likely have at least a hint of the kind of teaching and learning that defines the space. There is a sense that each item in the room serves some specific purpose. Yet the furnishings don’t necessarily coalesce with the architectural elements and style of the overall classroom. The modern room with clean lines, distinct color palette defined by the tile, and the focus on light seem to fade behind the conglomeration
of furnishings. The “newness” of the building implies a more institutional or coordinated set of furnishings and materials than those that dominate the space. There are exceptions. The clean lines and style of the blond book display case, light table and L-shaped teacher desk reflect the lines of the room. These pieces appear new and appear to be from a coordinated line of early childhood furnishings.
Tables include sets of trapezoids paired together to create hexagons. Each hexagon provides an individual space for six children with the center of the table space devoted to common supplies.

A large kidney table is positioned near the meeting area. Table heights are adjustable and each table is positioned at a different height. Most of the tables are set at a height that accommodates chairs, but one table has the lower section of the legs removed.
and is surrounded by a set of cushions. One table is markedly higher than the rest and has no chairs or cushions.

The tables are standard school tables with black metal legs with dark wood grain laminate tops. The table tops are smooth but have a slight texture to them, keeping papers from slipping as students write or draw. The dark wood tone hides the small marks left behind by pencils or markers but allows for easy cleaning. The dark wood tops are somewhat incongruous in the room. Other wooden pieces in the room are either painted the café au lait color of the built in cabinetry, the creamy white of the walls or are the light blonde tones of the newer pieces.

Stackable molded plastic chairs in tomato red are placed around one of the hexagon tables as well as around the kidney table. The bucket style chairs have a slight curve at the back and in the seat. The curved shape along with the pebbled texture helps to prevent unnecessary slips off the chair as well as making them easy to grab ahold of to move in and out from the table. Chairs are light weight and even the kindergarten children are able to easily move them from place to place or to stack them at the end of the day. As with the dark tabletops, the chair color is somewhat incongruous.

Particularly notable are the many pieces of furniture dedicated to storage. These storage pieces appear custom made and are different heights, shapes and configurations. Most of the pieces are painted to match the walls or the cabinetry. The slightly pebbled texture and rounding of the edges hint at the many coats of paint that cover these pieces. Each seems to serve a unique purpose. One unit with long low spaces is designed to hold specific block shapes. Another with shallow shelves above and deeper shelves below is
used to house art supplies. Paper is stacked on the shallow shelves while the deeper shelves hold baskets of paint, jars with brushes and other various supplies.

Additional unique pieces include a vintage maple library big-book rack that now holds student folders and notebooks.
A work bench painted a lemony yellow is an eye catching invitation to budding young authors as a repurposed writing center. In contrast to the attention to matching chair height to table height found in the room, the chairs that flank the writing center are adult size 1950’s wooden school chairs painted in bright colors with explosive patterns. While the writing center has been recently painted, the chairs show signs of age; paint chips reveal the original wood beneath and sections of other patterns created by budding artists over the years.

Dominating one wall is a large, two story barn. Painted a brilliant red with black shingles and white trim, the barn looks as if it would fit on a farmstead in Kansas or Nebraska. The lower level is open and contains a small table and chairs, a lamp, and a puppet theater. The upper level is accessed via an angled ladder. The loft style upper level is enclosed with a white railing. The railing creates a safe space, allowing visual
access and a sense of privacy. Pillows, stuffed animals and baskets of books fill the loft area and pieces of student work decorate the structure, inside and out.

The L-shaped teacher desk is a prominent feature of the classroom. It appears to serve primarily as a space for Miss Smith to work at her computer or make phone calls. An adult desk chair is pulled up to the desk return. A classroom schedule, instructions for emergency exits and the faculty meeting schedule hang on the wall behind the desk. A few decorative elements hang above the desk. A series of brightly colored round paper lanterns are suspended over the desk creating a mini divider between the technology space and the teacher space. The adjacent wall is decorated with a series of bright colored paper shapes that repeat the circular pattern.
Just as the furnishings are of differing ages and styles, so too are the materials. Some materials are brand new and might be found in any classroom. Others might be found in a children’s museum setting or even a home setting. Some items are clearly hand-made and many of the materials are “re-purposed.” Most materials are organized in small baskets or tubs and are readily accessible to students. There are no obvious teacher resources, no sets of basal readers or math books.
Baskets in the library corner hold a range of paper back and hard back picture books, organized by “author,” “genre,” “funny books” and other categories created by students. The book corner contains two folding comfy floor chairs, a small carpet and some stuffed animals. This “cozy” nook reflects classroom literacy of the 21st century with an I-Pod library on the top shelf.
Teaching materials near the meeting area include glass mason jars with straws bundled in them and metal cookie sheets with coins mounted on magnets. A blue number chart, a sentence strip chart, and a traditional calendar are posted on the chalkboard. Alphabet cards are mounted above the chalkboard.

Math manipulatives fill plastic tubs as do manipulatives for the light table. Art materials are arranged on shelves in categories such as “paints,” “collage materials,” “clay” and “paper products.” The block shelves sit atop a large black, block platform. This platform holds not only the block shelves but a small dollhouse, a basket of stuffed animals, and a basket of plastic animals. In addition to the standard unit blocks, there is a set of arches, a basket of tree cookies, and a basket filled with nut shells, seed pods, pine cones and other nature elements.

There are few commercially prepared products or displays in the room. The number chart and math manipulatives are the bright primary hues commonly found at sources such as Lakeshore Teaching Supply. Materials vary from natural items, to tools from a local hardware store, to realistic plastic animals that might be found at a high end toy store. Displays and posters have been created by the teacher or the students.

An effort has been made to add aesthetically appealing elements throughout the room. The throw rug in the meeting area has been created from a unique piece of fabric. The top of a tall shelf holds a series of recycled bottles of differing shapes and sizes. These bottles are filled with varying dry grasses, branches, and flowers. None appear to be commercially dried and preserved, rather these are elements gathered on walks. A large branch is suspended from the ceiling in the center of the room, hovering above the
kidney table and a portion of the meeting area. The branch is a silvered grey and the branches cast shadows on the surfaces above and below. Pictures of the children hang from the branches as do small silk butterflies.

Old and new, classroom and home, original use and repurposed, furnishings and materials meld together. Visually eclectic, the arrangement and use of these furnishings and materials speak of a purpose; a way in which the space is used by students and teachers.

*Room Arrangement*

The square space of the room is divided by furnishings into various sections or zones. Entry into the room is abrupt; to maximize space, the area just inside the door is utilized in multiple ways. To the left of the door are classroom organizational systems such as a bathroom check-out chart, emergency instructions, emergency backpack, lunch and juice organizers, and a designated space for parent communication. A large storage piece fits flat against the wall under the clock and loudspeaker system. This shelf is filled with art materials, paper, and some games. Higher shelves would be less accessible to students than lower shelves but all appear open for student use. The third of the room covered by tile is densely populated by furnishings and materials which serve multiple purposes. A work table sits just inside the doorway; to continue into the room, you must move to the right or left. In a curious combination the technology center is adjacent to the painting center and sink. Also on the tile are two more storage pieces, the writing center table and the light table. Areas are defined by the objects placed in them but because of
close proximity the boundaries between areas are somewhat amorphous. For example, the writing table and light table also serve as drying area for art projects created at the work table and the work table contains overflow of classroom organizers such as Friday Folders or information from parents that isn’t contained by the wall system just inside the door.

The teacher area and the meeting area meld together in the center of the room. The L shaped desk opens into the meeting area and the swivel desk chair easily maneuvers to allow the teacher to lead a lesson from the meeting area as well as work at the desk. This area of the room has the most open floor space and easily accommodates all the children. Students gather in the space in multiple configurations from a u-shape for instructional purposes to a circle for sharing and less formal arrangements for times such as read aloud. The vintage fabric floor covering defines the area although the open space extends several feet beyond the edge of the rug. To the west of the open space is the largest table in the room, the kidney shaped table that is used primarily for small group instruction. Chairs at the table are easily maneuvered to allow for use while in the meeting area, yet another seating option.

A class library is situated in the back corner. Tucked between a window on the east side and the side of the barn on the north side, the space is small and intimate and each element speaks to a focus on a relationship with books. The area is closed; the wall of the barn acts as a barrier to the rest of the room on one side and the vintage library rack on the other. A large painting by the children hangs above the shelves which are filled with baskets and tubs of books, allowing students to flip through the books to examine
the covers. None of the books are stored in the traditional book spine orientation. A small lamp provides additional lighting in this area. This small space carved out of a larger area evokes a different feeling than other areas of the room. The size limits the number of students who can comfortably work in the area at any given time. It is private, secluded, and peaceful. A narrow entry point forces students to move in and out of the space in a careful and conscious manner. Occasionally a “bottleneck” forms at the entrance if many students are seeking new reading material at the same time. “Shopping” for books is often time consuming, and the dual use of the area, the selection of a book and a quiet space to enjoy reading, are sometimes in conflict.

As indicated earlier, a large barn visually dominates the classroom space. It also seems to anchor spaces dedicated to more active, gross and fine motor activities. Adjacent to the block area, the two seem to come together to create opportunities for building and exploration. Materials move from one to the other and are transformed by student use. Blocks in the block area are being used to create elaborate structures. In the barn, these same blocks become shelves for a temporary farmers market.

The room makes use of all floor space, wall space, and vertical space, even the angled walls, ceiling and windows are utilized. Storage pieces house materials but also divide the overall space to create smaller work areas. Discreet use areas meld into one another both in terms of physical space as well as the way in which materials are transported and used throughout the room.
First Impressions

I first met Miss Smith two years ago when she visited the school as part of her graduate admissions visit to the University. Miss Smith had come to learn more about the doctoral program offered at the Mahler College of Education but was interested in working part time throughout her studies. Her potential advisor encouraged her to visit the school. A kindergarten teacher, Miss Smith had spent the last several years working in a public school setting in California serving a low income, Latino population. An intellectually curious and creative individual, Miss Smith hoped to expand her understanding of what teaching and learning meant and could be. She was ready for new challenges and to expand her understanding of the field of education after having gained experience in a classroom setting. Miss Smith also expressed a vague level of frustration with her current setting. She spoke with genuine excitement and commitment to her students, but an undercurrent of discord and dissatisfaction with the structured design of the curriculum and confined methods of implementation. Miss Smith was ready for something different, something more.

After a rigorous application process, both at Mahler College of Education and the University Center, Miss Smith joined the University as employee and student. A beautiful California blonde, Miss Smith is truly luminous. Her heart shaped face is surrounded by a thick mane of hair that seems effortlessly perfect. Her smile is warm, welcoming, encouraging. But it is her eyes and eyebrows that are truly unique. Miss Smith’s overall countenance is one of peace and harmony, with herself and with the world around her. Yet, her eyebrows and eyes demonstrate a passion and intensity that belie the calm
stillness of her body. Her eyes sparkle, puzzle, tease and delight; her eyebrows perfectly punctuate the statements and queries found in her eyes. Naturally graceful, Miss Smith appears a model for a yoga tutorial. And then a curiosity or observation captures her and she is transformed.

Her style is that of a young, fashion conscious teacher. Dress slacks with an impeccable cut, practical knit shirts and feminine flats. And always, a luxurious scarf draped around her neckline. At times the scarf is thick and cuddled up close to her throat. Other times a loose, billowy linen scarf carelessly knotted creates a fabric necklace. And occasionally the scarf transforms and becomes a belt worn loosely around her hips. Professional, but comfortable; Miss Smith could be lunching with friends in a downtown restaurant or covered with a green polymer mixture of cornstarch and borax. She is effortless and elegant, yet somehow an intensity lies just below the surface.

This intensity is readily apparent when we meet in the weeks just prior to the beginning of the school year. I find her sitting in the middle of the floor in her room, much of the furniture still in a large stack just off to her right, cupboard doors open, bags of merchandise from various stores on the desk, and boxes of materials stacked in what will become the meeting area. The lights are off, blinds partially drawn. It is late in the day and the light is diffused, shadowing some areas. Miss Smith is sitting near an open box, a pile of primary color wall alphabet cards in her lap, a chore wheel and charts nearby on the floor. She is looking around the room, surveying the many pieces of furniture, the stacks of materials, the materials in the open cabinets. Her countenance is
serious, her expressive eyebrows drawn together as if she is working to complete a particularly challenging crossword puzzle.

She rises to greet me, her face transformed momentarily as she says hello and invites me into the room. Almost before “hello” has fully left her lips, she says, “I’m feeling stuck. There are so many things to consider. I’m not sure where to begin.” She gestures around the room and continues,

I know a few things, I know the computers need to be here because of the wiring, I want my library back in the corner and I want the barn moved so it doesn’t block the window, I think. I wasn’t sure I wanted this teacher desk, it is so large, but I think it works…. (Miss Smith)

She isn’t really talking to me, rather she is processing out loud. Just as her eyes are sweeping around the room and lighting on one area and then the next, so too are her ideas in regard to planning. Miss Smith is more pensive than I’ve seen her before. Her eyes land on a folded piece of fabric next to the boxes on the floor.

I want to show you this, this piece of fabric. I’m thinking that somehow I can use it as a rug for the circle area. I don’t know if it needs a backing or if I can just put it down. I saw it and I just loved it, the colors, the design, the feeling. It will be a real focal point. (Miss Smith)

Identifying something that she loves seems to re-energize her, to bring her back in some way. We sit down and begin to discuss her hopes for the room and the coming year.

Miss Smith is processing the freedom associated with establishing the physical environment of her classroom. Without the guidelines established by a public school system or associated with joining a continuing teacher in this environment, she feels energized and overwhelmed. She talks about the transition as she unpacks boxes and continues to form ideas about how to set up the classroom.
In public school when you move into a room, it is all the same things from one room to another and everything you need is there when you arrive. You just make decisions about where to put things. I’m finding that the things I have don’t fit here as well. All these things from the teacher store don’t really have a place in this environment. Either they don’t fit what we do with the curriculum or they are things that the kids could make instead or even things that we just don’t need. I think I’m going to end up packing most of these things back up again. They don’t even look right in here. (Miss Smith)

Articulating some of her thoughts seems to invigorate Miss Smith, she gets back up and begins to move around the room, describing areas that she envisions.

I tried drawing it out on paper, but the size and scale are just so different I’m not sure that it captures it. I think I’m going to have to move things….not the barn and block platform, but other things, to get a sense of them. (Miss Smith)

Miss Smith moves to one of the tables and pulls out a piece of paper on which she has written some notes and done a basic floor plan.

In the coming days, Miss Smith will invite me in to share ideas, discuss the progress of the set up of the environment and to discuss her visions for her kindergarten classroom. A reflective practitioner, Miss Smith’s process, both physically and intellectually, are a glimpse into the complex decision making process of teachers.

Classroom as a Living Organism

The first days of school are filled with excitement and promise. The room and teacher, stand ready to greet kindergarten students. Hooks outside the room and cubbies inside the room are labeled with the children’s names. In fact, everywhere one looks in the room are signs that the room belongs to this specific group of children. First names are found on charts and systems for bathroom check out, milk/juice, and classroom jobs. Folders and notebooks are labeled and waiting for the first papers to be placed inside by
each individual child. While the use of names celebrates the individual, the room speaks of group experiences. Supply caddies are placed in the middle of tables. There are no names assigning spaces at tables, implying that students will vary or self-select their seating arrangements. Each computer station has two chairs; the single easel tray has two clips suspended above it to hold two paintings rather than one. The arrangement and details of the environment suggest a focus on working with others.

The kindergarten students begin their day at 9:00, fifteen minutes later than the elementary and middle school students. The oldest children in early childhood, they are the only children who begin the year with the rest of the school. The three and four year old children will have their own special first day a week later. As a result, the kindergarten children move through the pristine hallway, past the atelier and into their classrooms in relative quiet. Teachers stand at the doorway, greeting each child by name as she or he arrives. Children are instructed to place lunch boxes in their cubbies, beginning their tour of the classroom.

The lights in the classroom are off as students move into the room. Some enter with parents, others independently. Miss Smith answers questions, bends to notice something personal about each child, and guides them to the meeting area where they will come together as a class for the first time. Many of the students have been to school before, some have completed preschool and/or prekindergarten at the University Center. Others are new to the school, having been in other preschool settings. They have a clear understanding of “school” behaviors and fairly quickly organize themselves into a semi-circle using the edge of the fabric piece as a guideline.
Miss Smith begins the process of acclimating the children to their classroom and the routines that will guide their experiences. In this first circle, children share about themselves, about their summer experiences, about their new shoes. Miss Smith guides the conversation, modeling behavioral expectations as well as introducing and reinforcing routines, such as turn taking, how to find the bathroom chart to check out, and where instruction will occur.

A combination scavenger hunt/graphing exercise will help the children to learn more about one another and the classroom. After instructions are given in the circle, Miss Smith passes out the necessary materials and students begin to move about the room. The children explore their new environment, using prepared charts to check off specific areas they discover, making note of where books are kept, where art supplies are located, where the calendar is in the meeting area, and more. At the same time the students are using rudimentary graphs and interview skills to learn more about one another; who has a name with more than five letters, who has a dog. Miss Smith moves around the room talking with students, pairing students up to work together on some of the tasks and taking time to help others feel more comfortable in their space. Some children use this opportunity to explore some of the materials in the classroom, pulling animals out of the baskets, examining books in the library, and pulling craft materials from the shelves. Miss Smith allows this exploration and then guides the students back to the task at hand. The children are talking with one another and Miss Smith provides ongoing responses and direction both to individual children and to the group. The noise level in the classroom is moderate. There is a gentle buzz of conversation with occasional laughter or
an outburst of frustration. Miss Smith’s tone is low and slightly melodic. A few children seek quiet, private spaces within the confines of the room, entering the lower level of the barn or sitting down in the small comfy chairs in the library area. One child who moves under the barn discovers the lamp and with delight turns it on and settles in under the glow cast by the tinted shade.

Furnishings and materials define spaces, sectioning the room, and yet it remains both very open and close. Miss Smith can quite literally see and hear everything going on around the room. This will be more challenging when the noise level is higher, but during this time, Miss Smith is able to not only listen in on conversations but to comment back and have students realize that their shared space is permeable and intimate.

Most things are open and available to all members of the classroom. There are few shelves or spaces that are out of reach of the children. Even the lower shelves of the closed cabinets are organized in such a way that students can gather needed supplies.
There is no obvious space reserved exclusively for teacher materials; even the teacher desk has student related materials and supplies placed along one edge and Miss Smith meets with children at the desk and they work alongside her using one leg of the L-shaped space.

