USING THE PHYSICAL CLASSROOM ENVIRONMENT AS A TOOL FOR LEARNING: A CASE STUDY

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

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DEDICATION

For Steven.

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I would like to thank Professor Benyamin Schwarz, for holding the bar high. He guided me as I achieved my goal. He gave me the sense that my contribution to environment-behavior studies and design mattered, and I hope to justify his confidence in me by continuing to contribute.

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ACADEMIC ABSTRACT

Literacy has been identified as the main goal of K-12 education in the United States today, for its value to individuals and to society. Balanced literacy and related methods are pedagogically based on the constructivist premise that intrinsically motivated and strategic literacy arises from personal engagement by the reader-writer with the material. To this end, the elementary-level classroom may be viewed as a setting that is designed by professional teachers to provide opportunities for engagement in the activities of literacy. Today, public school districts and teachers are held accountable for students' learning outcomes. Teachers' understanding of the effect of the physical environment on learning is critical. However, environment-behavior research and evidence-based design with regard to educational settings is not ordinarily part of teacher education, and is unlikely to be a factor when districts undergo strategic planning processes to improve outcomes.

Constructivist classrooms are intended to be child-centered, yet teachers' sense of self-efficacy and place-identity is as tied to the physical environment as is that of the students, but often ignored. School districts that do not factor environment-behavior research on the transaction between people and the physical classroom as they attempt to implement curricular change may be omitting a necessary element of success. This qualitative study examined the relationship between the physical classroom and literacy through a critical case study conducted in a public elementary school, located in the United States and found that the physical classroom affects the practice and outcomes of literacy education and learning would be enhanced by the purposeful design of the environment to support constructivist pedagogy and engagement with the material of reading and writing.

Keywords: design, classroom, literacy, physical, environment, evidence-based, research, setting, purposeful, education, elementary, engagement, identity, autonomy, constructivism

It is not what you look at that matters, it is what you see.

-Henry David Thoreau

INTRODUCTION

As a former Montessori teacher, an interior designer and student of the built environment, researcher, and as a parent, I have long been fascinated by how the design of the physical classroom might affect learning. I am well acquainted with the attention paid by designers to healthcare settings and designing of healing environments, and of "healthy" office buildings, and "smart" homes. Unlike healthcare settings, however, educational interior environments have seemingly eluded change based on research findings.

The classrooms of the schools that my children attended were clean, but dingy and cluttered. The furniture was garish and in some cases, ancient. Fluorescent lighting created a harsh glare, while the windows to the outside were often covered by the shades or student projects. Personally, I found these rooms to be ugly, hard, and enervating. At the same time, I found that the teachers and their students identified themselves as, "Mrs. X's room" – not her students, but her "room." Although common areas of the school, such as the auditorium, might change, each classroom was the domain of the individual teacher assigned.

As a parent, I became aware of a recent constructivism-based literacy approach described as "balanced literacy," in which teachers employ multiple methods and use the physical setting in specific ways to teach children to read and write well. I began to want to know more about the role played by the physical classroom setting in how students became literate. As an

environment-behavior researcher, I came to ask, "How does the physical setting enhance or hinder the teaching and learning of reading and writing?"

People and their physical settings

Diverse disciplines, including education, geography, anthropology, design, biology, developmental psychology, and cognitive psychology, are concerned with how human beings interact with, are affected by, and how they themselves affect the physical environments that they inhabit, use, and pass through. Proshansky, an environmental psychologist, concluded that social scientists assume that, "…through personal attachment to geographically locatable places, a person acquires a sense of belonging and purpose which give meaning to his or her life" (1983, p.60). Low and Altman (1992) define "place" as space which has been given meaning through personal, group, or cultural processes (p.5). Proshansky (1983) states that objectively real, "physical" settings are inextricably tied to their social and cultural aspects, as expressed by valued activities, interpersonal relationships, and individual and group role functions (p.64). Proshansky concluded from his research that there is no physical environment which is not also a social environment (p.64). This viewpoint may be applied to both the adults and children in classroom environments.

Defining "environment"

A key problem of research into child environments has been how to measure environmental attributes. The term "environment" although widely used across many disciplines, is itself ambiguous. What is meant by "environment"? Is it the psycho-social environment? Is it the character of the learning community? Is it the physical setting? The ambiguity of category definitions has led to conflicting and inconclusive findings in many cases

(Heft & Wohlwill, 1991b, p.282). For the purpose of this study, the "classroom environment" was operationally defined as the physical classroom setting and its physical components.

Background

School districts and municipalities around the country are under pressure from the U. S. Department of Education to justify with solid research-based evidence of effectiveness the use of federal funding to underwrite new educational programs. This is a requirement of the No Child Left Behind Act (NCLB) of 2001 recently reauthorized by the United States Congress. Evidence "…means research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs" (Whitehurst, 2004). The U. S. Department of Education website states that evidence of effectiveness is considered strongest when collected through quantitative, large-scale, randomized trials, which match the traditional description of "scientific" research (2010). Educational approaches based on knowledge gained through experience or anecdotes are not considered to have met the highest standards of scientific evidence. At the time of this research the school district in which this study was conducted was 15-months along in the implementation of an evidence-based approach to literacy education, which included extensive professional development and assertive direction by the district administration to building principals and teachers (Appendix A) regarding professionalism and accountability (CSD, 2008).

Teachers today undergo years of training in educational methods, curriculum, and classroom management, including attainment of undergraduate, graduate, and post-graduate specialist degrees and certifications, in order to work in a U.S. public school system; in any one of the 50 states or the District of Columbia, a teacher is required to be licensed (U.S. Bureau of Labor Statistics, http://www.bls.gov/oco/ocos318.htm). Licensure is granted by the State Board

of Education or an advisory committee; teachers in all 50 states must hold a bachelor's degree, and have completed an approved teacher training program in specific kind and number of credits. All 50 states also require a period of student teaching, also known as "supervised practice teaching" (U.S. Bureau of Labor Statistics, http://www.bls.gov/oco/ocos318.htm). They are required to undertake career-long professional development to maintain their licensure, honing their skills and keeping abreast of current research, technology, and teaching methods. They are motivated both by employer expectations and requirements, and by the desire for professional growth and advancement. The common definition of teaching implies that teachers are committed to helping children succeed academically and socially. In addition to relying on professional development, teachers strive to learn from their personal experiences in and out of the classroom setting, and from their peers and colleagues.

Although highly educated in their undergraduate or graduate education in educational theory and methods, teachers receive little formal training in understanding the role that the physical setting and its attributes may play in supporting their work and the learning of the students. Student teachers may learn that furniture arrangements, for example, are related to a specific philosophy or approach, but they are not directed to, and learn nothing of, the relevant environment and behavior research on purposeful settings for children. Lackney (2008) makes reference to this in his description of an action research project he conducted with elementary school teachers to investigate and increase their environmental competency and awareness of using the physical learning setting to support instruction. Yet, teachers are required by district administrators, and by their sense of dedication, to implement educational methods that require a skilled use of the physical environment to create educational settings that facilitate children's personal engagement with educational materials, and their learning.

There is a historical dimension to the hierarchical roles played by school teachers, school district administrators, and school boards. The systematization of public education in the United States dates to just over 100 years ago (Tyack, 1974, pp. 40-41). During the earliest days of the republic, schooling was locally decided, usually overseen by informally organized groups of parents who decided to hire a teacher for a variable length of time (Tyack, 1974, p.15). Teachers might or might not have formal education or training, but most had only a high school education (Kaestle, 1983, p.20). The Common-School Reform program, which originated in Pennsylvania in the early 19th century, marked the beginning of state control of free public education for all children (Kaestle, 1983, p.104-105). Women were paid less than male teachers, and teaching became one of the few "respectable" professions open to them, whereby they might achieve self-sufficiency (Kaestle, 1983, pp124-127; Tyack, 1974, p.126-197). At the turn of the 20th century, during the height of the progressive and reform movements in education and galvanized by the growth of cities and urban areas, leading educators called for the systematization of schooling. Until that point, there was no consistent order to the creation of classes, size of classes, textbooks, curriculum, or the credentialing or responsibilities of teachers. The reform movement led to the creation of school districts that centralized decision-making regarding the curriculum and hiring of teachers; creation of grades based on age and knowledge; and standardization of curriculum (Tyack, 1974, pp.126-197). Kaestle (1983) writes that in the earliest days of the common-school movement it was thought that women were unable by their nature to teach higher subjects (p. 123). He quotes the Connecticut Board of Education, which wrote in 1840, that "Heaven has plainly appointed females as the natural instructors of young children, and endowed them with those qualities of mind and disposition, which pre-eminently fit them for such a task" (p. 123). The era of common-school reform may mark the moment in which the

idea of creating a classroom environment that was home-like in character became part of formal teacher training and when it became educational policy to give over the education of younger children to women teachers. It was thought that women teachers for the early school years would be more motherly (Kaestle, 1983, p.220).

Systematization of public education in the 19th century created the entities of the school superintendent and the school board, whose roles and powers were often debated (Tyack, 1974). This debate still rages today: in essence, the struggle for power over curriculum, hiring of teachers, and budget between school boards and superintendents hinges on the idea of who is the expert; who should decide what is taught, how it is taught, and who should teach it (Kaestle, 1983, p.219).

The students' perspective on the classroom environment

Students are generally unaware of the sophisticated pedagogical methods that form the underpinnings of their education. They are, however, acutely perceptive about their physical environment, e.g., their classroom. Students are able to articulate their opinions on what types of furniture layouts work and which cause disruption, and which places, arrangements, and pieces of furniture they like, and those that they dislike—and they can provide reasons for their opinions. Like their teachers, students understand that they are in school to learn and be taught, and they want to be engaged in their learning activities. However, even the youngest are aware of and able to describe how the physical environment helps and hinders their engagement in learning.

Teacher accountability for student learning outcomes

A major factor at play in today's educational settings is the increased scrutiny and accountability of teachers for student outcomes. As stated earlier, the federal government

through the NCLB (2001) requires as a condition for funding that school districts show proof of teacher effectiveness in implementing an evidence-based curriculum. National frameworks, evaluative instruments, and procedures have been developed by ASCD (Association for Supervision and Curriculum Development**)**, the College Board, Educational Testing Service, the California Commission on Teacher Credentialing, and the National Board for Professional Teaching Standards. Teachers prove their effectiveness in the classroom through the test results of their students, and by demonstrating under observation, how capable they are in preparing and implementing a curriculum and managing a classroom.