The impact of the accessibility creates a tone that implies to the children that this space is theirs, to be used by them, in the ways in which they need. Over the course of the morning as the students become increasingly comfortable in their space, they begin to use the space and the materials in different ways. The marker basket moves from the art area to the light table as a child looks for a way to note something on his recording sheet. The size of the room allows students to observe what others are doing, to talk with peers both in their area and in adjacent areas, and to move across the room in seconds. Like the great room of the 1990’s, this classroom space serves multiple purposes and occupants are engaged in different types of activities at the same time. This intimacy of size and communal use will prove to be both strength and challenge.

Protagonist

Beliefs

Miss Smith grew up on a family ranch in northern California. A member of a close-knit family, Miss Smith was an excellent student and athlete. Things came easily to Miss Smith and she had the support and involvement of parents, grandparents and siblings. Miss Smith is the only research participant in this study who planned a career in
teaching. Several influences helped to shape Miss Smith’s career decision making process including both school experiences and family circumstances.

Miss Smith’s grandparents are both deaf. Raised in a small community, both were transported long distances to receive their education. Her grandmother and grandfather met on the bus that took them to and from the school that was many miles away from their respective homes. Hearing about the specialized education experience and witnessing the creation a successful family dynamic had a profound impact on Miss Smith’s grandparents have been a powerful force in each nuclear family and Miss Smith’s parents have assumed responsibility for the olive/almond ranch begun by her grandfather.

From birth, Miss Smith was immersed in a family culture that utilized two languages, a hybrid version of American Sign Language and traditional spoken English. Miss Smith’s parents and all of the grandchildren are hearing. Miss Smith has a deep commitment to continuing the family culture that is grounded in the use of sign language. She has a nuanced understanding of the difficulties associated with what some term a disability and others term a culture. This understanding coupled with her commitment to sign language was an early influence in her decision to become an educator and specifically to become an educator focused on the recognition of the wholeness of a child and the construct of resilience.

The second major influence in Miss Smith’s decision-making process regarding reaching as a profession was her experiences with her fourth grade teacher, Mr. Garcia. Mr. Garcia’s approach spoke to Miss Smith’s creative nature. In his classroom she
became acquainted with a teacher who passed papers out as if they were Frisbees, flinging large stacks of papers through the air and who placed a bathtub in the classroom as a reading nook. Most importantly, Mr. Garcia pushed me to have the first lesson of my failures and to come to something from my failure. In PE he struck me out in softball. I was great at softball. With every other student he gave them more than one chance, sometimes many chances, but with me, I just struck out and that was it. I was humiliated and when I got back to the room I had to really face the fact that this was the first time I hadn’t done something right. (Miss Smith)

A deeply reflective person, even as a child, this experience had a clear impact on Miss Smith both as a student and as a future teacher. She identifies this as the point at which she became interested in teaching and as the experience that helped to define her own ideals and beliefs about teaching.

Miss Smith’s journey towards her teaching degree was fairly traditional. She attended a traditional teaching program and began her career in San Diego. Early in her teaching career, Miss Smith chose to continue her own education seeking out a master’s degree and now a doctoral degree. Knowing that she wanted to continue teaching while pursuing her doctoral degree, Miss Smith sought out an environment that met both her scholarly/research needs as well as her desire to teach. “I had stopped learning and stretching myself….I hadn’t talked to an adult about teaching and learning for so long.” Miss Smith was searching for a place where she could explore, push herself, and expand the domains of teaching beyond the reading and math prescribed in her previous setting.

The University Center was a match for many of Miss Smith’s criteria. She saw and environment that she believed would allow her to more fully utilize her own creativity; an environment that would provide her with new intellectual challenges in her
teaching due to programmatic elements such as the team teaching model, gifted learners and multi-age classrooms. And, the University Center was convenient in that it allowed Miss Smith to fully immerse herself into the University environment.

Miss Smith’s education and previous experience focus on standards based education, literacy development, and English Language Learners. In her graduate work and her work at the University Center she has explored a wide range of theorists and models and yet, the core of her teaching philosophy and her approach to teaching are bound in her deeply held personal belief system.

I don’t go straight to theorists, I go more to people that have influenced me, the resiliency piece, the idea of building strong people. I’m guided by what I think school, really education, should be. Service learning, not where it is just going and helping the community but making it part of the curriculum. Also really creating a love for learning, being truly excited about being in the classroom. For me I want them to love the place they are in and be safe and comfortable. (Miss Smith)

While Miss Smith first identifies what is important in teaching through personal beliefs, she quickly ties them to theorists she has been exploring in her coursework, citing a particular connection to the work of William Ayers, Elliot Eisner and Nel Noddings.

Some graduate students or novice teachers will assert that they believe in an “eclectic” or “dilettante” approach; pulling bits and pieces from multiple theorists in an attempt to resolve the practical issues involved in the art of teaching. Miss Smith’s list of influences may appear to mimic this trend towards “pulling pieces together” and yet, when examined in the context of her stated beliefs and her background, it is clear that Ayers, Eisner and Noddings each speak to an aspect of the coherent whole that Miss Smith is trying to achieve….the development of compassionate, whole humans who
come to know the world through their experiences, experiences that are guided by an agent of change, the teacher.

The Setting

During the initial weeks of school the students have become increasingly comfortable in their classroom, with one another, and their teacher. When I enter the room Miss Smith is working quietly at the computer while post-modern classical music plays through the external speakers. The children will return from lunch shortly and she is finishing a few emails after having prepared for the afternoon’s activities. The day is sunny and by this time of day the sun has shifted to the west side of the building. The lights are on in the classroom to augment the diffused natural light entering the room through the windows on the north and west walls.

The children enter the room independently, some with hats, sweaters and sweatshirts, or small toys. They carefully store these items in the built in cubbies before moving to the meeting area. Miss Smith shifts the position of her chair just slightly, changing the orientation to become part of the circle in the meeting area. Children are talking with one another, greeting Miss Smith, and telling her about incidents that occurred on the playground. At some point in this coming together chatter, a child has indicated that she wants to get a drink of water. Miss Smith ties this back to a conversation that occurred during lunch and explains, “would you like water” becomes “you want water” in sign language. She goes on to explain that when you speak you use your voice to add expression, when signing you use your body. As one child signs and
speaks, Miss Smith reminds “ooohh, no voices, sign is its own language…” Several children successfully sign their desire to get up and move to get a drink of water from the fountain located just inside the door of the classroom. Miss Smith continues to help the children as they practice signing with a partner.

Miss Smith’s voice shifts slightly and she turns her head to indicate that she is talking to the students in line at the drinking fountain as well as those already seated in the circle. “Everybody find a comfortable spot, Connor looks comfortable, I’m going to explain when everyone is comfortable. These are your instructions so far, just to find a comfortable spot on the carpet. And I can see that some people have already done that.”

As the children find spots on the carpet (at some point in the past two weeks, a parent has taken the fabric home and backed it with a rubber rug holder) and continue to settle in after lunch and recess, my eyes move around the room. The children eat in the classroom meaning that their eating and work areas are one and the same. With no daytime custodian, the burden of cleaning the space adequately lies on the students and teachers. In the center of each table, a succulent plant or vase of flowers rests near a single mason jar. The mason jars hold chubby pencils and pencil sharpeners. One of the tables also holds a box of Kleenex. On the third table I note an abandoned milk carton, reading assessment notebook, some math books, a green fabric basket filled with materials and a pink coffee mug. This table seems to serve a similar purpose to a teacher’s desk, things that have been used over the course of the morning or that will be used during the afternoon. This table has limited work space available for students.
Miss Smith begins the first experience of the afternoon, sharing poetry written in an earlier work period. Miss Smith remains in the desk chair; a small stool pulls out from under her desk and is set next to her rolling chair. Miss Smith is holding student papers and calls a child up to join her. The child sits down on the stool and Miss Smith whispers quietly to the child some words of encouragement and hands the child her paper. In a regular conversational tone Miss Smith turns to the girl again and says “You don’t even have to say that you are waiting, if you just wait quietly they will realize that you are waiting for them.” The closeness of the space allows all the students to hear Miss Smith’s comment. The comment and the use of the stool are a cueing system that indicated the time has come for all to focus their attention on the child who will be sharing. There is a special intimacy between Miss Smith and the child on the stool. The use of the stool brings the child’s head to the same height as Miss Smith’s. At times she needs support in decoding a word or phrase that she has written and this is accomplished with a small movement of Miss Smith’s head; these words are private, hidden from the group. At the end of the reading of the first poem, Miss Smith comments “Let’s give her a firework.” This is the first of several alternatives to clapping that occur during the poetry sharing session.

Throughout the poetry reading the children keep their attention turned to and the child currently sharing. They are arranged in a semi-circle that almost closes on each side of Miss Smith and the stool. Most of the children are sitting on the special carpet in the traditional kindergarten “criss-cross applesauce” pattern. Several children have pulled chairs over the back edge of the carpet area and sit arena style behind their peers. These
children are equally engaged but have self-selected an alternative seating arrangement. One child who typically struggles with group oriented experiences or any structured instruction uses the chair for his arms and the table behind for his feet, he is in an extended push-up or plank position and holds the position with little movement. The other children do not comment, try to direct him to take his feet off of the table or to join them. At one point another child gets up and moves to a position behind the sharing author. Miss Smith asks the standing child to return to an audience position where she will be able to “see the expressions of the author.”

The circle area is not crowded, but as children get up and move to the stool to share, they must negotiate stepping around others, avoiding outstretched hands or legs. Stacks of books along one edge of the circle make it a bit more difficult to exit the circle and come around from the outside. The children seem to be fairly comfortable in moving through the space without disturbing others.

Ambient conversational sounds drift into the room from the atelier located just outside the doorway and from the class across the hall. The chatter becomes background noise to the quiet, focused sharing in the classroom.

It is clear that the students feel a high degree of autonomy and control of their decision making and environment. Students have self-selected where to sit. They assume a variety of postural positions with the consistent expectation of eye contact. Part way through the sharing a child exits the circle and moves to the doorway. She pulls a plastic baggie attached by a push pin from the wall and removes a band aid and then carefully
rehangs the baggie. She then moves back to the circle where she quietly hands the band aid to a friend. Somehow the need for a band aid was communicated without words.

As the sharing comes to a close Miss Smith’s well modulated voice announces “I’m going to count and as soon as I start counting you can begin to try and form the full circle.” She counts by 2’s and makes it to 20. Miss Smith is readying the students for a math lesson. She turns to her co-teacher “Inger, I’m just going to send kids over to you…can you explain? That way they can get started right away.” Throughout my time in the room I notice that these types of conversations occur during transition periods as well as during instructional periods. In classroom settings with a single teacher this dialogue would be strictly internal. In this setting, students are witness to the processing of how the classroom functions and as such are privy to additional verbal cueing about how and what will be happening. It raises interesting questions regarding the students overall feeling of ownership, involvement in the classroom. If teachers talk with one another openly, so to do the students. And if there is flexibility in the very organization of the classroom activities, is there then flexibility that the students can influence?

Miss Smith will be working with her group on the floor in the circle area, Isabel at a table. Again, there is conversation between the teachers about which table and about the proximity of groups and the potential for disturbing one another. The ideal table in terms of proximity is the table that is covered with materials which would require some reorganization. The ideal instructional table is the kidney table which is directly adjacent to the meeting area. Miss Smith has been working alone in the classroom until recently and negotiating space with a team teacher is new for her. Isabel will be working with a
group of four students at the table while Miss Smith works with a group of ten students on the floor. After deciding on the kidney table, Isabel explains to her group that they will need to use quiet voices in what they are doing in order to respect Miss Smith’s group.

I can hear the instructions in each group clearly. The two teachers have such different voices, such different cadences, that it is easy to discern who is speaking and to which group. The students are expected to interact during the lessons so children are questioning one another, responding and sharing ideas. The children on the floor sit in various positions, some on their knees pulled up close to Miss Smith, others seated crisscross and others have pulled over the small comfy chairs from the library area. As during the circle time, they are expected to orient their eyes towards Miss Smith. Inger’s students are seated at the table, Isabel in the indent of the kidney allowing her easy access, although upside down, to all the children’s work. The noise level in the room remains relatively low and the conversations are easily heard by all. The few comments that do drift off topic are quickly addressed by a teacher through gentle redirection such as “tell me more about how you thought about solving….”

Materials are common, low tech items. Xeroxed hundreds charts are used with green, red and yellow paper squares. As the lesson comes to a close, the children return the paper squares to a set of zip-lock bags and then a small basket. As the teachers in both groups begin the “close” component of their lessons, the noise and activity level begins to rise. The children have been engaged in structured activities for just over 70 minutes and for some their intellectual energy is beginning to flag. They move less purposefully through the classroom, getting a drink of water, checking out to go to the bathroom,
checking the job chart and trying to either Miss Smith or Isabel in conversation. Few are able to stay fully focused on the final moments of the lesson and the clean-up period. The children know that it is almost time for “Explore,” a structured free time, and they are ready to begin to make their selections for the day.

Once again they gather together in the circle. This time they are quickly dismissed, a few at a time, with identifiers such as “if your name has two syllables,” “if the color of your eyes has two syllables.” In general, the children move directly to a specific area of the classroom. Those who appear a bit less certain of what they would like to do are prompted by teachers, “Samuel, what are you going to explore today?” Today most of the activity is centered in the front third of the room on the tile area. No one has moved to the loft area, no one to the cozy book area, no one playing games or making projects in the circle area. Several children move to the table laden with materials on it and move the things aside as best they can. They begin to load art materials onto the table and prepare a space to work. This table has extended legs and is meant for use when standing.

One child begins working at the writing center, but it too has things that have been left behind and she finds the space too crowded. She moves her partially completed painting onto the light table where another child quickly joins her, drawn to the clean, open surface. The art table, light table, and writing table are all positioned closely together and at this time more than half the children in the class are gathered in this space.
The other area of the room with relatively high density is the block area. Directly behind the writing center, the block area holds a storage shelf as well as prop baskets of natural materials and plastic animals. Some children are using the blocks to build and others are playing with the animals. Two boys are involved in a quiet card game at the edge of the block area. The block area is located on a hollow wooden platform. Feet, blocks, even the small animals make a clattering noise on the platform that can be heard throughout the room. The boys playing cards are constantly jostled as children move in and out of the area walk around the structure they are building and gather additional materials. Students carry blocks across the platform often stepping either on the cards or the hands or feet of the card players. The two boys seem unperturbed by the disruption and in addition to playing cards, carry on a low amiable conversation. Eventually the children who are trying to use the block area become frustrated and act our by pushing.
one of the boys aside and then turning to a teacher for intervention. Ultimately the two boys take their cards and move to a quiet space by the back window.

The windows along the back of the room face the alley behind the school. Businesses line the other side of the alley and the rear entrances are somewhat unsightly. Teachers have tried to mitigate the view using multiple strategies. Currently, hollow panel doors that have been painted by the students hang at regular intervals along the chain link fence that marks the edge of the school property. The boys look out the window occasionally and watch as vehicles pass by. A young man exits one of the buildings and sits down on the step of the building to smoke. The children don’t seem to take note.

Miss Smith moves to the front of the room and notices that several students are using the light table as a general art table. Materials are stacked on the opaque surface and children have pulled chairs up to the table. The children are using glue, paint, and various collage materials as they work on two dimensional pieces of art. “I’m going to ask you not to use the light table for that purpose, as a matter of fact, I’ll turn it on so we can use it for what it is intended.” Miss Smith helps the students to begin moving their materials off the light table, but they are unsure where to move their pieces. The nearby art and work table are both covered with a combination of discarded student work, teacher resources and supplies.
Miss Smith continues to try and set the light table up for use but notices that the corner seems to have collapsed. It quickly becomes obvious that something heavy has been set upon the light table and broken one of the interior supports. Miss Smith uses this as an opportunity to talk with all of the children about the need to care for the environment. She calls the students

Can you please freeze and come over by the light table for just a second? So please keep your hands off the light table and just watch something…please don’t lean your body…I think we have started to use this like a second space for us or use it like a table, but I need to ask is this as strong as a table? Is the purpose as a table? No, it is for using with all the cool light manipulatives, but we have been putting some heavy things on it and I want you to see this, inside here, see what happens. It is an easy fix but you can see what has happened so this is my reminder and your little reminder and we can all do better. That is my one piece of advice. (Miss Smith)

This incident calls Miss Smith’s attention to this section of the room and she quickly realizes that the area has accumulated a plethora of materials, resources and work
that are preventing the students from utilizing the space. Several children have removed items from the light table and have not been able to find a place to put them. Miss Smith looks around and is unable to locate an option. She takes the papers and glue bottles and moves to the kidney table in the center of the room temporarily depositing the items there.

This exemplifies the push and pull of the way in which Miss Smith intends for the space to be used. Miss Smith values permeability and freedom and as such has encouraged students to be independent and autonomous in their use of materials and space. Conflict arises when materials are unable to be located or used inappropriately such as in the case of the light table. Miss Smith’s stated value related to a well organized and cared for space buttes up against her desire to allow the children to explore, discover their own boundaries, and maximize time spent on both instructional tasks and explore time.

Intentions

It is clear that Miss Smith is going through a transformation in her educational views and practices. As she discusses her intentions, both for the children and the environment, her comments and questions are a constant comparative. At times the comparison is between the why, what and how of what she has done in the past and what she is doing now. At other times the comparison is between her own intentions and expectations and the realities of what occurs in her teaching. She also compares her practice to ideas of the theorists she is exploring in her current graduate program. As a
result her intentions are malleable. Her intellectual discourse is clear and focused, and she easily highlights the educational and environmental elements that are most critical. What remains to take shape fully is the realization of these ideals.

At the forefront of Miss Smith’s thinking is the construct of respect. To Miss Smith, respect is a broad based theme, a pillar upon which other ideals, dispositions and skills are built. Respect encompasses relationships such as respect for self, a respect for peers, and a respect for teachers. It also includes respect for the extended others, those not known personally, respect for environment, and respect for ideas and beliefs. This ideal of respect influences Miss Smith’s belief about how children learn and what should they should be offered in terms of experiences, guidelines and boundaries.

Miss Smith plays with the idea of respect and Noddings construct of caring. She finds their to be many similarities and wrestles with whether or not she should simply assume the term of caring rather than respect, but for Miss Smith there are nuanced differences that she has not fully explored and as such is not ready to abandon her own ideal for that of an esteemed theorist. One of Miss Smith’s nuanced wonderings is found in the construct of reciprocity. Noddings care construct is based on a relationship, a reciprocal experience. While Noddings acknowledges that “liking” and caring for one another are different; one does not have to “like” someone in order to establish a caring relationship, Miss Smith find that respect can be more unequivocal. She does not adhere to the notion of “respect is earned” but rather defines respect as a core human value, one that all deserve. As Noddings she easily separates out the construct of “liking” and
individual, place or thing and is able to advocate for an automatic (and continual) offering of respect.