As school districts respond to the NCLB requirements upon which their federal funding depend, a critical piece of the evaluation of teaching effectiveness is the creation and use of a published rubric, or set of comprehensive criteria that covers all aspects of teaching, and is broad enough to apply to a wide range of instructional settings. School administrators evaluate teachers by comparing an individual to the rubric; the same rubric serves individual teachers as a guide in understanding what is expected of them as professionals. Implicit in the application of an evaluative rubric is the pressure on teachers to meet a standard in order to retain their employment and/or to progress. One of the most widely accepted rubrics for professional educators is Danielson's "Enhancing Professional Practice: A Framework for Teaching" (2007), which is grounded in the constructivist approach and which has been widely accepted.

Constructivism

Constructivism as a theory of knowledge and cognition growing from the work of Dewey, Piaget, and Vygotsky, and is considered to be the most efficacious educational approach by leading educators (Danielson, 2007, p. 15). Modern learning theory has been dominated in the last 25 years by constructivism, which forms the basis for literacy methods such as whole

language, Writer's Workshop, and other related balanced literacy approaches. Constructivism posits that people create knowledge by constructing it, both individually as well as socially, rather than by absorbing it (Ormrod, 2004, p. 180). Danielson (2007) writes that a person's understanding of a concept depends completely on his experience in deriving that concept for himself; i.e., "it is the learner who does the learning" (p. 15) and that it is a teacher's job to guide the students as they create their knowledge (p. 16). It is the antithesis of a more traditional educational model, in which a teacher solely makes presentations of lessons, and then assigns questions or worksheets. Teachers in constructivist classrooms focus on creating activities and assignments that engage students in constructing knowledge (Danielson, 2007, pp. 15-17).

Constructivism is widely accepted, and its acceptance is growing, largely because of the tremendous influence of Teachers College Columbia University, which has been a major proponent of constructivist education and which has long been a leader in education research and reform. The state of Idaho, for example, adopted the Danielson framework as the statewide foundation for teacher evaluation, describing the rubric as a research-based foundation for teacher evaluation and the basis of an "objective, reliable, valid and transparent evaluation process" that each school district was directed to implement (Idaho State Department of Education website, accessed 8/12/10).

Constructivist learning theory, the concept of "flow," and balanced literacy

Constructivist learning theory is based in part on the idea that the most meaningful and long-lasting learning occurs when a person is fully engaged in a given activity. With regard to literacy, methods such as whole language or balanced literacy use the concept of "personal engagement" as a requisite to intrinsically motivated, engaged, literate children who will retain a life-long love of reading and writing (Guthrie et al, 1996, p.309). Guthrie describes reading

engagement as the "joint functioning of motivations and strategies during reading, in which engaged readers read for a variety of purposes, choose a range of literacy activities for aesthetic enjoyment, and comprehend the materials within the context of the situation" (p.309).

Csikszentmihalyi theorized that intrinsic motivation is stimulated when a person experiences "flow," or the sense of satisfaction that comes from full involvement with an activity (1988, p.8). In the case of literacy education, the goal is to foster within children an intrinsic motivation to read, where the activities of literacy would be rewarding in and of themselves, or, *autotelic*, to use a word applied by Csikszentmihalyi, to the flow experience (1988, p.8).

A description of the balanced literacy method

Balanced literacy as a method of teaching reading and writing was developed by educators Irene Fountas and Gay Su Pinnell (1996), based on previous teaching approaches such as the open classroom and "whole-language" methods. Balanced literacy has been adopted across the United States by many school districts and major school systems, including that of New York City (NYC Department of Education, 2007). According to Fountas and Pinnell, the purpose of a balanced literacy approach is to enable children to become independent readers, while participating in socially supported activity (1996). The teacher's role is to observe the individual children closely as they work, foster independent learning and self-directed literacy, and to carefully provide books and literacy activities of an appropriate level for each child. Programs such as "Reading Recovery," "The Responsive Classroom," and reader's and writer's workshop are similar in approach to balanced literacy. While the underlying epistemology of all is constructivism, where it is defined as, "the meaning-making activity of the individual mind" (Crotty, 2005), but it is clear that *social* constructivism is epistemologically fundamental to these approaches. The child, through increasingly challenging individual and group literacy activities,

constructs meaning and builds both an expanded view of the world, as well as constructs a view of the self as a capable, self-directed, and independent reader and writer; in other words, as a literate person. Particularly relevant is that balanced literacy requires teachers to create visually and physically discrete areas within their classrooms to support specific guided literacy activities (Fountas and Pinnell, 1996).

For the teacher with a relatively traditional program in a conventional, four-walled classroom, arranging the physical environment is usually a simple process: the students' desks are arranged in rows, a horseshoe, or perhaps clusters of four, while the teacher's desk is positioned in the front of the room near the blackboard (Weinstein, 1979). For the teacher who must set up a physical classroom to support balanced literacy, the task is more complicated, because the number and type of different areas and furniture arrangements are more complex. Districts such as the one in which the case study was undertaken provide professional development opportunities to educate their teaching staff in constructivist methods (of which balanced literacy is one) and other topics related to teaching; demonstration classrooms for visiting and observation; the opportunity to attend conferences; “how-to” books by educators that purport to illustrate exemplary classrooms; and guidance by local district administrators, such as learning facilitators, trainers, and principals. The books which direct teachers in how to organize and arrange a classroom for balanced literacy include many written by those who are teachers themselves, such as Debbie Diller (2008), and include chapters on such mundane, but seemingly critical, things as resources for plastic bins, label machines, and storage systems.