The other area that Miss Smith identifies in describing her intentions for the students in her classroom is related to autonomy. Miss Smith wants students to be fully engaged in their experiences at school, to be active and thoughtful learners, and to discover and develop areas of passion. She describes the importance of self-direction, self-regulation and internal motivation. In describing a classroom environment that supports these goals, she focuses on providing many different options in terms of materials and curricular experiences. Miss Smith acknowledges the conflict between what she hopes for the children in her room and her own focus on direct instruction. She wrestles with finding a balance between the approaches and wonders if direct instruction can be crafted in such a way as to allow students more autonomy and independence.

Miss Smith has spent much time considering her intentions for the physical environment of her classroom. As described earlier, she carefully reflected on each of her decisions regarding how the room was arranged and where furniture was placed. These decisions were primarily based on maximizing the many wonderful elements in the room such as the natural light, and making the best use of the major pieces in the room. As she continued to move through the process of setting up and revising her classroom in the first weeks of school, Miss Smith finds that she is focused on balancing her pedagogical intentions with the constructs of comfort and functionality.

They both (comfort and functionality) have such an interesting play. Seeing the first day, that trash can isn’t going to work or that the cups where my hundreds chart keep falling. It is important to get the easiest flow. But also the comfort level. I think I’ve been questioning this more in the last three years. One of my
fellow doctorate students is studying physical space. I still remember when she arranged the class, one had a yoga mat and one was very linear and you were facing the chalkboard and another group was in a circular shape and one was in a U and seeing the way that certain people gravitated to certain spaces and seeing they were comfortable transitioning. This made me so much more aware of the space and setting up places for people who gravitate to different spaces. (Miss Smith)

This awareness of differing needs balanced against functionality explains Miss Smith’s choice in setting the tables at different heights. Two tables are at the standard height and have chairs beneath them for traditional seating arrangements. One is set on the highest leg height. This table is to be used while standing allowing a different physical experience. The lowest table in the room is surround by cushions and here children sit on knees or cross-legged as they work. Miss Smith notes that the tables attract different students and that part of the process of learning is understanding which work space works best for each individual; both “for the teacher and in a metacognitive sense.”

Miss Smith processes both through reflection and conversation. She has spent much time reflecting on the role of the physical environment in her own learning and teaching. Miss Smith has also begun to read various works related to the schools of Reggio Emilia with a focus on the environment. Small study groups have enabled her to share ideas with colleagues. She contrasts these recent experiences with

I don’t think the environment was something we ever talked about in my masters classes and if it was it was ‘your walls should teach.’ I don’t think it was ever explored that your philosophy should be expressed on your walls or in your room. And now I’m being asked to think about what the environment means, what it can mean. (Miss Smith)
I ask Miss Smith if her intentions have been realized, if they have coalesced with the practical considerations of functionality, the architectural elements of the room, the programmatic considerations.

So far I feel like the space is good. It feels warm to me and to them, but it is trying to get it more functional. We’re moving things around. Tinkering around. At first I felt a sense of urgency, but maybe urgency isn’t what is needed. When you think, when your experience is so limited in scope and you begin to believe that is what it is supposed to look like. But it doesn’t have to look like that. I’ve learned a lot about peace. My walls are more peaceful, my room is more peaceful. But it isn’t done. I don’t know if I will know it when it is done. (Miss Smith)

Miss Smith’s has planned, considered and prepared a purposeful environment. Yet rather than a completed piece, it is a work in progress. Elements subtly shift and reform in response to the needs of students or teachers. Furnishings move or are repurposed, displays are transformed, materials removed from the space and new ones brought into the room. In this space, change is constant, but not jarring or disruptive. Miss Smith’s reflective and flexible nature allows for these ongoing permutations of what the classroom is to be.
Grant Academy

Introduction

Grant Academy is a small school. Seventy-four students and fifteen faculty members come together each day in a unique setting in Tampa, Florida. The school is located in a home environment in a quiet residential area near the Raymond James Stadium. The campus includes the original 2000 square foot ranch style home, an 800 square foot adjacent building and a 2000 square foot “pavilion.” Located on a large lot that backs to a small lake and area of dense vegetation, the outside space is as much a part of the school environment as the interior areas.

Twenty eight years ago the Grant Academy began as an activity center in a popular shopping mall. Finding inspiration in nearby Campbell Academy, Grant Academy founder Lucy Linder specifically selected a home environment for her own school as it transitioned from activity center/childcare to a comprehensive preschool and ultimately a school that serves students age three year old through high school. Located in homes around the Tampa area, Grant Academy struggled through a period of licensing battles which resulted in Grant becoming the first licensed school for young children in the state of Florida.

The current location is the third, and hopefully final, school site. Lucy and founding teacher Lou Ann combed the city looking for their ideal environment; “a non-institutional campus setting.” As a small private school, the site was dependent not only on the physical conditions of the home and property but also on issues such as the average income of residents in the region and the density of other schools (private and
public) within a twenty mile radius. After evaluating many different areas and homes, the site at Twin Lakes Boulevard was chosen, in large part because of the property. The large open space and varying habitats from open grassy areas to deep vegetation, to the lake, played heavily in the decision making process.

The intent of the school is to provide a place for gifted students to thrive and be themselves, to accept differences, progress at their own pace, pursue areas of passion and reach their potential. Built on the ideals of the great thinkers Plato, Socrates, Dewey, Pestalozzi and Froebel, Grant Academy founders envisioned a school where students of various ages would come together, surrounded by beauty, to explore ideas under the tutelage of brilliant scholars. The environment was purposefully selected to support these ideals.
I first learned about Grant Academy many years ago when Linda, Lou Ann and Jill conducted a presentation on the environment of a school at a national conference.

Five years ago I had the opportunity to visit the school. My visit was brief and late in the evening. I arrived after dark in an unfamiliar residential neighborhood and entered the campus on a drive that led to a modest ranch home.

The meeting was held in a room that was quite likely the original master bedroom. The perimeters of the room were lined from floor to ceiling with built in shelves filled with classic literature, old and new. The bathroom was a small, half bath, painted in beautiful jewel tones and quotes painted on all the walls. The environment, quite literally, spoke to all who entered.
Three years later, I arrive in early November at the conclusion of the fall break. This time I arrive during daylight hours and the long drive to the main building begins to reveal a distinct school culture.
Parent mailboxes are mounted in the drive. The small pitched top of the mailbox structure provides some protection from the elements. The drive curves to the left and opens into a large concrete pad that serves as both a turn around and basketball court. One enters the school as you would enter a home, a brass flip tongue door handle opens to an entry hall with doors and hallways creating a range of choices but no apparent office or check in area.
A large longhaired black dog lies just inside the entrance.
The entry contains a small 19th century wood frame settee, a large wooden chime wall clock, and a typical handset home phone on a low cupboard. An oriental rug covers a section of the carpet. While the entry implies a home atmosphere, a glimpse down the hallway reveals posters more commonly found in schools settings.

This first day I will visit the spaces after teachers and students have left for the day. Acting director Jill Dunn orients me to the campus and provides me with a copy of the complex schedule. Unlike many elementary settings, students move from room to room around the campus; the entire campus is the classroom. I move in and out of the buildings, getting a sense of the various spaces that make up this unique setting. It is cool and somewhat inclement for Tampa, low sixties, with a bit of misting rain and wind.

Moving between the buildings I am eager to be back inside. The teacher that I will be observing has a classroom in the pavilion, a large building at the back of the property that is adjacent to both the lake and an area of dense vegetation.
I walk through thick, red cedar mulch to get to the pavilion. My shoes sink into the mulch and the sensation is similar to walking in a bouncy castle as I sink down and step back out reaching for each footfall. Coat hooks and a long shelf are mounted just outside the door of the classroom. A large laundry sink is mounted to the wall nearby.

A sensory table rests on a small concrete pad near the entrance to the classroom. I step inside the door and find myself immediately in the middle of the classroom. Many rooms have an entry area or point that acts as a transition; a space where papers are dropped off or collected, a point where students or parents can stop and talk with the teacher. And while there is some evidence that these activities occur, the predominant sensation is that of being surrounded by the actual learning environment. The room is small, or appears that way. It is full. Full of color, full of shelves, shelves that are full,
wall spaces are full of signs and posters. Full. Full of opportunities, full of experiences, full of areas of curiosity, full of risk.

Structure

Architectural Elements

The pavilion is a large redwood structure, somewhere between large resort cabin and garage. It is utilitarian in shape; a long rectangle that houses several classrooms. The preschool and kindergarten are found in the center of the building with the two ends occupied by the art room and the science room respectively. Three sides of the building are surrounded by redwood decks of various elevations creating an up and down, in and out feeling as one moves around the exterior of the building. The entrance of the
kindergarten is directly off the play area and the entire building is protected from the harsh Florida sun by large trees.

The door into the room is the standard garage style entry door; wood panel with a small window in the upper segment with a goldtone twist lock knob. A 27’ x 21’ square, the east wall backs up to a heavily wooded area.
Two small, almost playhouse style windows divide the length of the wall in thirds. The remainder of the east wall is consumed by installed floor to ceiling shelves. Shelves are approximately eighteen inches high and eighteen inches deep. The shelves are simple pine, standard cut lumber and are mounted as an open frame directly onto the wall.

The south wall is a shared wall between the art room and the kindergarten. Prior to an expansion, this wall was an exterior wall. The art room, previously a porch area, has been enclosed during one of the several building improvement projects. As such, there is a small window that looks into the art room. Windows throughout the space are simple aluminum frame with an up and down slide mechanism for opening and closing.
The west wall contains the entry door and a larger window. The north wall is bounded by doors on each end, one to the classroom bathroom and one to the preschool classroom.

Ceilings are standard 8 foot interior height. The ceiling finish is a light orange peel texture and is painted a dove grey. The roofline extends beyond the walls with a two foot overhang. Typically, this cover would provide welcome respite from the sun. Today, when it is overcast, it causes the room to feel a bit rainy day dim. Little light enters from the windows.

Care has been taken in planning the lighting. There are six ceiling mount 2-bulb fluorescent light banks. A ceiling fan fixture also provides an additional light source.
Standard home use wallboard covers the walls that are painted a pale creamy yellow. Wide plank ash wood covers the floor.

Architectural elements are those that would be found in basic, utilitarian building or home. Materials throughout are standard building materials, those available to homebuilders rather than the materials more typically found in schools or other institutional settings. The overall feel of the room is that of a practicality, reminiscent of an Amish workshop or barn. Each piece has been chosen with care and consideration, but care and consideration for purpose, not for aesthetics. Design and construction are simple; practical straight cuts and limited finish detail. This “plain” is juxtaposed against an exterior that creates a sense of connection to the beauty and aesthetic of space and place.

*Furnishings and Materials*

The classroom is a boisterous mix of color and texture. Two large kidney tables act as the primary work spaces for the children and teacher. The tables are a brilliant kelly green and a rich cobalt blue. The tables are relatively new and match an additional kidney table (in sunshine yellow) that can be found in one of the other classrooms. The tabletops are polished laminate that provides a smooth work surface that is easily washed, although the laminate does absorb ink from markers and as such there are several small, muted marks on the otherwise pristine tables.

The tables are surrounded by small blue molded plastic chairs. Unlike other molded chairs that have metal legs attached to the plastic seat base, these chairs are
plastic in their entirety. This gives them a somewhat fragile look, but they are remarkable sturdy and easily hold the weight of adults. The chairs have a slight curve in the seat as well as in the back and are textured to prevent slipping. One advantage to the all plastic chairs is that they are very light weight and can be easily moved and stacked by the children. As with the tables, the chairs are relatively new and have been purchased specifically for use with younger children.

All of the remaining furniture seems to serve multiple purposes. There is a new, custom-built L shaped block storage unit. The unit not only holds the blocks but defines the block play area, separates the entry of the classroom from the main open work area, and acts as a loose boundary for the gathering area. The block storage unit is a beautiful natural wood tone that has been sanded until the grain is perfectly exposed. As with other storage pieces, the block unit has hand drawn pictures of the items that are to be stored in
each area. These drawings (or in some cases photos) are environmental cues to the students regarding how to care for their environment.

Other large-scale furnishings include a loft located in the southeast corner of the room. As with many of the pieces, the loft has been custom-built to fit this space. The ladder has been designed to allow students opportunities for natural risk and to maximize space. It is a regular ladder rather than the more common steps found on commercial pieces. The area underneath the loft is open with a wall mount shelf for books and a table holding a lamp that illuminates the shadowed area. The space is small and intimate and each element is small in scale evoking a fairy environment.

An end table has been transformed into a small light table by cutting a hole through the top and placing a Plexiglas insert across the opening. The functional part of the light table is open beneath and children can study how the table actually works. A
coffee table has been transformed into a low writing desk with the addition of a small back ledge. The ledge contains standard writings supplies such as various pencils, pens and markers, papers, stencils and tape. Another small table, previously an ornamental table of some kind, now holds a single computer and a vase of flowers.

Teaching supplies, resource books, and assessment materials are stored on top of a long, low set of cubby shelves that hold student supplies below. An additional Target style five-shelf bookcase stands near the circle and captures more teacher resources and materials.

A bulletin board and Lakeshore Learning easel define the area for direct instruction. A brilliant 9’ x 12’ rug creates a soft flooring area. The rug appears to be new and is comprised of bright squares of blue, green, red, yellow and purple.
It is striking that the majority of the furnishings are not those that are commercially produced for school settings. The kidney tables, chairs, rug and easel are the only pieces one would typically find in a school setting. The remainder of the furnishings are a combination of repurposed home items and custom built pieces (but, as with the building, “plainly” built). The amalgam of furnishings and materials are somehow drawn together through the use of color and defined purpose.

In sharp contrast to the furnishings, the materials are very much what one would expect to find through an early childhood materials distributor. Books range from picture books to fairly advanced chapter books, representing the expectation of a varied reading levels. Math materials include an assortment of manipulatives, Singapore math workbooks, and math games from teacher supply stores. Several shelves are dedicated to plastic colored trays. Each tray holds a self-contained center or activity. Some are a direct match to the practical life trays found in Montessori schools while others are more traditional math or science centers. This is the area in which there are the most “non-school” materials. The blocks are fully displayed and are both beautiful and beautifully maintained. The block area includes standard unit blocks, hollow blocks and small props.
The room is at once, highly personalized and at the same time contains very few items that hint at who the teacher is as a person. The wall near the door contains some class pictures, photo holiday cards from student’s families, and what I will come to learn are pictures of the teacher’s children. On the window sill near the bathroom is a tea station, complete with teas, mugs and large steel thermos. There are no decorative elements. The aesthetic of the environment is created by the sense of purpose of the space.

Room Arrangement

The room is simply brimming with things and yet there is an order and structure to the environment. Things seem to be simply and easily at hand. Items are available for use by teachers and students in an equal manner. There is no specific area designated for the teacher or parents. Rather the room is an open space that is used by all and speaks of a purpose that is to engage and stimulate active learners.

For a room that is so very full, it is characterized by a sense of openness. Very few items of furniture extend into the center area of the room. The space, floor to ceiling, is utilized in such a way as to maximize storage. The two kidney tables are placed adjacent to the south and east wall. To allow for more space in the center of the room, the tables have been pulled fairly close to the shelving units along the walls. This creates some challenge in accessing the materials from the lower shelves if someone is sitting in the dip of the kidney table. The only other furniture that intrudes into the center space is the storage unit for the block area. All other furnishings abut walls or are arranged to
optimize the open center area. The perimeter of the room includes a reading loft, a small writing center, a light table, computer work station, easel area, and a small science center. Just inside entry door is an area dedicated to housekeeping, physical and organizational. Small mailboxes hold papers for students and their families; a chart for signing students in and out hangs nearby; and cubbies for student belongings. Cleaning supplies are stored just inside the door to the room. A small dorm style refrigerator is tucked behind the door.

The focal point of the room is the meeting area defined by the vibrant, graphic rug. Teaching supplies such as markers for the calendar and books that Miss Colleen is using for instruction are kept in a small low shelf just under the bulletin board at the front of the meeting area.
Small hand drawings depict basic yoga poses and a CD player rests on a cinder block shelf, a full basket of CD’s nearby. This area represents a large portion of the overall square footage of the room and much care has been taken to establish this space. The different elements and size indicate that the meeting area is used for multiple purposes. The most obvious of these is the extension of the block play area. As with the meeting area, the block area is a large area of open floor space. The two areas are adjacent to one another, allowing teacher or students to expand across the two areas or to create boundaries as needed.

Miss Colleen’s teacher area appears to be the blue kidney table just inside the door. The shelf behind this table holds teacher resources, student workbooks, and teaching activities used for direct instruction. There is no computer, cup of pens or pencils, stapler or tape dispenser that indicates a teacher-only work area. Rather these materials are all kept out and within the reach of all the community members, including the three and four year olds who come in at times from the preschool classroom.

While “zones” or “centers” have activities that can be discerned through careful observation in the classroom, the overall impression of this environment is one of full immersion. The small room is to be “consumed” by all who work within the walls, to be used as a totality rather than to be visited in sections for exploration or specific learning activities.
First Impressions

I meet Miss Colleen on my brief orientation walk through the campus. Miss Colleen has been at Grant Academy for four years and has been teaching for twelve. In a twist of fate or “small world” coincidence, Miss Colleen’s training, experience, and beliefs about education were formed and cemented at the Clayton College in Denver. Through ongoing phone conversations and emails, acting director Jill Dunn, has indicated Miss Colleen would be an excellent participant for this study as she has been instrumental in transforming the early childhood program and environment at Grant Academy.

Miss Colleen is strikingly beautiful and much like her room fully practical. Her hair is prematurely silver, a color that seems to cast it’s own light rather than reflecting light from the environment. Her skin is youthful and beautiful making a falsehood of sun damage and aging. She is Florida tan, a shade that mocks self tanners and bronzers and instead replicates the glow of the sun on skin. She is tiny, perhaps five feet tall, with a petite frame. Her voice is low and throaty, not the high sing-song voice of many early childhood educator. Miss Colleen has a permanent smile, almost a mischievous smirk. This smile isn’t an indication of mood or intent, rather it is her relaxed countenance. She is matter of fact, utilitarian, boldly confident in manner. She is in constant motion, moving from one place to another, but when she sits down to with a child she is fully engaged and completely absorbed, her energy pinpointed with a laser like intensity.

Her style echoes that of many of the teachers here at Grant. While the cultural atmosphere is one of marked formality; greetings to teachers are formal and respectful, students respond to all teachers immediately and with genuine intent, high standards of
behavior are expected everywhere on campus; the style of dress is casual. Today Miss Colleen wears a pair of fitted capris and a floral pattern t-shirt. And the characteristic heavy teva style sandals that all the female teachers wear. Sturdy soles and more complete foot cover appear to be a must have for the mulch covered play space.

While I’ve spent time in Miss Colleen’s classroom prior to meeting her, I have very little sense of who she is from being in her classroom. There are few hints as to the person that she is although there are signs of her beliefs as a teacher and perhaps even her working style. The center activities for this morning have been left out the night before, indicating that Miss Colleen’s natural style is to prepare for the coming day after school, saving the before school hours for other activities or meetings. The room and the massive amounts of materials at a wide range of levels speaks of a teacher who has much experience and who has worked with students of varying ages and abilities over the course of her career. The large open space combined with the presence of various musical instruments and drawings of yoga poses indicate a teacher who believes in a mind/body connection.
The classroom, replete with materials and color is a bit of a “march to one’s own drummer” space. Current books on early childhood education speak of limiting materials, clean visual lines, a pared down atmosphere, standardized centers for specific learning experiences and advocate for more limited formal meeting spaces. Kindergarten classrooms today are geared towards direct instruction, literacy exercises and mathematical thinking opportunities. Full day kindergartens often try to bring together these more academic goals/purposes with traditional early childhood centers. Tables and chairs for all students provide clear signals that serious learning occurs in these spaces; and elements such as baskets of baby dolls or housekeeping items off to the side indicate a time for play and exploration. Miss Colleen’s room belies these current trends and rather seems to echo a more classic approach to kindergarten.
The room is filled with things to do, but many of these are to be done alone or in small groups rather than as part of instructional groups. The dichotomy of academics vs. centers described above is absent. What is apparent are signs of work. Work happens throughout this space. Work is done individually, with others and with a teacher. Work requires space and materials. Work is expected. Work is valued. Work has an intrinsic value. All around the room are indicators of the work done by the children. A mural depicting plant growth, stalks of wheat in small vases and recipes for bread making are found in various areas of the room. Tape outlines on the wooden floor create complex roadways and plots for an in-development project in the block area.

Books on city planning and architecture are displayed along the top of the block shelf. Bowls in the science area (and indeed throughout the room) hold seed pods of various types. Nearby microscopes, slides, magnifying glasses and paper and pencils wait for young scientists. And everywhere are small notes and plans drawn by the children. Rough drafts for drawings or clay sculptures, plans for block structures, lists of materials
needed to complete a project. This is a room that requires its inhabitants to interact, direct, and engage…to work.

Outside

The children are just finishing their lunches. The “littles,” as Miss Molly and Miss Colleen’s students are known, are seated together on long redwood picnic tables under the trees. The dog who roams the school has not yet come outside. She remains in Bob’s room until after the youngest students have eaten to prevent her from snatching a dangled sandwich or snuffling swinging legs while looking for a treat. As the cooler style lunch boxes are closed, the students wait for some kind of signal from the roaming teacher (one teacher at a time roams among the students, while the rest of the faculty sits together on tables pulled together to make a long family style table; membership at the table and supervision duty appears to be fairly fluid as teachers seamlessly get up and move about while others return to the table to eat).
Some signal is given and the children disperse among the decks, the play equipment and the open space. All students come together for lunch and recess at the same time and yet a casual observer would never guess that some 74 students from ages three to seventeen were outside together. Groups are fluid and all the children are engaged. I witness no negative interactions or need for teacher intervention during the play time. Much of the play for the younger students is a form of active dramatic play. The children move throughout the deck spaces and in and out of the playground equipment. There are many pieces of furniture as well as stadium style benches made of logs. As with the interior furnishings, the bulk of the outdoor pieces appear to be handmade.

Older children gather in small groups on the benches and chairs and read books, pull out action adventure cards, or play with miniature robots.
Some students gather in the open space and play a game of football, teachers joining them for some mid day physical activity. Younger children use the elaborate wooden stage and play structures for both active physical play and dramatic play. The environment encourages a curious mix of the two not usually seen on standard play structures. There is an overlap in ages, a mixing of older and younger students, but in general the children spend time with their age peers engaged in the specific types of play that best meet their developmental needs.

As during the lunchtime, teachers take turns moving among the children, several join in the physical games, others become an audience for the students. It is a relaxed time; few children come to teachers with social issues or hurt feelings. Teachers and students alike enjoy the time outside and use it as a genuine break from the rigor of their work.
A bell within the school sounds and a child runs to ring the large brass school bell on the playground. Students begin to move purposefully about the area and in a few short moments students have gathered the necessary tools to complete regular maintenance tasks including sweeping the concrete sidewalks, emptying waste containers and replacing trash can liners, raking mulch into an even distribution under and around the play equipment, gathering the fallen fruit from under the lime trees and numerous other jobs. Teachers supervise the clean up as carefully as they supervise the practice of a new math formula or a reading lesson. They provide comments that are instructional and motivating and ascertain that all are participating.

One student comments that it isn’t his week to help with table clean up and the supervising teacher simply states “This isn’t a one person job, this is an everyone job.” In response the adolescent boy calls out to another student to bring a trash can so he can gather the trash left on and below the tables.

Prompted by a signal from a teacher a student again moves to the large bell. The ringing of the bell announces the end of the ten minute clean up period. One of the teachers of the older students remarks to me “You’ve never seen older kids so excited to return to class as the kids who have certain clean up duties for the week.”

While I will later learn that this clean up process is part practical solution (there is no custodian, rather parents of a student on scholarship do light housekeeping and maintenance in exchange for tuition), I will witness this time and attention to the practical care of the environment in many ways over the course of my time at the Grant Academy as well as the overt connection to the outdoor space.
Classroom as a Living Organism

The students enter the room with a woosh of fresh air around them. Unseasonably cold, they are wearing sweaters and light jackets and have pink, wind kissed cheeks from their time outside. Yet the interior of the room is still somewhat stuffy and relies on the building air conditioner unit to keep it comfortable.

The door to the classroom is an immediate transition between the play and exercise of outside and the meaningful work of inside. Somehow in just the few short weeks the students have been at school, they have come to learn how to negotiate the transition and they enter the room self-possessed and in control, ready to begin the work of the afternoon.

The children move to the carpeted area and each child assumes a different colored square for his or her spot. They sit, alertly watching Miss Colleen, as she moves to pick up a book. She reads Pancakes, Pancakes aloud, stopping to discuss various sections of the book or to clarify a vocabulary word when needed. She pulls a vase that holds shafts of wheat from a table and brings it to the gathering area. She is easily able to move between and around the students to get to the table and returns quickly to the small chair she uses at the front of the area. After sharing the wheat shafts with the children, she passes them around and explains that they will be available in the science area for later study.

Miss Colleen announces that it is time for DEAR (Drop Everything And Read) and students move immediately to gather books from their individual cubbies and then move to a private space somewhere in the room to read. Miss Colleen turns off the
overhead fluorescent lights, leaving only the golden, glowy light of the ceiling fan. On this overcast day the light is fairly dim. Miss Colleen moves to the loft area and plugs in the twinkling dragon fly lights that hang beneath the loft. A child has turned on the small lamp under the loft as well. As children continue to settle in with their books, Miss Colleen moves back to the gathering area to a portable CD player and a large collection of CD’s. She quickly inserts a CD and in moments the room is filled with the sounds of ocean waves. These are not background sounds, low and muffled in the context of a larger purpose, the soundtrack is played at a level that mimics the sound level that would be found on a beach.

Miss Colleen calls a child over to work with her on some type of written piece while the rest of the children continue to read. My impression is not that this is a writing assessment or even an unfinished piece of writing that needed to be returned to, my impression is that this is a child who has a passion for writing and this bit of quiet in the middle of the day provides him with a time to come together with his teacher and share a personal moment in which to develop his love of words.

There are few other discernable noises against the backdrop of waves moving back and forth against the sand of a beach. Some children talk aloud to themselves or laugh at something they read while others talk briefly to one another (this is not the age where children have mastered whispering and as such these comments can be clearly heard). Three boys sit huddled together, each reading their own book. The lighting and the timing (right after lunch) might imply a quiet or relaxed time, the equivalent of the out of vogue kindergarten nap. Yet, this is not such a time. The children sit alertly; their
posture is engaged whether sitting on the floor, in the loft, or in a chair. Every child is firmly and clearly engrossed in his or her own reading.

The children act autonomously but are quite literally within an arm’s length of their teacher at any given time. They have a sense of ownership of the space and demonstrate mastery over their environment as they make choices about where to sit and which books to read. There is a sense of calm that seems to belie the busy visual stimulus and access to a myriad of materials.

**Protagonist**

**Beliefs**

Grant Academy is clearly an alternative setting. From the physical location in a home in a residential neighborhood, to a student body that serves students from three to seventeen, the curriculum that retains some of the in vogue/out of vogue practices of visual imagery and focus on self-development, to the vision of students as modern day Renaissance thinking men and women, this is a unique place that has attracted an eclectic and deeply committed faculty. It is clear that teaching at Grant Academy is as much a choice of vocation as it is employment. These teachers have somehow “come home” to this environment. Miss Colleen is no exception. Naturally reflective, intensely interested in intellectual pursuits and with a multitude of interests, personal passions, and talents, Miss Colleen embodies the characteristics of the successful Grant Academy teacher.

Miss Colleen is a passionate about the arts. A practicing visual artist, she creates large scale chalk pieces at various chalk painting events around the country. She is also
deeply affected by music and has been recruited this year to do some of the music education for the school because of her passion and expertise. Like many creative individuals, Miss Colleen displays a confidence in her abilities, decisions and choices that is often missing in the questioning nature of many teachers.

Miss Colleen began her own education in the field of art. A native of Florida, after completing her MFA, Miss Colleen moved to Colorado. Initially she focused on her art, exhibiting in galleries and gaining a beginning following and positive critical reviews. Somehow this wasn’t quite right, not quite “enough.” For six months, Miss Colleen visited coffee shops, read want ads, worked in art studios and developed her expertise in ceramics. An opportunity to teach in an after school and summer Parks and Recreation program provided Miss Colleen with her first teaching experience.

As with many who seem to “find” teaching, a chance circumstance acted as an impetus to her future career. Her supervisor in the Parks and Recreation program had a young son who was attending a program funded by the Clayton Foundation at the Clayton College in central Denver. Miss Colleen joined the faculty as a member of the after school program, Clayton Kids and Thinkers.

It was phenomenal; what they did during the day, they did after school as well. It was all consuming and amazing. There was lots of training for teachers because of it. At the same time I was doing the after school piece, the school became a charter, one of the first real charters in the nation. I was getting High Scopes training already, and then I started a Master’s degree. And the Clayton Foundation was just extraordinary because there was so much money for training. Each month we learned things, we studied things; things like setting up your classroom, being a teacher, interacting with kids, working with parents, math workshops on how to use manipulatives, and how to integrate literacy. (Miss Colleen)
While deeply engaged in her own learning, it is clear that Miss Colleen was also inspired by the vision and mission of the organization. She trained and grew to be the teacher she is in a setting whose specific and stated goals were to be transformative. “Clayton was there to effect change. Originally it was an orphanage, to provide children opportunities and then this little preschool. But always, the goal was, that his (Clayton) money would be used to effect change. I was changed there as well.”

After five years, when other projects at the Clayton Foundation took center stage, Miss Colleen left her position and began teaching at Steele Elementary. Here, Miss Colleen had an opportunity to continue working with master teachers but also gained experience in a traditional public school setting teaching from an established curriculum with standardized materials and instructional strategies. Here she had an opportunity to utilize her early childhood High Scopes training with high quality, innovative literacy instruction. Both required a thoughtful focus on environment, both physical and organizational.

Relocating to Florida to raise her own children closer to their extended family created new challenges and opportunities. She initially joined a Bank Street School, Trinity, assuming that the philosophy of the program would be an ideal match for her background and beliefs. Yet the reality was significantly different and the Bank Street School ideals had been modified to more closely match the community religious and cultural standards in such a way that, for Miss Colleen, negated the potential of the approach. She was introduced to Grant Academy through a colleague from her music business and has been with the school for four years.
During her experiences at Clayton, Steele and in her Master’s program, Miss Colleen was exposed to many different educational theorists. I ask her to share with me some of the influences that she feels guide her day to day work with children.

I really believe in hands on active learning and scaffolding, that’s Vgotsky, he always stuck in my head. In math this morning there were two children working on that math sheet and one had a little bit higher ability, the scaffolding happens when they observe each other learning, and the questions they hear. They learn from one another. They were all sitting at the table learning different things but they were being exposed to what the others were doing so they would look up when Clastel was working on the clock. Ash who is doing Cuisenaire rods is talking to others. So they are constantly learning something, something more than what I am offering them. They are involved in this social construction. (Miss Colleen)

Miss Colleen also sites the influence of Piaget, Dewey and Maslow. She connects each to her ideal that students be active agents of their learning. Miss Colleen expresses her belief that students move through stages, cognitive, social and emotional, that help or hinder their overall growth. She comments that her work on the ideas of these theorists was long ago, and yet influences from each are clearly apparent within her classroom. Miss Colleen is clearly at peace with her philosophical beliefs and her experiences here at Grant Academy.

*The Setting—Peaceful Town*

The children have gathered together on the carpet. Each child is on a different colored square again, yet the squares aren’t assigned. Positions are fluid. Different children sit on different squares over the course of the day. Miss Colleen is seated on a small blue plastic chair in front of the whiteboard easel, a piece of chart paper attached at the top with a small clip. The class from next door to joins the group and several of the
younger students comment on the carpet being dirty. The children in Miss Colleen’s class explain that it isn’t dirt, “It is the wheat grain separating from the wheat stalk. You could chew it if you want but we are going to grind it to make bread.” These comments are in the form of a natural conversation, student to student rather than negotiated by raised hand or teacher prompting. The younger children fill in around Miss Colleen’s students, taking a square where one is available. During this instructional time, the students assume a horseshoe formation oriented to the whiteboard, although no directions to do so are provided by teachers or the children who are already seated. The transition is almost completely seamless and Miss Colleen barely pauses in her stage setting remarks.

“I want to ask you all a question and my question is ‘What do we need to make our town?’” Miss Colleen writes the question on the chart paper and then the children read it aloud together as she underlines each individual word. Children start to call out their responses, again without raising hands or without a teacher calling on them. Even the youngest children in the group seem to sense when there is a break in the flow of ideas and they enter the discussion appropriately.

“We need a hotel.”

“We need roads.”

Miss Colleen records every other line in green and purple to help the pre readers and emergent readers recognize where one idea begins and another stops. As the brainstorming session comes to a close, Miss Colleen explains to the children that today is the day that the two rooms will be connected via the roadways they have been creating
(these are delineated by blue painters tape lines that wind through both the preschool and kindergarten classroom.)

Throughout the brainstorming session and information sharing regarding potential follow up opportunities, classical music is playing in the background. It is clearly audible. Miss Colleen’s voice is rich and well modulated. She speaks in an even tone without raising her voice over the music. The children respond in kind and the result is similar to a recording of melody and lyrics; carefully balanced and respectful of each element.

As students begin to chat with one another about the construction of Peaceful Town, Miss Colleen begins to provide guidance about next steps. She talks about the importance of creating a plan and perhaps meeting with those who are interested to share different ideas related to the creation of the town. Miss Colleen references several of the books on architecture and building that they have been reading together and lays them in the center of the carpet, opening to pages and making brief comments such as “consider how arches help to connect not just buildings, but to connect what our eyes see as the move from place to place.”

This is a “Worktime: Plan, Review and Do!;” the time that is designated as center time in many kindergarten classrooms, but there is slightly more structure to this process. Miss Colleen announces,

the art table is still open, the seed table is still open, but if you are planning to work with blocks, this is the plan that we have for blocks now. So the rest of the room is open like usual but if want to work in blocks this is what we will be working on. (Miss Colleen)

“I’m going to start with Castel, what is your plan today?” Miss Colleen waits for each child to respond and share what he or she will work on and the children move
independently to their selected activity or area. They choose a wide variety of activities and seem unconcerned with selecting an option with a friend. The space is permeable and some students enter the preschool room to engage in activities while others move to the sensory table just outside the door. The three children who select the sensory table gather blue plastic chairs and carry them outside with them, arranging them around the table. There is no jostling or conflict, very little conversation even as they move to accomplish the task of arranging their shared work space. Miss Colleen changes the CD and Spanish acoustic guitar music begins to play, again, not quite background as it is too audible and yet not intended to be the full focus of the activity of the classroom.

Every child is firmly engaged and intent upon his or her work. None appear to be “playing” as children often do during center time. Their movements and interactions are too purposeful, too precise for regular play. Many gather paper and pencils and use these to record ideas as they work regardless of what center they have selected.

Miss Colleen stops and takes a moment to explain a bit about the block project that is in process. Her classroom has been working on cities and architecture after students demonstrated an interest in varying their “buildings” during free exploration with the blocks.
The preschool classroom has been creating a farm using a combination of blocks and small props. During the outdoor play time, students playing together shared the work happening in their respective rooms and this prompted the idea of creating a whole town which the children have dubbed “Peaceful Town.” The project is in the initial stages of development and Miss Colleen is watching the worktime carefully to try and determine next steps in the process.

Teachers and students talk to one another during this worktime, asking questions such as “How does the interstate end?” “What kind of ramp would we need?” “I don’t think my farm needs an interstate nearby.” “How will you sell your grain?” The constant ebb and flow of conversation includes students actively participating in the block area as well as those children who are working in other areas of the room. The children at the seed table are “baking bread” out of the grain that the “farmers” in the other
classroom have grown. Some children at the art table are making cards for family members, one child is making signs for the town and another is drawing plans for small props that he believes will be important to Peaceful Town.

Miss Colleen shares with me her dream of a giant block area like the one found in the kindergarten classroom at Stanley British Primary School in Denver. She’s given much thought to this and talks about moving the science room out of the pavilion and using that room for the preschool and transforming the current preschool room into a block room that would connect the two classes. Her constructivist belief system is apparent both in the activity of the room and her description of an environment that would better support her overall vision of the children’s educational experience.

A child from the preschool room seeks out Miss Colleen out and asks her where the tape is. Miss Colleen moves to show the child where the tape is kept and points out that there is a picture on the shelf under the tape dispense so that when the child is ready to put it back, she will know right where to put it. The children operate autonomously, gathering the materials they need. Some of these items are standard teaching supplies and others are more items that you might find in a home environment.

As the block play continues to evolve Miss Colleen visits informally with each child in the classroom, stopping to sit with those who are writing, providing a verbal prompt to the students engaged in seed play and then finally sitting down with those who are immersed in block play. Miss Colleen actively prompts more complex development in the block area by helping students to shape the ideas they are sharing verbally. As one child speculates about roof lines and the restrictions created by the blocks remaining on
the shelves, Miss Colleen suggests paper as an alternative source and moves easily to the supply shelf and gathers paper, scissors and tape. Materials are all, literally, within an arm’s length in this compact classroom.