Public policy on physical learning environments

As noted by Mark Schneider of the National Clearinghouse for Education (2002), one problem has been that while existing studies on school building quality point to improved student

behavior and better teaching in higher-quality facilities, firmer policy advice about the types of capital investments that would be most conducive to learning and to good teaching is still needed. To enforce the intent of the No Child Left Behind Act (NCLB, 2001), the U. S. Department of Education began to require school districts to use evidence-based educational approaches as they implement educational initiatives. Whitehurst, speaking for the U. S. Department of Education, states that the same requirement is applied to school construction, wherein "evidence-based design" is the criterion for receiving federal funds. An article in Education Week points out that the American Recovery and Reinvestment Act of 2009 contains provisions for the distribution of funds to states for education (2010). In order to receive funds, states or school districts are required to demonstrate plans for progress in four areas, including creating effective, high-quality teachers, improving technology, implementing standards and tests, and "turning around" low-performing schools (McNeil, 2010, p.3). A demonstrable connection between improved literacy outcomes and the physical classroom setting would be able to significantly inform policy advice regarding federally-funded school design and construction.

Purpose of the Study

My purpose in this study was to identify the ways in which teachers and students in a single suburban elementary school used the existing physical classroom environments as balanced literacy was practiced. I wanted to understand how the physical classroom environment might hinder or support the attainment of personal engagement, which is a critical, fundamental goal of the balanced literacy approach. A classroom filled with changing people, examined over time and seasons and times of day, is incredibly complex – too complex to be understood through a "snapshot" investigation. My goal was to create a deeper and fuller

understanding of the quality of the experience of working and learning in a typical classroom: on the teachers' part, how it felt to try to create an atmosphere of learning; and for the children, to learn which were the elements of the classroom that helped a student achieve engagement and concentration on one's work. And, with regard to both teachers and students, I wanted to understand what they thought would be the very best setting for teaching and learning the critical skills of reading and writing. Therefore, I asked the following research questions:

How do teachers use the physical environment as they implement balanced literacy?

How do students perceive the physical classroom setting with specific regard to how they learn and practice reading and writing?

Summary

School districts, such as that of the case study school, are motivated to implement educational and physical changes in order to improve student outcomes and receive federal funds. Districts receiving federal funding are required to show that the changes they choose to implement are based on evidence of effectiveness which has resulted from rigorous scientific study. The value of such changes as seen in improved student achievement must be assessed and verified to government auditors. Teachers are often measured by their supervisors against an assessment rubric that includes specific physical elements and evidence of educational strategies that must be present when a teacher implements a balanced literacy approach. Teachers are measured in part by the visible appearance of the physical classroom settings that they create and manage.

As a result of the increased governmental pressure to both produce higher outcomes and verify success through standardized testing and the use of other assessment rubrics, educators and educational systems are coming to recognize the importance of the physical setting as one

element in meeting educational goals. In addition to understanding relevant learning theories, teachers and school administrators need to be familiar with the extant environment and behavior research – research that can guide them in creating physical settings to support and positively affect literacy outcomes. As Weinstein has written (1979, p.599), for too long school design has been focused on the creation of classrooms that are flexible, attractive, and humane, whereas the focus should be on creating attractive and humane classrooms that are primarily and fundamentally viewed as tools for teaching and learning.

CHAPTER ONE: CONCEPTUAL FRAMEWORK

Substantial research has been specifically conducted on the topic of purposeful environments for children and the effect of the environment on their scholastic achievement. However, there is a significant gap in research concerning the relationship between physical environment and *literacy* teaching, learning, or outcomes, and therefore, there is a gap in the knowledge of how children become literate. The National Assessment of Educational Progress (NAEP) states, "As the key that allows access to many forms of knowledge and information, reading literacy is a skill critical to learning" (Lee, Griggs, & Donahue, 2007, p.4). Through NAEP, the U.S. Department of Education specifically notes that its reading assessment, "The Nation's Report Card," is carefully tied to expert opinions and perspectives about reading comprehension and measurement (Donahue et al, 2001, p. 18). The definition of literacy used by the National Literacy Act of 1991 is, *"an individual's ability to read, write, speak in English, compute and solve problems at levels of proficiency necessary to function on the job, in the family of the individual and in society"* (Irwin, 1991, p.7). This is the operational definition of literacy that was used in this study. Because literacy is seen today as central to education and preparation for work, the gap in rigorous research into the relationship between the physical environment and literacy education provides an opportunity for meaningful environment-behavior research.

Literature Review

In this study, I focused on classroom environments as settings for the activities of adults and children as they interact with each other to achieve a common purpose, which is the education of the child. Therefore, I reviewed the theoretical and research literature on

educational settings, and other purposeful settings for children, including environmental psychology and environment-behavior literature.

Environment-behavior literature related to children's spaces

Environment-behavior research with regard to children's spaces grew from the discipline of geography. The work of Hart (1979), who studied a group of children and how they understood and created knowledge of the physical landscape of their town and surrounding natural landscape, and the work of Gary Moore and his studies of children's playground preferences (1979), linked geographical wayfinding with the sense of personal efficacy and the creation and awareness of place identity in children. In her review of the research, Carol Weinstein (1979) organized her material by specific environmental variables: seating position, classroom design and furniture arrangement, density and crowding, privacy, noise, and windowless classrooms. Weinstein found that although classroom design can substantially affect attitudes and non-achievement behaviors such as persistence, attendance, interaction with the instructor, and participation, no conclusive impact on scholastic performance could be documented (pp. 582, 598). Moore and Lackney (1994) referred to non-achievement behaviors as prosocial (p.12). The importance of prosocial behaviors on the quality of the educational experience is particularly relevant in constructivist classrooms where the process of constructing knowledge, under which non-achievement behaviors fall, is valued equally if not more than scholastic performance and testing outcomes. Moore and Lackney (1994) suggested that smaller class size and density directly improve reading and math achievement (p.14) due to increased interaction with the teacher; they also cited the benefit of secluded study spaces (p.17) that allow for a greater degree of engagement with learning activities.