Students in the art area have gotten out blocks of air-dry clay, stamps and watercolors. Without prompting, they have retrieved laminate placemats to use under their work, protecting the surface of the table from clay and paint as well as scratches from the clay tools. They are busily making clay pizzas and a boy in the block area, overhearing the conversation, asks if the children in the art area will make a pizza shop for the block town.

Miss Colleen watches the work evolve and then comments,

I’m not sure that we should use undry clay with blocks. I foresee clay, with all this excitement and all these children, getting on the blocks and getting smashed, but maybe we need to think about something, because I like the idea of a pizza shop or maybe a grocery shop.

The children are confronted with considering the potential impact of their ideas on their environment. They consider Miss Colleen’s comments and immediately begin making suggestions. Several of the children decide that they will take clay and paper home that evening and work on making things that will be dry by the next day. Through conversation with one another they determine that these elements will be “safe” to use with the blocks.

This worktime session lasts for an hour and fifteen minutes. At the conclusion of the worktime Miss Colleen moves to the carpet area and picks up a middle C chime. She rings the chime three times and quietly says, “It is time to clean up.” The children move with purpose and confidence; trays go back on shelves; art supplies are cleaned and put
away. Some children move to gather table cleaner and cloths and others place chairs under tables. The block area is left as is, a work in progress, but the children in this group make signs that say “Take care of our blocks” and then begin to help clean up in other areas of the room. It takes approximately fifteen minutes for the children to put the room in order and gather together for the end of the day meeting. Miss Colleen and Miss Molly, the preschool teacher, watch and make suggestions or offer support to the children. As with the outside clean up duties associated with lunchtime, this time is as carefully supervised, as academic tasks would be.

As students and teachers finish, they move to the carpeted area. Miss Molly from the other classroom begins the dismissal process as Miss Colleen moves from table to table putting out the individual centers and nameplates that comprise the first activity tomorrow. The children have done an excellent job of cleaning up and Miss Colleen is not involved in any task related to returning the room to order, save for rinsing out the shaving cream tray that one of the younger students had not been able to get completely clean.

As the children participate in “Recall,” a sharing of what they experienced during the day, parents begin to arrive for pick up. Normally students are picked up outside. The children gather their things and move to the benches under the trees where parents meet them. Today it is raining and parents begin to gather inside the small classroom space. It is steamy inside the classroom and the smell and feel of the rain are intoxicating to the children. It rarely rains in Tampa and when the children realize that it is truly raining, they are anxious to move outside.
Intention

As we sit down to talk, Miss Colleen begins reworking the structure of a community art piece. The piece is for the upcoming school auction, an annual fundraiser. She is assembling the children’s individual work into a single piece, tying burnished clay pieces onto branches culled from the wooded area behind the classroom. The piece is elegant, a bit whimsical, strong, and represents the natural surroundings in which the children spend their days. The description could just as easily apply to Miss Colleen.

Her hands move in and out of the woven knots she is trying to secure, but as we talk she becomes more and more engaged in what we are discussing and she eventually sets the piece aside.

Knowing that she has taught in several different settings, I ask her what she hopes for her students.

I want it to be active in the classroom, they need to talk with one another, maybe even more with one another than with me. The teacher is not to pour information into the kids, but more, it is to watch them and see what they need. I do some direct instruction, I know things they don’t know yet, that they need, but the role of the teacher is to facilitate. I want them to really love learning. And now a major goal is to have them ready to go to the main building. (Miss Colleen)

Miss Colleen discusses her conflicted feelings about the unique role of preschool and kindergarten within the overall program; the responsibility of getting children ready for the next steps while respecting this stage of development. She believes that kindergarten is a unique time of life “it is so important, so much about who they will become as learners, as people.” She is clearly wrestling with what she believes to be competing needs. The need to honor today and what it means to be five and the need to anticipate and prepare for the future. I sense that this is a lonely battle, not one that she
can engage in conversation with colleagues. For all the closeness of the faculty and the community, Miss Colleen’s position, out in the pavilion and representing young children, remains somewhat isolated from the rest of the school, both physically and philosophically.

I want them to grow as much as they can grow, but without stifling them. Some of them could read novels, do multiplication and division, but I don’t want it to be all about that. I want them to absorb all that they can, to become confident readers and be good with numbers. But I want them to be well-rounded so that they are introduced to music, art, yoga, moving their bodies. We are being creative, being busy. We are being useful. I want them to be kind. They need to be responsible. They need to be responsible for things, for belongings, for each other. Sometimes they rely so much on other people solving their problems for them. I want them to be problems solvers, whether it is conflict or whether they are building something and need to work it out differently.

Miss Colleen’s vision for her students is clear. She has carefully crafted a classroom environment that supports this vision. The culture of discovery and learning permeates the space. The underlying organizational structure and thoughtful approach to the establishment of the physical environment is clearly evident. Purposeful, planned, predicated on personal beliefs and programmatic goals, the environment is designed to enable Miss Colleen’s students to delve into learning, to work with others, to explore new ideas, to care for self, others and things and to find and solve problems.
Chapter Five
Thematics, Evaluations, and Implications

Overview of the Study

A simple errand to pick up tomatoes is now a carefully crafted food purchase experience. Marketing and design specialists analyze not only the food trends which determine how much floor space certain products receive, but also attend to the overall experience of the shopper. In urban and suburban areas, sterile tile floors and harsh, warehouse style lighting have given way to honeyrose colored laminate wood flooring and variant lighting designed to highlight specific areas of the store. Tomatoes are stacked not next to fruits and vegetables of the same family, but rather those that create a cohesive “food story” (Turley & Miliman, 2000). A stay or visit to a new or newly renovated hospital is likely to be markedly different from time spent in similar institutions a single generation before.

Museums are undergoing radical renovations or redesigns such as the $110 million dollar Colorado History Museum project, a complete redesign from a scraped surface. Exhibits, as well as the architecture and design of such spaces, must reflect a new consciousness in order to retain current patrons and to attract a new generation of young patrons. Static diorama exhibits, no matter how spectacularly detailed or artistically
rendered, are no longer enough to engage and instruct consumers who have instant access to millions of pages interaction data at the swipe of a finger.

Intentional environments are not new, nor is the idea of great public buildings or centers of community which transcend functionality. Mayan temples provided a space for the people to gather together, to demonstrate their loyalty and worship their god(s). The Parthenon in Greece paid homage to Athena and stands as a testament to Greek architecture. And here in the United States we have great public places or structures, such as the National Mall, Grand Central Station and the Walker Art Center as well as those spaces, such as food markets, hospitals and museums, which serve the diverse needs of communities. Increasing attention is paid to creating spaces, and experiences, that meet the needs of the 21st century community member in terms of use and aesthetic. Yet, school design remains largely unchanged since the establishment of the Lancasterian pedagogical principles despite radical changes in student population, learning theory, communication patterns and available technology.

While educational reform continues to transform what we believe about teaching and learning, our physical institutions remain static. Many schools have adopted specific philosophical approaches (Bunn, 2009), teachers are trained in particular techniques and approaches, and technology continues to transform how children interact with content as well as the ways in which they produce work. Often missing from this process is a focus on the physical environment of the school and classroom. Past studies attend to specific elements of the environment such as lighting or ventilation (Jago & Tanner, 1999; Yielding, 1993). Few studies have sought to consider the complexity created by the many
elements of the physical environment of the classroom and fewer still attend to how teachers exert control over their environment through the arrangement of their classrooms. The decision making process of the teacher remains largely unexplored as are the intentions which act as a framework for such decisions. In many settings, teachers are allowed latitude in the establishment of their physical environment. They may be bound by the type of furnishings or materials, by the architectural elements of the room, or by the size and shape of the space, yet, particularly at the elementary grades, they are able to exert some control over the physical environment through the placement of the furniture, display elements in the room, access and storage of materials, and the establishment of traffic or flow patterns. As such, this study provides information related to the intersection of teacher beliefs and the physical environment of elementary classrooms.

A review of the literature informed the creation of the research questions that guided this study: 1) What is the intent of the teacher as she establishes the physical environment of the classroom? 2) How do the intentions of the teacher relate to her philosophical and pedagogical beliefs? 3) How are these intentions realized (or not realized) in the teacher’s practice? 4) What is the impact of the physical environment on the practice of the teacher? 5) What is the significance of examining the relationship between the physical environment of the classroom and the teacher’s values and intentions? As discussed in Chapter Three, this study utilizes the qualitative methodology of educational connoisseurship and criticism. This methodology, designed by Elliot Eisner, is situated in the arts and humanities tradition of criticism.
The purpose of qualitative inquiry, and the methodology of educational connoisseurship and criticism, is the improvement of education. As Eisner asserts, prior to making recommendations for change, it is “important to try to understand how teachers and classrooms function” (Eisner, 1998, p. 11). Qualitative inquiry allows for this contextual understanding, first by knowing “particular classrooms and particular teachers in particular schools” (Eisner, 1998, p. 11) and then, is used to guide positive change and inform future research.

From the Latin, *cognoscere*, to know; connoisseurship, then, is a form of knowing; a heightened form of knowing that comes from both experience and a sensitivity to what is being observed. Eisner describes knowledge as generated rather than discovered, constructed upon that which we have come to understand through our previous experiences, heightened perceptivity, and interactions with others (Eisner, 1998). Criticism, in this context, is to “illuminate a situation or object so that it can be seen or appreciated” by others (Eisner, 1998). It brings to light a more thorough understanding of both positive and negative attributes. Through such criticism the educational value of what has been observed is revealed.

While connoisseurship is marked by observation, criticism is composed of four dimensions: description, interpretation, evaluation, and thematics (Eisner, 2002). Chapter Four consists of three parallel education criticisms with thick description focused on teacher participants, their intentions and their classroom environments. The research questions and literature review helped to create an interpretative framework and themes emerged from the data collected through interviews, observation, and artifact review.
Undergirding the process of interpretation were Eisner’s questions: “What does the situation mean to those involved?” and “How does this classroom operate?” (Eisner, 2002, p. 229). Interpretation is woven throughout the descriptions. In this study, evaluation is concerned with the value of the experiences of teachers within the physical environment of the classroom. Chapter Four addresses both the advantages and challenges found within each setting. This type of evaluation is reliant on the “application of educational criteria” (Eisner 2002 p. 232). Again, the literature review and professional experience provided the structural criteria for informed evaluation.

The current chapter responds to Eisner’s fourth dimension of educational criticism, thematics, making use of the guiding question “What ideas, concepts, or theories can be used to explain its major features?” (Eisner, 2002, p. 229).

**Discussion of Themes and Responses to Research Questions**

Data was collected, coded and analyzed for each of the sites using three of Eisner’s dimensions of schools: the intentional, structural, and pedagogical. Uhrmacher’s additional dimension of aesthetics was also utilized (2004). Exley and Exley’s principles of design in architecture for children; pragmatics, developmentals, and inspirationals; provided an additional lens that acts as a bridge between the fields of education and architecture (Exley & Exley, 2007). While there are similarities between the dimensions

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1 Pragmatics is concerned with issues similar to Eisner’s structural dimension such as schedule, but also includes issues such as access, budget and overall program design. Developmentals considered the age appropriateness of spaces and materials, including issues of flexibility of use and ergonomics. Inspirationals is most closely aligned with the aesthetic dimension of a school and includes a focus on exploration, interaction, wonder,
of schools and the principles of design, they are based upon different views of purpose and as such have nuanced meanings that are important to consider individually. Themes were identified from the data using this structural framework.

Making use of Eisner’s (2002) third question of educational criticism “What ideas, concepts, or theories can be used to explain its major features?” (p. 229) four major themes emerged from the data. The first theme deals with the influence of personal educational beliefs and experiences on the development of teacher intentions. Each of the study participants had deeply held beliefs and varied life experiences that contributed to their intended and operationalized aims (Eisner, p. 73, 1998). The second theme was the symbiotic relationship between the physical environment and the other dimensions of the classroom experience including overall structure, organizational systems, the teacher’s instructional strategies and pedagogical techniques, and curriculum offerings. The third theme is related to the force exerted by the architectural elements of the classroom. This force demonstrated impact on several of Eisner’s dimensions of school, including the intentions of the teacher. The final theme is related to flexibility in how the space is viewed and subsequently used by the teacher.

These themes will be discussed in greater detail in response to the research questions.
1. *What is the intent of the teacher as she established the physical environment of the classroom?*

As described in Chapter Four, formal and informal interviews with each study participant focused specifically on intentions as they related to hopes for the children in and the establishment of the physical environment.

Commonalities were found in the intentions of the teachers in the establishment of the physical environment of the three classrooms. Each study participant reported identifying a specific area or zone for the room that began a chain of decisions related to placement of furnishing and materials. Miss Colleen has a strong belief in the flexibility of space and the goal of maximizing opportunities for a child’s holistic development. Her room is the smallest of the three rooms, measuring 21’ x 27’. The center of her classroom is the “heart” of the classroom; the meeting area. In her description of philosophical influences she spent much time talking about Maslow and the idea that children (and subsequently adults) can become “stuck” in certain developmental stages of moral reasoning and development. For Miss Colleen, the focus on the group and the meeting area, the coming together to plan, is an important part of supporting students in their moral development. The meeting area accommodates activities such as discussion and planning of class work, negotiations of class problems of conflicts, instruction in academic and affective arenas, yoga, meditation and visualization, and general community sharing, all of which Miss Colleen believes to be critical components of her overall intentions.
The meeting area has a second and equally important purpose, the block area. The room is not large enough to accommodate two large open floor spaces. In an effort to achieve a large meeting area and an open block area, Miss Colleen has located the blocks directly adjacent to the instructional or meeting area of the classroom. This placement is unique in that teachers often consider issues related to disruption and management when establishing their instructional area. Placement of blocks next to the instructional area has both acoustical and management risks. Miss Colleen shares in detail her beliefs about the importance of block building as a core element in the development of classroom community and the overall learning program. She describes her ideal of assuming the adjacent science lab and art studio to allow the current preschool room to become a designated block area that would bridge between the preschool and kindergarten classrooms.

The other areas or learning centers of the classroom are established around the perimeter of the room, the purpose of each identified by the furnishings, materials and displays.

This perimeter design is mirrored in Miss Richards’ room. In an effort to support individual exploration of varied discipline areas, Miss Richards has located learning centers around the perimeter of her room. The perimeter arrangement “spreads” the students out throughout the classroom allowing autonomy for individual students and supporting the goal of having them come together in small groups around shared interests. Miss Richards expresses her hopes for children as helping them to come to truly love learning, not for the “fun” of learning but for the intrinsic value of thinking; of
creating or discovering challenge and working through such challenge. She talks of the
glorious fatigue involved in genuine learning.

The learning centers that include dynamic content as well as socially constructed
challenges such as “forced choice” support Miss Richards’ intentions of discovery and
engagement. Assigned seats at tables accommodate the more academic, standards based,
portion of the day. The tables and chairs are arranged in a linear fashion down the center
of the classroom. These were placed after determining the perimeter organization for the
learning centers.

Miss Richards’ second intention for her children is to help them to “respect each
other and to feel like they are respected and valuable.” This intention is highlighted in the
physical environment through the many displays in the classroom. Overt references to
respect are found on each of the walls in varying formats. Additionally, the names and
pictures of the children are showcased multiple times throughout the classroom. Each
child is able to look around the room and find her/himself reflected back into the larger
community.

Miss Smith easily articulated the steps she took in establishing the physical
environment of her classroom. Her overall intentions were more complex and more
varied; she was clearly engaged in a period of positive professional disequilibrium. Her
responses were metacognitive in nature and as such did not have the same defined shape
as Miss Richards and Miss Colleen. As with the other two participants, Miss Smith
identified a single area of the classroom—the classroom library as her beginning point.
She selected the area of the room based on lighting, the ability to create a sense of
privacy in a public space and acoustics. Remaining areas of the room were determined based on this initial decision, although some compromises were made to accommodate a large loft structure.

Intentions for the students were, at one time, both profoundly simple and incredibly complex. Miss Smith spoke, as did the other two participants, not of the academic gains she hoped for her students, but of helping them to learn and build respect for self, others, community and materials. In her conversations, she explored ideas related to whole body movement, self-directed exploration as work and play and of the power of whole body communication. When sharing her intentions, Miss Smith often assumed an almost meditative state of self-reflection. She paused to study the space around her, to think through her own experiences as a child, to ponder her previous comments. This approach was echoed in her practice as she established the initial floor plan of the classroom. While she easily placed the library and made decisions about remaining areas, she continued to modify these decisions and to challenge her own thinking by raising questions related to the physical, moral, social and intellectual development of the children. As such, while Miss Smith’s intentions were clear and clearly expressed, they evolved, unfolded and reshaped in a more amorphic manner than either Miss Richards or Miss Colleen.

Each teacher was able to easily identify their intentions for the design of the physical environment of their classroom as well as their hopes for the students who would spend the coming year in this space. None commented on issues related to a specific curriculum or the acquisition of a particular set of academic skills. Each of the
three talked at length about their commitment to the development of self and for a socialization process that focused on the ideals of respect and care. The individual intentions of each teacher shaped their decision making process in the establishment of the physical environment of each classroom. These intentions were complex and nuanced and varied among the participants. What remained constant was the subtle influence on the creation of their classroom environment. Each also spoke of the role that the environment would play in actualizing their intentions, but their vision of how the design of the classroom would support or influence this process differed.

2. *How do the intentions of the teacher relate to her philosophical and pedagogical beliefs?*

The intentions of each of the study participants were shaped by philosophical and pedagogical beliefs as well as by personal life experiences and circumstances. In some instances teachers were able to articulate the beliefs that shaped their intentions. In others, intentions were more complexly woven into the practice of the teacher and the original impetus more difficult to discern. Comments in interviews and observations helped to reveal these more subtle connections.²

Only one of the teacher participants began her professional journey in the field of education. The other two participants came to the field by through a less direct route with a unique juncture that changed their professional course. Both Miss Richards and Miss

² For further information on the relationship between teachers beliefs and the intentions of teachers review Moroye’s work on Complementary Curriculum.
Colleen were searching for more personal satisfaction than they found in their original professions. Miss Smith, inspired by her own fourth grade teacher, knew from the time she was quite young that she would be a teacher.

Miss Richards entered the field of education as a learner. She began a formal study of the Reggio Emilia approach in an apprenticeship model that awarded her a teaching license and master’s degree. Not satisfied with the level of her educational background, particularly in the area of child development, Miss Richards entered a formal Montessori training program and is an accredited Montessori educator. The Montessori training program included traditional coursework as well as immersion in a Montessori school environment. Miss Richards’ subsequent teaching experience included a year spent in a start up public Montessori school of choice. Miss Richards has not worked in a traditional school setting, but both the Montessori school of choice and Klee Creative Arts Academy are Denver Public Schools that adhere to the district guidelines, standards and policies. Influences from Reggio and the Montessori method are clearly evident in the physical environment of the classroom as well as Miss Richards practice.

Miss Richards displays and utilizes traditional Montessori materials including table top number rods, small movable alphabets and the pink tower cubes. These materials are placed, at the height of the children, alongside more traditional math and literacy materials. A hula hoop hangs on the back wall and is brought to the circle to sing the traditional Montessori birthday greeting for those celebrating this milestone. Also in the Montessori tradition, trays containing work jobs or tasks are located in an area that allows students to independently collect the needed materials quickly and efficiently.
Honoring the vision of Montessori, Malaguzzi, and Noddings, tools and materials used to care for the environment are readily available to the children. A small broom and dustpan is stored next to a drying rack which holds the small cloths used to clean the tables and chairs.

Visitors to schools in Reggio Emilia are struck by the beauty of the environments. Considered the third teacher, the physical environment in Reggio schools is carefully planned and maintained. While the schools in Reggio differ in architectural style, age, floor plan, and grounds, there are several elements that are common to each setting. One is the use of light. Natural light is of great value and is maximized through arrangement of light reflecting on furnishings, window coverings and the use of various forms of artificial light. This interest in light is manifested through materials which are intended to allow the children to explore the construct of light and dark, translucence and opaqueness, and positive and negative space. Common materials include light tables or boxes, shadow screens, overhead projectors, and film gels. Miss Richards’ environment makes use of each of these. Overhead lights are used at various times of the day, maximizing the impact of the natural light from the east facing windows. A light table and overhead projector create a unique kindergarten center when placed adjacent to the block area.

Reggio inspired classrooms are often characterized by the muted palette, sometime referred to as a neutral background. This neutral background is intended to allow the work of the children to dominate the visual space. Early in the year such
classrooms can appear somewhat spare or austere. In Miss Richards’ room the large size and the long rectangular shape of the classroom magnify this effect.

In addition to these overt signs of Miss Richards’ training and experience in the Montessori method and Reggio inspired practices, there are nods to her personal interests and sense of aesthetics. The room has subtle Asian influences such as the tiny wasabi bowls used to capture shavings from the small handheld pencil sharpeners, Miss Richards’ name written in Chinese characters, and the miniature porcelain bud vases arranged in clusters to create a shelvescape. Miss Richards’ personal passion and belief in the power of music is also evident. Two CD players flank the room allowing Miss Richards to move easily to one or the other at any time. Music is featured prominently during various work times and is used as both instructional tool and classroom management mechanism. Miss Richards’ CD collection suggests eclectic musical preferences. While many are “custom mixes” and lack traditional labels, other identifiable music ranges from common children’s CD’s, to rhythmic drum selections, folk music from around the globe, and Asian inspired string and bell compositions.

Another subtle indicator of Miss Richards’ personal influences is found on the wall; a poster from the Aesthetic Institute at the University of Denver hangs prominently near the art area and sink. It speaks to Miss Richards’ ongoing commitment to her own personal learning. Other indicators of this life-long learning include exhibit catalogues from various museums, and a labeled binder that is used in her current graduate class (Miss Richards was completing an English Language Learners graduate endorsement program during the 2010 – 2011 school year).
As in Miss Richards’ room, Miss Colleen’s room is defined not only by the setting but also by her educational beliefs and her personal interests. Miss Colleen attributes the majority of her educational beliefs to her time at the Clayton Center. The Clayton Center was established to affect change in the lives of children; a social justice initiative before the term was widely used in the field of education.

In order to change the lives of children, the leaders at the Clayton Center recognized that they must first empower and educate the teachers within the program. Classroom teachers and before and after school care providers were provided with multiple opportunities for ongoing professional development. A member of this dynamic faculty, Miss Colleen was exposed to a wide range of teaching topics and techniques. An alternative licensing degree program provided her with a broad based understanding of education. Extensive training in the High Scopes methodology further refined her beliefs and practices. As a teacher at the Clayton Center and later at Steele Elementary Miss Colleen regularly collaborated with other teachers furthering her own professional development and helping her to refine her own educational beliefs.

Over the course of her twelve year teaching career, Miss Colleen has continued to refine her understanding of those who influenced her early in her career. While Miss Colleen jokingly comments that she has been out of school so long and the theorists are distant in her memory, she readily identifies those who have most influenced her practice. The foundational premises and ideals of Vygotsky, Maslow, Dewey, Piaget, Montessori and High Scopes are readily apparent in the physical environment of the classroom and in Miss Colleen’s descriptions of her intentions and instructional practices.
Developmentally appropriate practice dominates Miss Colleen’s ideological beliefs and practical implementation. The mission of the school is to serve the needs of gifted students. Particularly in the older grades this includes a significant degree of content level acceleration and rapid acquisition of content. Miss Colleen’s room is a transitional level between the entering preschool students and the “main building,” which houses the elementary, middle and high school students. Deeply committed to the value of an exploratory childhood and an education that focuses on empowering students as learners, Miss Colleen is engaged in an ongoing intellectual struggle with the “here and now” of developmentalism and the conflicting goal of “having them ready” for the next step. According to Miss Colleen the length of day eases some of this pressure; her students attend school for a full day and she has created a schedule that allows her to respect the rhythms of the developing young child while still providing a solid foundation in accelerated skills.

Vygotsky’s work on socially constructed knowledge is an enacted core value in Miss Colleen’s classroom. The physical environment itself is structured so as to allow for multiple opportunities of theory building, testing and refinement. The academic focus areas are located on opposite sides of the rooms with a large open space in the middle. This configuration is purposeful and Miss Colleen describes her goal of students coming together to learn not only with one another but from one another.

I want it to be an active classroom, they need to talk with one another, maybe even more with one another than with me. The teacher is not to pour information into the kids, but more, to watch them and see what they need (Personal communication, August, 26, 2010).
The arrangement of the room allows Miss Colleen to work with an academic group in one area while another academic group works independently across the room with less structured activities between the two, more formal instructional areas. The small size of the room allows Miss Colleen, as well as the children, to listen in on the activities of the others, and in so doing they become engaged, through peripheral experiences in the work of the others.

The furnishings further supports the goal of actively engaging with peers during work times. The kidney shape tables, selected by Miss Colleen, allows each child direct eye contact with all those at the table. Each child is able to readily observe the work of the others. The work is significantly differentiated and while a small group might be engaged in mathematics, each child is likely to be using different materials, tackling individualized goals or tasks. Miss Colleen encourages them to share their thinking and their work with the group. Comments and conversations related to the tasks are encouraged and facilitated. At one point a child working on basic addition noted the advanced multiplication that another child was engaged in and the two spontaneously discussed the similarities between the operations. Miss Colleen, working with a small group in the open block area on the floor, overhears the conversation and soon all the children in the room are gathered together on the floor with the math manipulatives from the table to discuss the properties of the operations.

As indicated earlier, Miss Colleen entered the field of education as a second career. Miss Colleen’s first career, practicing artist, subtly informs her work with the students and evidence of her passion and skill can be found throughout the classroom.
environment. Miss Colleen’s room is filled not with commercially prepared posters or signs, but rather miniature works of personalized art. Simple contour line drawings of yoga poses are posted as references for whole group instruction. Handwritten labels which focus on the form and beauty of letters, often with a nod to the storytelling icons featured in the Waldorf method of handwriting are used throughout the classroom. The room also contains other forms of with “purposeful” art. When a student wants to add features such as a pizza shop to the block village, she or he does not look for commercially produced materials or representational objects such as buttons for pizzas. Rather children move to the art area and gather clay and other materials and spend time creating the needed elements. There is a subtle but pervasive sense that art is as common (and powerful) a communication tool as speaking or writing.

While the physical environment stands as testament to Miss Colleen’s experience as an artist, this role is also reflected in her practice. She has the heightened sensorial awareness common of most visual artists. She notices small details and juxtaposes them to create a more complex understanding not just of visual elements but of situations. This awareness is evidenced in her practice of acting as observer in her classroom seeking an understanding of what students are trying to come to know and then determining what is needed in terms of scaffolding or loaned knowledge. Fine art training requires a high degree of focused concentration and commitment and these dispositions are echoed not only in her practice but in her intentions for students as she guides them towards an inquisitive and scholarly approach to learning. Miss Colleen’s training and experience in art critique as a model of assessment is clearly evident in the classroom. She provides
ongoing feedback to students. It is direct, focused, and specific with the express purpose of ongoing growth and development. It is a strikingly different approach than found in many other elementary settings, particularly at the kindergarten level. Miss Colleen describes this feedback as supporting her goal of helping students to become independent and responsible.

The third participant, Miss Smith, knew from a young age that she intended to be a classroom teacher. She sought a college setting that included teacher preparation as a four year traditional degree program. Miss Smith subsequently received a Master’s degree that focused on early literacy and second language learners. Currently enrolled in a doctoral program in curriculum and instruction, she intends to continue teaching at the elementary level and perhaps transitioning to a role in a teacher preparation program.

Miss Smith’s philosophical beliefs can be attributed to three primary influences, past personal experiences, her teaching experiences in two different settings, and her professional training at the undergraduate and graduate level. Each has informed her beliefs about education as well as her practice.

At the core of her educational beliefs is the construct of building resilience. Originating in an experience with her fourth grade teacher striking her out in a game of softball, the idea of resilience continued to build as she continued her own educational career, peaking in her sophomore year in college when she was asked to define her own beliefs of the purpose for education.

The construct of resilience has permeated Miss Smith’s overall personal development from the time she was a very young child. Beautiful, gifted, athletically
talented, socially skilled, raised in an intact and supportive family, and socio-economically secure, Miss Smith would appear to have little experience with the need for resilience. Yet her personal background lays the foundation for her belief in resilience, whole personhood, and self-actualization. Grounded in the experience of two deaf grandparents in an all hearing community and family, Miss Smith is deeply sensitive to how one defines identity and community involvement. She is intent on “building strong people who are able to endure, to bounce back from struggle and strife, who serve their communities” (Personal communication, September 1, 2010). Miss Smith speaks of compassion as a necessary life skill; the need to show and receive compassion as a means of connection with others. A profoundly reflective person, she considers her personal experiences, her practice as a teacher and her goals for her students through this multi-faceted lens.

Miss Smith has explored a range of theorists during her educational career and is able to identify many who influence her thinking and decision making. She feels strongly connected to the ideas of William Ayers as well as Elliot Eisner in regards to knowing the world through experiences, working towards social justice through community responsibility, and the infusion of arts and aesthetics in the general curriculum. The work of Nel Noddings supports her own deeply held beliefs in regards to relationships and communities although Miss Smith wrestles with the vision of implementation, both described and implied, in Noddings writings. A relatively recent influence is Miss Smith’s current study of the schools and childcare centers of Reggio Emilia. Introduced
to a new conceptualization of play and discovery and has resulted in changes to Miss Smith’s practice in terms of environment, curriculum, instruction and assessment.

The influence of theorists, her personal belief systems and her experiences as a teacher in two differing settings is evident in her comments related to the physical environment as well as in the arrangement of the room. Her attention to self-actualization, respect of others and relationships can be seen in such details as the individual photos of students hanging from a suspended tree branch, framed photos of students and their families arranged around the room, written classroom creeds related to “care and concern” and “respect,” open seating in the meeting area and at the tables, and in the quiet nooks throughout the room that allow two or three children to gather together for work or quiet conversations.

Documentation panels describe the activities of the classroom, as well as the educational purpose of these activities, providing a window into the thinking of children through the inclusion of transcriptions of their conversations and comments. The importance of the arts and aesthetic sensibilities are apparent in the carefully conceived displays. Items from nature, such as dried tree branches, cattails, and long grasses in recycled beverage bottles are displayed amongst math manipulatives and art materials. Unlike bulletin boards created with commercial borders and labels, the bulletin boards in this room are unique backgrounds waiting to be adorned by the work of the children. Student work is mounted in a careful and respectful manner and labeled to help viewers interpret what they are seeing.
While enrolled in a course for her doctoral program, Miss Smith encountered a fellow student with a keen interest in the physical environment of the classroom. As part of one of the courses, the student arranged and rearranged the graduate level classroom to create alternative learning environments within the same space. After the students experienced the alternative arrangements, she asked them to reflect upon their experiences and then to share any thoughts that they might have. This experience had a profound effect on Miss Smith. She articulates her feelings of connection to others in one arrangement, and a more complete mental engagement in a second configuration that allowed her to withdraw from the group and become more internally focused. Of interest to Miss Smith was that one arrangement was not necessarily “better” than the other, but encouraged different types of engagement, participation, cognition and feeling. Miss Smith describes her consideration of this experience as she anticipated and planned for her students’ varied needs as she established to the physical environment of her classroom.

The third influence on Miss Smith’s philosophical beliefs is her comparison of the two teaching environments in which she has taught. Miss Smith’s previous setting was a low income school setting in San Diego, California. The population was predominantly Hispanic with a high percentage of English as Second Language Learners. The public school setting used standardized methodologies and curriculum materials to meet the needs of the student population. Elements of the physical classroom included standardized instructional displays such as the “teaching” word wall, instructive display boards, final product display areas, and the discipline cueing system. As Miss Smith
articulates her thoughts about her experience in San Diego, she discusses the lack of autonomy and rigidity of expectations in her former setting, but does so in a reflective manner. At the time she utilized the standardized elements, she did so without really examining their worth or considering the reasoning for including them.

I don’t think it was ever explored that your philosophy should be expressed in your walls, in your space. I don’t think it was something we every talked about in my masters classes and if it was it was your walls should teach. So since I had to have something, the first year the veteran teachers must have thought I was crazy, fabric, cutting it up to make grass…I was thinking that if I had to have something up then at least it was going to look good. So even then I was drawn to it but now I understand it more, the impact it can have (Personal communication, September 15, 2010).

Her experience in her new setting has triggered an ongoing reflective process in which she has critically examined such practices. Miss Smith describes bringing the materials she used in her former setting into her classroom prior to the start of school. Anticipating that she would use many of them, she unpacked boxes, sorted display materials and even began the process of hanging some of the pieces. She sits quietly among the materials and then remarks

These don’t go here. I thought I could put them up, that unpacking them and getting them out would make it my classroom, that I would feel ready. But they don’t go. They don’t fit the kids. They don’t fit what we do here. It almost makes me feel like I’m relearning it, I almost feel like I just got out of teacher college. (Personal communication, August 14, 2010).

Each teacher is deeply reflective and throughout the interviews share glimpses into the ongoing internal dialogue in which each is engaged. Intentions for the classroom environment coalesce around individual beliefs, values, training, and the personal and professional experiences of each teacher. While there are commonalities in terms of theoretical influences, the individual understanding of the theorists and the application
into practice differs based on the other core elements that shape teacher’s intentions. Each of the classrooms house similar materials, follow common flow pattern recommendations, and are based upon some shared philosophical tenets, and yet the enactment of these intentions have differing impetus and meaning for the individual teacher but also to the overall setting.

3. *How are these intentions realized (or not realized) in the teacher’s practice?*

Many of the intentions identified by the individual teachers were clearly evident in the classroom environments. Each teacher identified the need for a space in which all the children could gather. These areas were used for formal instruction, as a general meeting area, and for use by small groups working independently or with a teacher. These spaces were designated by use of a rug or carpet and an instructional focus point such as a whiteboard, easel or chalkboard. In each of the classrooms this space was also used for gross motor experiences. Physical movement and full body engagement were identified goals of each teacher. Students and teachers used the meeting space for yoga experiences, stretches, Brain Gym activities and music/movement activities.

The meeting spaces in each classroom were multi-purposed and used in a flexible manner by students and teachers. In order for the space to function effectively, rules governing the space were specific to the varying uses. For example, in Miss Richards’ room the meeting space was marked by a series of masking tape lines. These lines oriented towards the small white board and easel at the “head” of the meeting area. During formal, whole group instructional times, children were seated on the lines in an
assigned order. Students were often arranged in a circle configuration (allowing more
direct eye contact between students) during less structured instructional times or shared
reading times. Rarely were instructions issued in how the children were to arrange
themselves in the meeting area, rather the children appeared to understand the
expectations (even within the first weeks of school) and gathered in a fairly efficient
manner. Miss Colleen’s meeting area provided a clear visual cue. A large area rug with
brilliantly hued squares created a natural “row” seating arrangement. Squares were not
assigned but provided natural personal space boundaries for the children. The rug was
placed diagonally in the meeting area creating a less formal feel to the seating
arrangement. In many instances the block area or other “big area” work such as giant
puzzles intruded into the meeting area. Children were respectful in their movement
around the meeting area and clustered together more closely on the carpet carefully
avoiding the ongoing projects. In Miss Smith’s room the meeting area adjoins two of the
work tables. Often students “stretched” the boundaries of the meeting area (defined by an
area “rug;” a large fabric panel backed with rug support) by sitting on the edges of tables
or pulling chairs from the table into the meeting area.

All of the teachers demonstrated an interest in lighting. Windows dominated two
of the classrooms. The rooms with an abundance of windows both benefited and were
challenged by the large amount of glass and natural light. Miss Smith planned the
arrangement of furnishings to maximize the flow of natural light into the classroom,
sacrificing some efficiency of space and flexibility to achieve this goal. In general, her
intention of using natural rather than overhead lighting was met. Overhead lights were
needed on overcast days and late in the afternoon as the sun moved to the west side of the building. When students’ felt a need for increased light, they would either moved closer to windows or asked Miss Smith if they could turn on the overhead lights. Another unusual lighting impact was as a result of trucks moving through the alley. These trucks cast sudden, and significant, shadows into the classroom. The abruptness of the lighting change impacted Miss Smith and the students. Even after several weeks in the classroom the shadows disrupted the overall flow and work of the classroom.

Miss Richards’ room presented a unique lighting challenge. The full length of the east wall consisted of a continuous bank of windows. Windows are placed three feet above the floor and extended the full height of the twelve foot ceilings. The windows are visually stunning and act as a focal point in the classroom. Internal tilt shades allow Miss Richards to control the amount of direct light entering the room in the morning but could not diffuse the overall brightness. Additional impacts of the windows included lack of wall space, acoustical challenges, and uneven temperatures on hot and cold days.

The third room, Miss Colleen’s had few windows and those that existed presented unique challenges to allowing natural light to enter the classroom. A dense bamboo forest immediately to the east of the building blocked windows on this side of the building, but created a unique viewing space for the children. Windows to the south looked into the art room that was an addition to the original building. Deep overhangs on the roofline prevented natural light from entering directly into any of the windows. In the hot Florida climate, these overhangs offered benefits in keeping the temperature comfortable and created a respite from the bright sunshine but created challenges in the teacher’s efforts to
utilize variant lighting to establish different tones for varying work times. Miss Colleen was able to partially mitigate this difficulty by adding a variety of light fixtures including table and floor lamps and ornamental light strings. Each of the light sources, including the overhead lights, were turned on and off over the course of the day.