Santrock's work (1976) demonstrated that the "affective quality" of a setting can influence students' persistence (p.533). The results of a study conducted with second graders indicated that the environmental manipulation had a strong impact on persistence: students worked longer at the task in a setting adorned with "happy" pictures (pictures of smiling people during everyday activities), than in others. There was also evidence for an additive effect: children persisted longest in the happy room with a smiling experimenter who expressed happy thoughts. Persistence, in the form of motivation and "time on task" has been found to be a positive factor for achievement. To paraphrase Weinstein, the goal must be to specify the appropriate physical contexts for various educational activities (1979, p. 603). Garbarino (in Wohlwill & van Vliet, 1985) wrote that various elements of a setting contribute to environmental press, which he defined as the ambient influence of forces working in a setting to shape the behavior of individuals in that setting, and, "physical characteristics may facilitate or impede…access or uses of existing space…physical attributes affect social variables" (p.125).

Current theoretical approaches identify the environment as a source of stimulation, both imperceptible and perceptible. The environment is also a source of feedback to the child's behavior, and it has been posited that the effects of sensory experience are mediated through the actions of the individual. The research findings suggest that it is possible to think of stimulation as passive and ambient, with feedback generated as the child is in active interaction with the environment, complementary to stimulation. Arousal and aesthetics, with special relevance to children, has been found to be positively related to psychological development in a number of investigations, including Wachs, Uzgiris & Hunt (1971). It was found that the presence of room decorations, literature, and small manipulable objects was significant for a few aspects of development. Presence of decorations was positively correlated to intelligence, and the research

suggested that the effects were not transitory. A positive relationship was found between novelty preference and persistence in toy play and competence mastery (Yarrow et al, 1979, p.131).

Heft and Wohlwill (1991b) found that a sense of pleasantness occurs at intermediate degrees of complexity, while unpleasantness occurs at the extreme highs or lows, and holds true for man-made environments (p.198). Sensory experiences, in particular temperature and light, may affect mood, according to Russell and Snodgrass (1991, p. 260). In one of the most important research findings to date, the Heshong Mahone Group (1999), in their report of a large-scale quantitative research study conducted for the California Energy Commission, found that day lighting in classrooms had a significant effect on test scores, raising them over the course of a school year from between 7% and 26%. The work of Heshong is the only study identified that found a significant quantifiable relationship between literacy outcomes and an attribute of the physical classroom setting.

Popular professional guides for teachers. Two key works on balanced literacy written for educators are Guided reading: good first teaching for all children, by Fountas and Pinnell (1986), and A Framework for Teaching (2007), by Danielson. These two books and similar ones by these authors and others, guide teachers in the design of classrooms that are to be settings for a balanced literacy approach. Within this professional literature, common themes are the importance of creating a "warm" and inviting atmosphere, creating a safe environment, creating an environment that is universally accessible, and arranging the furniture to support the educational method. Both books take the stance that the physical surroundings have a material effect on interactions, including supporting the establishment of a child-centered environment, or the desired "community of learners" (Danielson, 2007, p. 75). In Danielson's rubric, "The Classroom Environment" is one "domain" of four (Domain 2); "Organizing the Physical Space," is Component 2e of Domain 2 (Appendix C). Danielson, like Fountas and Pinnell, views the

physical environment in practical terms: the elements of the physical environment that she identifies are safety and accessibility to learning, and the arrangement of furniture and location of technology. According to Danielson, as professionals, teachers must be able to explain how they use the physical environment, how they enhance it, and most importantly, that they must be able to demonstrate how they implement accessibility, safety, and the use and arrangement of furniture as a resource for learning activities.

Diller's Spaces & Places: Designing Classrooms for Literacy (2008) is a do-it-yourself guide for teachers, written by a former teacher, on how to set up a balanced literacy classroom, replete with "Before and After" photographs, and a resource and buying guide for organizing aids, bins, carts, and other accessories, including specifying particular brands, colors, and model numbers.

Conceptual Framework

Re-purposing Little's "Framework" for this study

Environmental psychologist Brian Little articulated an integrated framework consisting of three major areas of impact of the physical environment on personality (In Stokols & Altman, 1991, p. 220-226). One area is *meaning*, which Little discusses as the idea that the physical milieu can contribute to a sense of coherence or alienation in individuals through place identity (p. 220); the second, referred to as *structure*, or the extent that environments restrict, shape, and give structure to everyday activities (p. 222); and third, the sense of *community* and the impact on an individual's well-being and health (p. 222). As a psychologist, Little's focus was on personality and the effect of the environment on individuals; however, his framework provides a useful tool with which to organize both the extant research on educational settings for children, as well as to analyze the research data collected. For the purposes of analyzing my research

findings, I used *meaning, structure,* and *community* as organizational tools or "buckets" to reveal themes, patterns and relationships within the data.

Meaning. Contemporary literacy theory and research is concerned with topics such as defining literacy; understanding the mechanisms of teaching literacy; the ways in which individuals become literate, such as through comprehension and self-expression; how particular social groups, such as adolescents, identify themselves and communicate; and the historical, cultural, and social theories concerning the acquisition of literacy (Robinson et al, 2004). The research points to a relationship between literacy and the physical setting (M. Pressley, in Robinson et al, 2004, p. 287-290).

In terms of *meaning*, highly relevant are the environment-behavior concepts of self-efficacy and place identity. Self-efficacy is a psychological concept, found within modern learning theory and literacy education writings. Feelings of self-efficacy are deeply relevant to creating a sense of meaning. Psychologist Albert Bandura coined the term (1977), describing self-efficacy as "people's beliefs in their capabilities to produce desired effects by their own actions" (1997, p. vii); Maddux explores it:

> Self efficacy is not self-esteem…[it] is not a personality trait….Self-efficacy is defined and measured not as a trait but as beliefs about the ability to coordinate skills and abilities to attain desired goals in particular domains and circumstances. (2002, p.278)

Social cognitive theory is an approach to understanding human cognition, emotion, motivation, and action (Bandura, 1997; Barone, Maddux & Snyder, 1997) that assumes that humans are active shapers of their environments, rather than passive reactors to it (Maddux, 2002, p.279). Maddux writes, "Because [self and personality] are socially embedded, personality and self are not simply what we *bring* to our interactions with others; they are *created* in these interactions, and they change through these interactions (2002, p.279).

Interactions with others occur in physical settings, over time. It may be hypothesized that meaning occurs when human beings transact with others, within physical settings (Leander, 2004, LeFebvre, 1998), creating feelings of self-efficacy and identity related to a specific place and time. Leander coins the concept of "spatiality" in discussing critical theory. He notes that "deskwork contributes to a spatialized meaning of schooled activity and schooled identity;" essentially, that the physical space and arrangement of a classroom is inextricably linked with the activities that take place within it (2004, p. 218). The findings of Csikszentmihalyi and Rochberg-Halton (1981) and their study of the symbolic importance of domestic objects and symbols in self-definition are also important, although variations exist across age and socio-economic groups. While their study was not concerned with educational environments, objects within the literacy classroom are important in creating the self-definition of students-as-literate-persons. Crotty (2005) writes, "Transactional theories suggest that meaning is created by the active negotiation between readers and the text they are reading" (p. 108).

The theory of place identity is also deeply relevant to understanding the meaning of the physical classroom environment to the adults – the teachers, aides, and specialists – who use the space, as well as to the children. Proshansky (1983) has written that, "Place-identity cognitions express and reflect the physical settings and their properties that support and are directly relevant to the social roles and attributes that define who the person is, how he or she is to behave, and what he or she is worth" (p.80). Presciently, Proshansky predicted that the with the advent of new teaching technologies – and, we can assume, new teaching approaches – that there would come a shift or radical departure in the "place-identity cognitions of teachers," relevant to their professional roles, due to changes in the traditional functions of teachers, and changes in the kind of classroom setting required; he predicted a shift in the professional identity, and therefore the self-identity of the school teacher (1983, p.80). Finally, the concept of affordances is relevant to

a discussion of meaning, as Wohlwill and Heft (1991b) write, "Affordances are defined by their *meanings*, that is, their functional possibilities and biological consequences to the perceiver (p.285).

Structure. The concept of *structure* relates to the amount of control that an individual exerts over environmental factors, such as noise, crowding, and stress, and includes the ability to retreat from them. Proshansky writes (1983),

> …from both a physical and therefore biological and social point of view, the human organism is at every moment in need of a basic minimum of his or her own exclusive physical space, and it is this need which lies at the root of the fact that all societies evolve norms and values about human *privacy*, *personal space*, *crowding*, and *territoriality*. (p.64)

Kaplan (1983) suggests that a realistic and desirable goal for environmental designers is to design supportive environments that are high in legibility, information availability, and which foster a sense of participation (p. 324). This perspective, along with the idea of a sense of coherence (Antonovsky, 1979, p. 163), places emphasis on supportive environments, rather than on individual personality. On the other hand, Little (1991) describes how personality factors may likely serve as key moderators of the effects of environment on human well-being, and that whatever ameliorative effects an innovative environmental design might have may be mitigated by personality (p.225).

Bandura (1997) found that individuals with a high degree of self-efficacy in specific areas approach difficult situations or tasks as challenges to be met, rather than as things to be avoided. "Such an efficacious outlook fosters intrinsic interest and deep engrossment in activities" (p. 11). Clearly, the concept of self-efficacy is relevant to Little's idea of structure.

Gump (1991b) compiled results from several studies, and concluded that the links between open space school settings and children's behavior were not well-understood (p.696).

Studies showed that open space was either detrimental or not influential on student outcomes. Gump concluded that open space, or lack of clearly defined enclosures can intensify the openness of individuals to external stimuli. While students enjoy retreat from stimuli, they do not like seclusion (p.697).