All of the participants articulated intentions related to the balance between the individual and the individual as a member of a community. Each teacher believed in the social construction of knowledge, the importance of collaboration, and concern for others. There was also a clear intention of supporting the child as an individual. Manifestations of these values were apparent in the physical environment of the classroom. Ideals related to socially constructed knowledge and cooperative learning were realized in the use of tables rather than desks, center areas that encourage small groups of children to gather, reading areas that contained two or three small chairs or pillows and baskets of shared materials such as colored pencils and math manipulatives. Having identified the need for children to have private spaces in public learning environments, each teacher had a small area that provide opportunities for individual children to find refuge from the overall activity of the classroom. Initially Miss Richards’ room lacked such an area but in working with a special education consultant, such an area was established to meet the needs of several children. The area was soon utilized by many of the children seeking some quiet or solitude.

Respect for self, others and the environment was a stated intention of each of the teachers. While defined slightly differently by each teacher, common elements emerged. Respect of self and others, an affective intention, is less easily observed than other
dimensions, but was found to be evident in each classroom. Miss Richards’ environment had the most overt demonstration of this intention with multiple displays throughout the room focused on the triad of respect. It was also evidenced in her classroom management techniques and was the basis of a class chant used at the beginning of the each day (and intermittently throughout the day). There were other, more subtle, indicators of the value placed on respect.

The space was immaculately maintained. Miss Colleen and the children returned materials to their designated spot at the end of each activity. Dry erase markers were carefully placed back in a small woven basket, pencil shavings were emptied from tiny porcelain wasabi saucers, and colored pencils and markers re-sorted by color into glass Mason jars. Without the prompt of an adult or a job chart, the children moved to gather the small broom and dustpan, others carefully removed rages from the drying rack and wet them before moving to clean tabletops and chairs. The children often worked cooperatively, sharing cooperatively with one another. An all encompassing value on respect and care for the environment was clearly apparent.

The more overt classroom code of Miss Richards’ room was absent in Miss Smith’s classroom. In fact, the word respect was not visibly displayed in the classroom environment nor was it used in general instructional interactions. Perhaps because her beliefs around the idea of respect are so deeply held and so thoughtfully reflected upon, the application was more difficult to discern and more nuanced once identified. At times, the slightly muddled appearance of the classroom and materials spoke to an environment not quite at the center of the teacher or students attention. But an underlying focus on the
construct of respect was apparent in the thoughtful execution of the physical environment. Tender attention had been paid to the smallest of details related to the individual needs of students. One of the larger work tables had the lower half of the tables legs removed to allow students who found it more difficult to sit in chairs at tables to attend to their work while utilizing more muscle control by kneeling or “perching” at the table. Another subtle indicator of Miss Smith’s respect for the children was presented through the formal nature of lunch. Tablecloths were pulled from a drawer just prior to lunchtime and students quickly emptied tables still covered with work. Cloths were smoothed across tabletops and small vases of fresh flowers or dried grasses were moved to the center of the table. In the Reggio tradition, students and teachers would gather to share their midday meal. This care and attention signaled to the children that this time of coming together was important and special.

Miss Colleen’s room can best be described as “full;” full of materials, full of activities, full of diversity of ideas, and full of purpose. Respect of self, others and environment was a shared value between students, teacher and parents. Respect is viewed as a collaborative goal towards which all are working. The core of respect in Miss Colleen’s room relates to independence and interdependence; a careful balance between autonomy and socially constructed experiences and ideas. Students are seen as individuals who come together in a learning community but who retain their own interests, passions and skills even when engaged in common learning activities. As such, each member of the community has a heightened level of responsibility towards the environment and others in the classroom. In process block structures are left over a
period of days with signs requesting others refrain from moving pieces. Students negotiate with one another for materials and work spaces in the small room. Materials are carefully arranged to allow maximum access by the children. Floor to ceiling shelving provides storage but those materials needed by the children are located on the lowest of the shelves. The children rarely needed to ask Miss Colleen for materials, rather they move independently to gather what is needed, often asking a peer for help with larger pieces. Even the bathroom represents student ownership, respect and responsibility. The small space is painted a beautiful sky blue and surrounding the room is a mural composed of individual drawings combined to create a unified mural. A small sign reads “please respect our art.”

Realized intentions in each setting included group and private spaces, control of lighting and respect. Other intentions required more mitigation or were modified based on elements in each of the physical environments. Miss Richards’ large, long room invites students to run from one end to the other. Noise is both amplified and muted. Noise carries from one end of the room to the other, amplified by the long open space and tile floors, but sound clarity is effected and it is difficult to discern what is being said. Miss Smith’s room often had a “layered” look with projects and work stacked on one space, then moved to another to create spaces students to work. Long term projects had no designated spot and the active learning that occurred in the classroom meant that each area of the room was used on a daily basis leaving no space to establish such an area. While Miss Colleen’s room was the smallest of the three, challenges to the size were mitigated by several factors. Miss Colleen’s class size was relatively small with just nine
children attending on a regular basis. Additionally the vertical storage in the room alleviated the need for pieces of storage furniture that would have taken up valuable floor space. Additionally, the temperate climate allowed for permeable boundaries between the interior and exterior spaces. The sensory table, often a “messy” area in a busy classroom was located just outside the door under an overhang. Students were able to work at the sensory table while still being part of the overall classroom due to the intimacy of the space. Backpacks, lunchboxes, and other personal items were stored outside the classroom on wall-mounted shelves, again eliminating the need for storage fixtures in the room.

Closely related to the size of the classroom was the issue of storage. Each site had significantly different storage situations. Miss Richards’ classroom, which was the largest, also had the most abundant storage. Two closets flanked her classroom, one measuring 6’ x 12’ and the other 10’ x 12’. In addition to the large storage closets, Miss Richards’ room is also characterized by the wood casing storage areas lining the west wall of the classroom. While leaving limited open wall space, there is more than adequate storage without adding additional pieces of furniture or storage containers such as plastic tubs or baskets. This arrangement allows Miss Richards and her students to easily put away and retrieve materials. Additionally, the more traditional curriculum utilized in the program relies less on exploratory learning or projects resulting in fewer pieces that need to be stored or displayed. Ample storage and the curricular approach at the school support Miss Richards environmental intentions of a well maintained, clutter-free environment.
The building housing Miss Colleen’s room has an overhead attic space in which materials are stored. Shortly after joining Grant Academy, Miss Colleen attempted to access this area to store some of the excess classroom materials. After opening the space and finding it “full”, Miss Colleen abandoned this pursuit and has not re-entered the space. The floor to ceiling built in shelves on the east wall constitute the only other available storage space. In addition to this vertical storage, Miss Colleen’s room features a few custom designed pieces such as the low shelving holding student and teacher materials and the block shelf. Additionally, inexpensive commercial storage items such as a five shelf bookshelf, plastic three drawer unit and other assorted pieces help to keep the materials off the tables, yet accessible to the children.

Miss Smith’s room features a limited amount of built in cabinetry in the room and additional cabinetry just outside her doorway. Having come from a setting with extensive in-classroom cabinetry and storage, Miss Smith has struggles to find ways to organize materials. Throughout the study (and throughout the school year) she continued to modify her organizational systems. Her intentions for her students, the care of the environment, and her instructional strategies were often in conflict with the storage options in her room. Seeking an uncluttered, well organized and aesthetically appealing space, Miss Smith feels somewhat burdened by the additional pieces of furniture that she feels she needs to house regularly used materials. After discarding several pieces of furniture prior to the start of the year, Miss Smith remains conflicted by some of the remaining pieces, remarking that they often seem to “magnetically attract” papers, in-process projects and materials that don’t have a designated spot.
In general, the intentions of each teacher are realized in the physical setup of the classroom. Challenges to the realization of teacher intentions include architectural features, environmental conditions, the philosophy of the program, and some which were the result of an internal conflict between beliefs and pragmatic enactment. Of the teachers, Miss Smith is the least content with her ability to either mitigate or accept challenges as deterrents to her ultimate goals.

Miss Colleen expresses a general satisfaction with the match between her intentions as the physical environment. She has clear plans for future developments of the environment such as expanding the overall space and completing the organization and inventory of the materials.

At the onset of Miss Richards’ second year in this classroom, identified the architectural features of the space as having the greatest impact on her intentions and practice. She has chosen to replicate the room arrangement from the previous year. Factors in retaining her original plan rather than modifying the arrangement include a trip that occurred just prior to the beginning of the school year, requiring her to come in early to set up her classroom when other teachers and support staff were not available, her own participation in graduate school (focusing her intellectual energies on issues related to diversity and language acquisition rather than environment), and a desire for stability after two back to back “start up” years.

Each practitioner is self-aware and thoughtful in regards to their physical environment.

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4. *What is the impact of the physical environment on the practice of the teacher?*

Responses to previous research questions focused on the interdependent relationship between the teacher’s philosophical and pedagogical beliefs, the intentions of the teacher, and the establishment of the physical environment of the classroom. A more nuanced understanding of the use of space uncovers a complex interplay among the curricular, instructional, and classroom management domains, the philosophical beliefs of the teacher (or goals of the program) and the physical environment as it impacts the practice of the teacher. This section will draw attention to the ways in which each component positively or negatively was impacted or impacted upon the other(s).

Each teacher had a significant level of autonomy in establishing the physical environment of the classroom. There were minimal requirements established by school administrators or in regards to programmatic expectations. Programmatic or leadership constraints were primarily related to furnishings, materials, and, to a lesser extent, philosophical ideals or traditions. More significant constraints were related to the architectural features and environmental conditions of classroom spaces and included elements of size, functional adequacy, storage, structural and thermal conditions and lighting. Each teacher worked to mitigate the impact of these constraints, exercising control over their environment when possible. It is critical to note that each of the teachers involved in this study had an interest in the physical environment of the classroom and as such were more inclined to seek potential solutions to challenges inherent in the physical environment.
In some cases the impact of the physical environment was relatively minor and involved simple adjustments or compromises by the teacher. These included elements such as inconveniently located electrical outlets, telephone or internet lines, and vertical rather than horizontal storage systems. The impact of these conditions was relatively minor in the overall functioning of the classroom, but created ongoing inconvenience or compromises. In Miss Richards’ classroom, the phone line was incongruously place in the structural brick beam of the outer wall of the classroom. This wall is dominated by windows and faces the doorways, creating an unlikely teacher work area. As such, Miss Richards’ phone is across the room from her work area and directly adjacent to the main teaching area. While phone calls were infrequent, those that did occur during the day created both a distraction to the students and an inconvenience to the adults who were forced to negotiate through learning areas to access the phone and then to stand at a deep windowsill in the meeting area to take calls. Teachers readily identified such problem areas, but, in general, they found them to be low level annoyances or inconveniences rather than elements which directly impacted their educational intentions or goals. It is important to note that theories of developmental and developmentally appropriate practice must be considered when analyzing the impact of the physical environment on the practice of the teacher and the experiences of the students. While inconveniently located internet connections and outlets presented fairly minor challenges in each of the kindergarten classes, this inconvenience is likely to escalate in classrooms serving older students due to increased technology use by students and teachers. Inappropriately sized
furnishings, classrooms without bathrooms, and room size may have a greater or lesser impact on children of varying ages.

Other environmental conditions had a more significant impact on the practice of the teachers. Teachers attempted to mitigate such impacts but were, at best, nominally successful. In each of the classrooms, as in most classrooms, specific instructional features such as chalkboards, whiteboards, and screens were fixed installations. In some cases the fixed installation related specifically to architectural features of the classroom, such as in Miss Richards’ room. The white board was mounted in the small wall space between the in-classroom bathroom door and the exterior wall. Miss Richards’ classroom, replete with windows and built in storage featured limited wall space. Thus determining placement of fixed items. The location of the white board determined, in large part, the placement of the meeting or teaching area. As a result, the area in which Miss Richards did the bulk of her direct instruction was located in a high traffic, active passageway than would be considered ideal for focused instruction and learning. There were few strategies that could ease the impact of this placement. Miss Richards’ philosophy that young children have immediate and direct access to bathroom facilities, fire codes requiring that doors be left open into hallways, and the location of the intercom and light switches at the primary entry of the room, all impacted Miss Richards’ ability to assert control over these environmental conditions. Small mitigations, such as a visual cueing system that alerted the children and teachers to whether or not the bathroom was occupied and lamps located in the circle area made modest improvements.
Both Miss Smith and Miss Colleen had limited built-in storage space and what storage space was available was primarily vertical. The vertical arrangement precluded student access to much of the storage. In both cases, this decreased the level of student independence that both Miss Smith and Miss Colleen sought to establish. In order to assert some control, Miss Smith and Miss Colleen chose to rotate some of the materials, placing some at the level of the children and others in less accessible places and switching them out with some frequency. While this effectively solved the immediate problem of adequate accessible space, it adversely affected the offerings available to the students. Student choice was limited but teachers were able to preserve the goal of student independence and autonomy.

While teachers self-identified the majority of challenges created by the physical environment, some impacts were more “hidden” to the community members. These impacts were revealed through observations and discussed in subsequent conversations with the teachers. Hidden impacts often focused on issues related to classroom management, schedule, and traffic flow.

Classroom management is a multi-layered and complex aspect of teaching. In this study, the physical environment of the classroom impacted classroom management in each of the settings. Miss Richards’ long, narrow classroom presented challenges such as the uninterrupted pathways that ran on either side of the tables. During less structured times, this open space invited her young students to run, or in some cases “slide” (as if into third base) from one end of the room to the other. The length of the room presented both visual and acoustical classroom management challenges. If Miss Richards was
working at one end of the room it was difficult, and at times impossible, for her to see what activities were taking place on the opposite end of the room. It was also challenging for her to clearly hear students and equally difficult for students to attend to her directions.

Miss Colleen’s environment presented problems associated with the opposite end of this spectrum. The small room and close quarters meant that it was challenging for a small group of students to work in an instructional group with their teacher at one table without impacting students working nearby. While Miss Colleen had more visual and auditory control over the entirety of her environment, her ability to have small sub groups working within the classroom created a different type of management challenge. The small size of the room also contributed to management issues related to the construct of private and public. Opportunities to separate from the group were limited. Additionally, the construct of public and private as it related to use of materials and spaces were at issue. A child who wished to begin a large scale piece of art had limited options in terms of moving away from the piece and returning to it later.

Miss Smith’s challenges with classroom management and the physical environment were, in large part, due to her goal of creating a flexible physical environment that would serve the needs of many different kinds of learners. As a result of this goal, Miss Smith’s room had many sub-areas that were intended not only for different educational purposes such as the reading area or block area, but that also differed in manner of use. For example, the primary work tables in the classroom were intentionally at different heights. Students received instruction in how each set of tables
(or area) was to be used, but the majority of the students were unable to apply the metacognitive processes necessary to identify their personal working style. Without the cueing system of routine work areas, many of the students were unable to take full advantage of the purposefully defined flexibility and in some cases were actually distracted by the available choices.

The preceding examples highlight the relationship between the physical environment and the teacher’s practice in the curricular, instructional, and classroom management domains of the classroom environment. Each of these domains was significantly influenced by the philosophical beliefs of the teacher. And, the physical environment of the classroom impacted each in an intricate and symbiotic relationship.

A delicate balance exists between the philosophical and the physical environment and when one element dominated the balance, a chain effect of impact was felt throughout the other domains of the learning environment. In each of the rooms, balance was achieved at times, but there were also times when the mismatch between physical and philosophical created an imbalance causing great satisfaction or great discord.

The physical environment of Miss Richards’ room pays homage to her training in and value for the ideals embodied in the Montessori method and the Reggio Emilia approach. Spare, clean lines were established by furniture placement. Materials were displayed with attention to aesthetic appeal and the value placed on the orderly care of things. Areas for exploration were easily identified by documentation as well as the purposeful placement of furnishings and materials. Labels and charts pay homage to the importance of environmental print. In many ways, Miss Richards’ physical environment
was the purest representation of philosophical beliefs and intentions. And yet, Miss Richards’ room also most clearly captured the discord that can occur between intention and enaction. In this case the discord arose from the tension between programmatic expectations, Miss Richards’ philosophy and training, and the shape and size of the classroom.

Established as a school of choice but under the regular guidelines of the district, the school, like many in this situation, is an example of the internal conflict that is faced by administrators, teachers, students and parents. Focused on creativity, the arts, and integrated learning, the school has a clearly defined mission. In many ways this mission is an excellent match for Miss Richards’ own philosophical beliefs, particularly as they relate to younger children. District requirements related to time spent on content, the specific resources required, expected achievement levels and designated interventions were often in conflict with the mission and goals of the school program and were significantly disparate from the intentions of Miss Richards. The physical environment reflected little compromise from Miss Richards’ beliefs; yet, the curricular and instructional dimensions were marked by necessary compromises in meeting school district requirements. This programmatic tension impacted the overall efficacy of the physical environment and resulted in additional challenges. A minor example of this tension could be found in the posting of two different alphabets, one required by the district, the other selected by teachers at the school. The dueling alphabets were on separate walls, both hung fairly high as a result of the limited wall space. Two alphabet
references which were visually inaccessible limited the overall educational efficacy in terms of instructional use.

More significant conflicts were apparent in the classroom schedule and general room use. Miss Richards’ room was designed for student exploration and a focus on both individual work and small group projects. The center areas were specifically created to support curricular experiences in both the Montessori and Reggio traditions. Significant amounts of room space were devoted to these areas. However, the curricular requirements of the district were such that there was very limited time available for the students to work in these areas. Many of the areas remained “closed” event during center work times because the organization of the materials would consume the limited time available. The full spectrum of options were never available in a single work time. The size of the room was such that the underutilization of space was not problematic, but in a smaller classroom the impact would have been much more significant.

Chapter Four described Miss Colleen’s internal conflict related to simultaneously attending to the current developmental level of her students and preparing them for the next academic steps in the context of the overall school program. Her small classroom created ongoing “forced choice” situations: these included issues related to student selected projects vs. structured science or social studies explorations; pre-selecting leveled books for students vs. a full classroom library; and the subtle messaging associated the placement of the sensory table outside the classroom while more academic materials were prominently placed in the classroom. This particular year, Miss Colleen’s class was relatively small, eight students. The class size allowed Miss Colleen to more
fully realize her philosophical goals for the children. She was able to offer experiences, even in this limited space, such as yoga, gross motor skill development, and student developed projects while still working with individual children on skill development. A larger class size in this small space would likely have impacted her ability to manage the developmentally appropriate exploration and provide opportunities for structured skill development.