In Creating Architectural Theory (1987), Lang referring to the work of Gibson on *affordances*, writes about the fundamental concepts of the person-built environment relationship:

> The environment can be considered to consist of interrelated geographic, built, social, and cultural components that afford certain behaviors in consistent ways. The set of *affordances* of the environment at a particular location constitutes the *potential environment* for human behavior at that place. (Gibson, 1979, p.127)

Lang (1987) describes Barker's theory that architectural environments are systems composed of a network of *behavior settings*, or that the environment consists of a set of behavior settings, existing simultaneously with each other, and consisting of two basic components: a standing pattern of behavior and a milieu. The milieu is the physical structure, which affords both direct support for human activities, and indirect, symbolic, or effective meanings and associations for the human user or observer (p.128).

Heft and Wohlwill (1991b) discuss children's perception of the affordances of an environment, or the functional significance or meaning of environmental features, "…with respect to the child's development of knowledge of particular places, it could be suggested that the child learns originally the affordances of places, that is, the kinds of activities that a place permits, or more positively, encourages (p.179). According to Lang, a milieu that provides an affordance for a particular human behavior can be purposefully designed and created.

One may ask, can the purposeful design of the milieu play a role in literacy education? If a certain behavior such as fluent reading or fluent verbal communication is desired, can a milieu

be designed to support that outcome? The concept of milieu does not suggest that a physical environment can determine certain behaviors, but rather that it can provide a setting conducive to a given behavior. Winkel (1987), with reference to Ittelson, suggests that within the physical environment, environmental settings include not only the physical elements or components, but also the individual and social behaviors that take place or occur within them (p.77). Barker (1968) uses the term *synomorphy* to describe the relationship between a behavior and a milieu, where the physical elements or arrangement of elements of a place coerce certain defined behavior (Gump, 1991, p.692). For example, chairs arranged in a circle around a table encourage eye contact and interaction between inhabitants. Researcher-educator Lisa Gross found that the traditional closed elementary school classroom encouraged traditional teacher-centered education, but that it could, *with purposeful effort,* be physically rearranged by a teacher whose educational philosophy was more child-centered, in order to create a child-centered environment (2006). A milieu may be designed to be neutral, flexible, or adaptable over time, changing to accommodate a variety of uses.

Understanding how children create knowledge is at the core of studies on the interaction of children and environment. Developmental and cognitive theorist Jean Piaget created a framework of human developmental stages, in which the creation of knowledge originates in the child's sensorimotor actions on the environment. Piaget took a constructivist approach in his theory of a child's understanding of space (Wadsworth, 1989). Many environmental researchers use a generally Piagetian framework to understand the implications of their findings (Heft & Wohlwill, 1991b, p.176). Weinstein (1979) argued that the developmental process can be influenced by characteristics of the physical setting (p. 599). In their overview of current theoretical approaches to the role of the environment in child development, Wohlwill and Heft (1991b) identify the environment as a source of stimulation, the environment as a source of

feedback to the child's behavior, and the environment as a set of affordances, all of which contribute to the development of the child and how he creates knowledge (pp. 282-285).

Engagement with the material or lesson, along with student motivation, has been a key point of many studies of student learning. Skinner and Belmont (1993) offer a definition of student engagement:

> Engagement versus disaffection in school refers to the intensity and emotional quality of children's involvement in initiating and carrying out learning activities…Children who are engaged show sustained behavioural involvement in learning activities accompanied by a positive emotional tone. They select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in the implementation of learning tasks; they show generally positive emotions during ongoing action, including enthusiasm, optimism, curiosity, and interest. (p. 572)

Csikszentmihalyi (1990) uses the term "flow experience" to describe the experiential state of immersion in an enjoyable activity, which is different from the rest of life, and in which the actor and action are one, thoroughly merged. "Engagement" and "flow" are very closely related concepts. To achieve a flow experience, a setting is needed in which the actors are not distracted from achieving the intense concentration needed. Csikszentmihalyi concludes that those individuals who cannot maintain their attention concentrated on the task at hand do not enjoy it, and eventually drop out as they lose their intrinsic motivation and its rewards (p. 131). He writes that people need to be motivated to become literate (p. 123). According to Csikszentmihalyi, the effectiveness of extrinsic motivation for becoming literate is debatable, and he calls for applying a model of intrinsic motivation to learning in order to make it possible to advance the cause of literacy (p. 126).

Results of studies conducted over the past thirty years have provided convincing evidence that the quality of the classroom environment in schools is a significant factor in student learning

(Fraser 1994, 1986). That is, students learn better when they perceive the classroom environment more positively. Importantly, many of these studies have controlled for background variables (Dorman, 2002, retrieved from http://iier.org.au/qjer18/dorman.html). Studies on classroom environment and person-environment fit have sought understanding of the gap between actual and preferred classroom climate. Based on his review of the literature, Dorman concluded that the achievement of a match between students' preferences and existing instructional settings is a necessary condition for maximizing students' cognitive, social and affective outcomes.

Psychologist Lev Vygotsky (1994) wrote that researchers should not study absolute indicators reflecting the environment, but relative ones, the same ones but viewed in relation to the child. Vygotsky theorized that the role of any environmental factor changes with the age of the child. First, the child's environment changes as he grows older. More importantly, the child's changes during development result in a situation where the role and meaning of the same environmental factors undergo a *de facto* change. As Weinstein (1979) asserts, elements of the physical setting may influence behavior directly by facilitating certain activities and obstructing others (p. 598). Heft and Wohlwill (1991b) conclude that the quality of environmental experience can be viewed as both a product of the child's behavior and as a primary influence on behavioral development; [findings] point…generally to a reciprocal influence between environment and behavior (p. 317-319).