The physical environment magnified the programmatic conflict between developmentally appropriate practice of the kindergarten and the more academic environment of the older grades. The preschool and kindergarten classrooms were relatively isolated from the rest of the school program. In many ways, Miss Colleen valued the freedom that accompanied this physical separation, but it did cause a level of professional isolation. In the main building, teachers overlap continuously, moving from classroom to classroom, meeting in the common hallway and sharing spaces. The preschool and prekindergarten are located in the pavilion at the back edge of the property. As such, the teachers had little opportunity to overlap with fellow faculty members and communication was limited to lunch time social interactions and faculty meetings. While the science teacher and art teacher are located in the pavilion, the role of a content specialist and a classroom teacher are quite different. Additionally, both the science room and the art room were added at a later time and the construction design is such that the both rooms are entered from the exterior of the building and do not connect to the two interior rooms (preschool and kindergarten). These physical barriers amplified the pedagogical separation by restricting even casual contact or interaction.
The discord created by a mismatch between environment and intent in Miss Smith’s classroom was subtle but bothered with a discrete persistence. As indicated earlier Miss Smith had been very thoughtful about her approach to establishing her physical environment. She was equally purposeful in her programming decisions and her overall goals for her students. Miss Smith indicated a high value on an organized, well cared for environment, one in which the students respected themselves, one another, and their environment. She also expressed a high value for student exploration, autonomy and decision making. The conflict that developed in Miss Smith’s environment was in balancing these goals within the context of her space. While the room has some built in storage and other pieces of furniture designed for storage, all were filled with materials prior to the arrival of the students. As such, as children created work or began long term projects there was limited space available for special materials, works in progress or displays of student products. These items were placed on work surfaces throughout the classroom impacting the functionality of the classroom. It also created a situation that made it difficult for the children to assume control of the clean up process. Children were unsure what should and could be put away and where. As a result, the children did not develop the level of independence and responsibility for their environment that Miss Smith hoped to instill. As the weeks progressed this became increasingly problematic as Miss Smith often needed to stop the flow of the classroom or an instructional lesson to prepare adequate work spaces for students.

These interruptions impacted the efficiency of the classroom and contributed to the frustration of students and teachers alike. The need to stop and reorganize created lag
time that children with limited self-regulation skills were unable to handle. As a result there were some unintended behavioral issues. Additionally, Miss Smith felt pressed for time in accomplishing her programmatic goals. Like both Miss Colleen and Miss Richards, Miss Smith placed a high value on trying to balance the academic demands of kindergarten programs with more project based and exploratory experiences. The minutes of lost time throughout the day accumulated to a point where Miss Smith was forced to begin to compromise on some of her goals. The first compromise was a dramatically reduced clean up time at the end of the day. Originally, in the Reggio tradition, Miss Smith intended to offer a lengthy clean up time to encourage the care of things and responsibility to the community. The elimination of this focused quiet tradition was discouraging for Miss Smith and she expressed pedagogical and aesthetic dissatisfaction.

The very nature of space impacts individuals. Many individuals plan their space with their own needs in mind. They arrange their offices in such a way that supports work habits, alleviates areas of weakness and matches their sense of aesthetics. Some must adapt to an established environment but put a “personal mark” on it through the addition of a photo, small mementos or custom screen saver. Some struggle to settle into the work of the day before their desk is clear. Some carefully optimize natural light because the glare or buzz of overhead lighting is distracting. Others appear to have little concern for their surroundings but immediately fill the space with their presence.

The classroom teacher, particularly at the kindergarten level, has significant freedom in establishing her or his environment. But these teachers are not planning a work environment for themselves; they are planning an environment that will be an
effective, welcoming environment for many unique individuals. This environmental plan must consider the developmental needs of the students, the philosophical tenets and educational goals of the program as well as the personal beliefs and dispositions of the teacher. And this must be done in a space that is likely to have features that support and detract from these goals. Just as the teacher attempts to exert control over the environment, the environment exerts control over the teacher in a complex and intricate interplay.

5. *What is the significance of examining the relationship between the physical environment of the classroom and the teacher’s values and intentions?*

*Implications for Education*

“The classroom environment is such a potent determinant of student outcomes that it should not be ignored by those wishing to improve the effectiveness of schools” (Fraser, 1986, p. 117). Education continues to be transformed by issues such as student demographics, reform movements, and technology. Yet a thorough understanding of the physical plant of the school and individual classrooms remains neglected. The majority of currently occupied schools throughout the United States were built in the 1950’s (NCEF - Data & Statistics.) While these schools may have been renovated or retrofitted, they have not been reconceptualized. The design reflects the educational goal of providing a broad based experience to large numbers of students in preparation for an active participation in
society as conceived during the Industrial Revolution and again in a post World War II economy, not the 21st century.

As such it is critical for those involved in education to have a more comprehensive understanding of the way in which the physical environment is designed, implemented and modified. Understanding educational settings is a complex undertaking; the role of one dimension of a school or classroom requires a thorough understanding of the goals of the setting, the overall context of that which is being studied and the intentions of those involved (Eisner, 1985). Qualitative study in general, and educational criticism in particular, is concerned with supporting the growth of education. Eisner asserts that it is important to understand how teachers and classrooms function before making recommendations for change or improvement (Eisner, 1994). Thus the significance of examining the relationship between the physical environment of the classroom and the teacher’s values and intentions is intimately connected to the desire to promote growth in our understanding and use of educational spaces. Learning more about specific teachers and specific classrooms contributes to a more global or generalized understanding of the establishment and use of the physical environment of classrooms.

As described in the responses to the previous research questions, the background and personal and professional experiences of teachers contributed to their values and intentions in regards to the establishment of the physical environment of the classroom. Each of the teachers expressed interest in the physical environment. Miss Richards and Miss Colleen participated in alternative teacher training and licensing programs attached to specific philosophical traditions and which included content related to the
establishment of the physical environment of the classroom. Miss Smith who pursued teaching through a traditional undergraduate teacher preparation program had no direct education, training or mentoring in arranging the physical environment of the classroom.

Current coursework in many teacher education programs contains limited content related to the physical environment. Still fewer explore the connection between curricular and pedagogical goals and the environment. Specialized training such as Montessori, Waldorf, Reggio or High Scopes school focuses specifically on the physical environment as a critical component of the educational approach. Novice teachers rely on master teachers, inspiration from sources such as Pinterest, “first year in teaching” books, and general building guidelines or requirements.

Teachers find themselves in settings of varied architecture, differing features and specific programmatic goals. Without a thorough understanding of the complexities of the interaction of physical environment and teacher intentions, it is difficult for instructional leaders to maximize the effectiveness of the physical environment.

This study suggests that teacher preparation programs and post training opportunities should focus specifically on the examination of intent (self-reflection and understanding), a nuanced understanding of programmatic components (ecology of schooling), the impact of architectural elements, and environmental psychology. Such preparation and training should focus not only on the establishment of the physical environment, but also on the examination of efficacy and subsequent mitigation of challenges or dysfunctions.
The physical environment can support or hinder the teacher’s intentions or curricular goals. Likewise, the teacher’s intentions can impact the development of the physical environment of the classroom. Thoughtful discovery of the intersections of teacher intention, school structure, pedagogy, (Eisner, 1998) aesthetics, (Uhrmacher & Matthews, 2005), pragmatics, developmental and inspirationals (Exley & Exley, 2007) provides an opportunity to create purposeful environments. Teachers and schools dedicated to programming that supports the development of creativity, must carefully consider in what ways the physical environment must be constructed to best support this aim. Science and technology schools will likely have differing needs as will schools devoted to Socratic seminars. In Bunn’s study Bridging Policy and Education: How Elementary Students are impacted by Reform Efforts, she found that the current “system of choice allow(ed) for the creation of schools that meet different proclivities and interests” (2009). These schools of choice were diverse in terms of philosophy, programmatic goals, implementation, discipline policies, documentation of learning, leadership and faculty. Yet these varied programs were housed in very similar buildings. This study suggests the intentions of teachers, school philosophy and programming goals should be considered in order to effectively fulfill the mission of such programs.

Individual schools must examine their mission and goals in relation to their physical plant and develop a shared community vision of how space is defined, used and realized. Implementation and reflection on such visioning are as important as curriculum, instruction and assessment and should be a part of ongoing faculty education and discussion. Short and long term plans related to the physical environment should be
developed as part of the strategic plans of these schools and attention should be paid to specific programmatic considerations.

The physical environment has the potential for significant impact on the experiences of students and teachers and yet the importance of the environment is often minimalized. This study attempts to call attention to this important dimension of Eisner’s ecology of a school (Eisner, 1998).

Implications for Cross Discipline Exploration

While there is much to suggest that it is important for teachers to have increased access to information related to the physical environment, it is also important to consider implications beyond the teacher. This study, and a comprehensive review of the literature, revealed a need for a cross disciplined approach to an understanding of the physical environment of schools and classrooms.

At the school level, it is critical that school administrators have a comprehensive understanding of the potential impact of the physical environment. Teachers need supportive, critical feedback from supervisors and colleagues in understanding the efficacy and impact of the physical environment on their practice and the experiences of the students. This necessitates training at the supervisory level and inclusion of the physical environment in observation and evaluation tools. Additionally, school administrators responsible for budgetary decisions and furniture and materials acquisition need to become familiar with issues related to developmentalism, ergonomics, intended use, storage needs, instructional strategies, and potential groupings.
School planners and architects need more comprehensive information related to space use in educational environments. Mechanistic issues such as heating and cooling, ventilation, acoustics, safety and lighting can have profound impacts on the functioning of schools at the classroom and student level.

Aesthetics, community spirit, comfort & happiness, individuality and “groupness,” elements of nature, attention to special needs, and realization of potential are all elements of human values that not only must be considered, but must be considered as they apply to students of various ages and as they relate to programmatic goals (Rydeen, 2005).

Finally functionality must be considered. Functionality is considered a core design element. In home design, issues such as family structure and lifestyle are considered. Small kitchens with separate dining rooms gave way to open area kitchens and great rooms in the early 1980’s. This change reflected the societal change of women entering and remaining in the work force. The family tradition of coming together for a meal prepared by a stay at home mother was transformed. Meal preparation became part of family time as women simultaneously cooked, and supervised homework or playtime (CBS Sunday Morning, Kitchen Islands, http://www.cbsnews.com/video/watch/?id=7409112n&tag=mncol;lst;1). Multiple research studies on family structures and systems contribute to the body of work that informs such architectural trends. Yet, a similar body of knowledge as it relates to education is missing. Teaching, teachers, and students have changed, just as the family system has changed. Understanding the teacher’s intentions is a critical component to
creating functional school and classroom environments. Functionality in schools must conform to the most enlightened ideas of intended use to maximize the positive impacts of the educational environment.

This research suggests a need to look beyond school settings and educational experts for ideas on design, arrangement, and use (Duke, 1998; Hopkins, 1993). It suggests the need to bring together educational theorists, school reform advocates, environmental psychologists, school planners, architects, designers, school administrators and teachers. This cross-disciplinary examination of issues will contribute to a more comprehensive understanding of the complexities of the physical environment of schools and classrooms and will support the common goal of educational improvement.

This study provides an initial data point in such an endeavor by carefully examining the experiences of the teacher within the context of the classroom environment.

Further Research

The themes that emerged through the examination of teacher beliefs, intentions and the physical environment of the classroom are significant to the multiple stakeholders; school planners and architects, district and school level administrators, those involved in teacher preparation, classroom teachers, and classroom intervention specialists. Educators interested in specific educational approaches with a focus on the physical environment such as the Montessori method, the Waldorf approach, Reggio Emilia schools and High Scopes or those involved in start up initiatives for new schools
may be particularly interested in interplay and implementation between belief, intention and physical environment. This study revealed areas for additional research.

In general, early childhood educators have more flexibility in creating personalized classroom environments. Developmentalism is a necessary consideration in the establishment of the physical environment of the classroom. Studies on classrooms of older elementary students are important in creating a more comprehensive understanding of the issues introduced in this study.

While this study focused primarily on the classroom, in some settings the construct of “classroom” was permeable. In the settings examined in this study, the permeability was a result of both programmatic design and climate. Earlier pilot studies related to the observation guide also revealed the need to examine the role of geography. Schools in the remote northern areas of Alaska face issues related to climate, availability of materials, lighting, and access. Schools located in Hawaii, Florida or other warm weather coastal areas have different challenges and advantages. In addition to physical geography, socio-economic geography should be considered. Urban, “building locked” schools and remaining one room schools in isolated rural areas have different environment concerns, needs and advantages. Research in these areas would further contribute to the understanding of diversity in environment and would support the development of more comprehensive pre and post service training for teachers related to creating optimal environments.

With the advancement of the school choice movement, school officials and teachers are involved in creating schools in varied spaces, some designed specifically for
the program, others in adopted spaces such as former grocery stores or churches.

Additional research that would help to define and describe ideal environments for specific kinds of programming and teaching philosophies would support innovative reform. Research that illuminates the comprehensive scope of establishing new school environments in support of specific programmatic missions and goals would be helpful for those involved in the development and implementation of new schools.

Students are important stakeholders in this process. More information is needed related to student experiences with the physical environment of the classroom. Such research should explore issues related to maximizing learning opportunities, identifying ideal environmental learning conditions, examining the relationship between environment and academic outcomes, and considering the impact of the environment and environmental modifications on special needs students.

**Closing Comments**

This study has described three different classrooms in detail. Each of the teacher participants represents a unique personal background and philosophical ideals. The physical environments of classrooms vary widely. Limited attention has been paid to the interface between the physical environment and intentions. While just an initial step in the focus on the physical environment, it is step forward in developing an understanding of the importance of the environment to teachers and students.
A more cohesive contextual understanding of the impact of the physical environment is needed. As schools begin new renovation projects or new buildings are designed, it is important to bring together multiple disciplines to inform the decision making process. The review of the literature for this study indicated a lack of cross-discipline research and coordination of efforts in school planning and design. This study provides information related to the teacher’s role in the establishment of the physical environment.
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APPENDIX A

Interview Guide

The following interview guide served as an outline for topics of conversation during the two formal interviews with each teacher participant. Sub-questions listed under each question may be used to prompt further discussion or to clarify issues raised in the teacher participant’s responses. Instrument developed by the researcher.

Interview One

1. Please share with me how you came to be a teacher.
   a. How did you become involved in education?
   b. Do you think your own school experiences impacted your interest in teaching? Your beliefs about teaching?

2. How long have you been in your current setting?
   a. Can you talk a little bit about other settings that you have worked in?

3. What brought you to this setting?

4. What are the basic philosophical tenets of the program?

5. What is your personal educational philosophy?
   a. Are there major educational philosophers or theories that you feel most connected to?
   b. Can you describe your ideal educational setting?
   c. Has your personal educational philosophy changed over the years?
      (why/how)
d. Do you believe your personal educational philosophy impacts your practice? In what ways?

6. How would you describe your overall instructional style?
   a. How do you think others would describe your instructional style?

7. What are your intentions for the children in your room?

*Interview Two*

8. What are your general beliefs about the physical environment of the classroom?
   a. Do you believe that the physical environment of the classroom has an impact on your students? On you or your practice?

9. Would you talk a little bit about how you arrange your classroom for the school year?
   a. What is your process for deciding how to arrange your classroom?
   b. What do you consider in preparing your space?
   c. What criteria do you use for decision making in the set up of your classroom?
   d. Does the arrangement of your classroom change during the course of the year?
   e. Does the arrangement of your classroom vary from year to year?
   f. In what ways is your room arrangement similar to or different from others in your setting?
   g. What do you find most challenging about your current classroom environment?
h. What elements in your current physical environment are most rewarding or satisfying?

10. How much autonomy do you feel that you have in the arrangement of your classroom?
   a. What influence does your school district have on the arrangement of your classroom?
   b. What influence does the administrative team at your school have on the arrangement of your classroom?
   c. What other factors impact your autonomy in the arrangement of your classroom?

11. How do you feel your current physical environment works for you? for your students?
   a. What purposes does your room arrangement need to meet to serve for you? your students?
   b. Does your physical environment support your educational philosophy or detract from it?
   c. Can you describe your ideal physical environment? Do you have examples of things that you would like to see in your own physical environment?

12. Do you have other information or ideas that you would like to share or that we should focus on at another time?
APPENDIX B

Observation Guide

This researcher developed outline served as a guide for my observations. It is not intended to be comprehensive and is purposefully open-ended to allow for themes to emerge throughout observation periods.

Bricks and Mortar

What are the fixed architectural elements of the classroom?

What is the size of the classroom? (Number of students served? Square feet per child?)

What materials have been utilized in the structure of the room?

Environmental Quality

What types of lighting/lighting arrangements are found in the space?

What are the thermal conditions of the classroom?

What acoustical conditions are found in the classroom?

What color arrangements are found in the classroom?

How is the square footage in the room utilized? (functionality)

Is there evidence of safety considerations in the environment of the classroom?

Furnishings and Materials

How are the furnishings used/arranged in the classroom?

Are furnishings fixed or mobile? If mobile, what level of effort is needed to move them?
How are materials organized?

**Use**

How is the room utilized by children/teachers over the course of a typical day?

Who else uses the room? How is the room used by these individuals/groups?

How is the room organized for use? (zones?)

What are the typical traffic patterns in the classroom over the course of a day?

What special uses/needs are accommodated within the classroom?

How are curriculum/instruction served/misserved by the physical set up of the classroom?

**Aesthetics**

In what ways does the classroom environment provide sensorial input? What types of sensorial input are teachers and students exposed to?

In what ways does the environment contribute to the aesthetic experiences of the inhabitants?

*connections

*risk-taking

*imagination

*perceptivity

*active engagement
Communication

In what ways does the space communicate the values of the teacher?

In what ways does the space communicate the values of the school?

How does the room arrangement communicate about the teachers views/values related to the child?

How does the room serve as support/detractor of interpersonal relationships between inhabitants?

Challenges

Are there elements in the classroom that present challenges in the development of curriculum and delivery of instruction for the teacher?

Are there elements in the classroom that present challenges for the students?

In what ways have teachers/students come to accommodate environmental challenges?
APPENDIX C

Informed Consent Form

I, ________________________________, have been invited to participate in a study of teacher intentions in establishing the physical environment of primary level classrooms. I understand that the information I provide Shannon Jones will be used in her dissertation research and that this study will be supervised by Dr. Bruce Uhrmacher, Morgridge College of Education, University of Denver. My participation in this study is entirely voluntary, and I am free to withdraw my consent and participation at any time. Refusal to participate will involve no penalty. Also, my name or personal identity will not be revealed in any written documents or oral presentations. Every effort will be made to ensure that the information that I share will remain confidential. My name will not be used in the dissertation and all identifying information will be deleted or changed in order to protect my identity.