The concepts of behavior settings and affordances play a key role in balanced literacy, although the specific terms are not used in the balanced literacy literature. Balanced literacy requires teachers to create different areas within the classroom that provide or afford opportunities for certain kinds of activities to flourish. One example is the creation of small carpeted areas, furnished with pillows or two beanbag chairs, just large enough for two children

to read or write together, or in parallel. A small area such as this is intended to create relaxation, intimacy and privacy. This type of intimate area for one or two is in contrast to a large rug of a size to hold the entire class, furnished with an easel and chair for the teacher to use in whole group lessons. The easel and chair create a direction of attention for the group, with a "front" area in which the focus is on the teacher. While the children are comfortable, the orientation of the space and the height of the teacher vis-à-vis the children creates a setting in which the children are aware that they should be focusing on the teacher and the easel; the teacher, in turn, by virtue of her position and eye level, is encouraged to observe all the children. This setting, unlike the beanbag seating, is neither intimate nor private. "Behavior settings are, then, the props, guides, signposts, demanders-of-behavior-on-the-spot." (Schoggen & Schoggen, in Wohwill and van Vliet, 1985, p.86).

Community. Environment- behavior research has addressed the concept of *community* in terms of a geographic unit, and also as a social relationship or network (Wilson-Doenges, 2000, p. 598). The creation of a sense of community between students and teacher is a one of the foundations of the balanced literacy approach, which is based upon constructivist and social constructivist theory. Literacy education primarily uses the definition of community as a social network, but where the social network is situated in a specific physical setting, such as within a school building or classroom, then community is also taken to mean a geographic unit. In balanced literacy and related approaches, creating a sense of community amongst the children and adults assigned for the school year to a specific classroom is considered essential to a properly functioning learning environment (Fountas & Pinnell, 1996, p. 43).

The concept of self-efficacy as socially embedded applies to the individual within a community, a group of people cohabiting a physical setting. Maddux defined the notion of *collective efficacy*, or a group's shared belief that they can work together effectively to attain

their shared goals (2002, p.284). Maddux emphasized the idea that strong beliefs of self and collective efficacy can encourage people to "select efficacy-enhancing environments" (2002, p.284).

Summary

In summary, environment and behavior research into children's environments has been grounded in developmental and cognitive psychology, and across a broad range of disciplines. There are findings in the multidisciplinary literature regarding student affect and perceptions, and student achievement. General student outcomes have been investigated with regard to the effect of the physical environment, but the literature search identified a significant gap in both environment-behavior science and education research specifically regarding the effect of the physical classroom environment on literacy outcomes. Architecture has responded to the need for school buildings which support new learning theories through the redesign of the school building and larger campus setting as a specific typology (Nair & Fielding, 2007; Stevenson, 2006, 2010. However, within the larger building, the design of the physical classroom has largely remained an empty box, ready for adaptation and ownership – or not – by the individual teacher. Physical settings such as healthcare and corporate workplaces have been studied by environment-behavior researchers, in order to understand the relationship of the physical setting to occupants' motivation, health, productivity, and satisfaction, settings for literacy activities and education have been somewhat neglected.

One of the difficulties of researching the effects of human interaction with the physical setting has been due to the lack of consistency across the disciplines in defining the term "environment." Another challenge is the complex interaction of many social, cultural, and psychological factors that are present in learning environments. The research has so far examined the effect of the environment on people, but is more limited on the effect of the people

on the environment, with extremely limited research found on the transaction between people and their environments. Early writings about the effect of the environment on children were often Piagetian and based on the idea that the environment could assist and theoretically maximize the child's development. Environment-behavior research investigated issues of meaning, structure, and community, and yielded findings on environmental stress, arousal, preferred environments, and environmental legibility, which have the potential to inform research on purposeful environments for children as they become literate.

Many quantitative studies of children and their environments exist, although not specifically focused on the effect of educational settings on outcomes. Fraser notes that, "The history of the first two decades of learning environments research in Western countries shows a strong emphasis on the use of a variety of validated and robust questionnaires that assess students' perceptions of their classroom environment" (in M. Goh & S. Kline, 2002). Dorman cites nine such survey-based studies (2002). However, there is a gap in qualitative research studies of children in their environments, with the work of Moore, Weinstein, and Hart being exceptions to the empiricist research model.

Qualitative research is particularly important in the study of educational environments, because through rich description, including *in vivo* coding or analysis taken from the transcribed words of the participants, qualitative studies can bring deep and rounded understanding of the "lived" experience of individuals in a given setting or situation, from multiple viewpoints, to reveal how all the parts create a whole (Merriam, 1998, p.4-6). Underlying qualitative research, is the assumption that reality, or meaning, is constructed by individuals in a social context. Classroom environments, by their very nature, and literacy education, by its theoretical stance and methodology, are social contexts. Although the No Child Left Behind Act described "scientifically based research" as "…research that involves the application of rigorous,

systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs," the U. S. Department of Education also admits the need for high-quality qualitative research, as necessary to illuminate the complex relationship between teachers and students and the classroom environment as they teach and learn to read and write, and in order to justify capital improvements to school buildings aimed at improving literacy outcomes. Former U. S. Secretary of Education, Grover Whitehurst defined Evidence-Based Education (EBE) as, "The integration of professional wisdom with the best available empirical evidence in making decisions about how to deliver instruction" (2002).

Qualitative research as scientific inquiry, aims to present the wisdom of education professionals, through systematic and methodologically rigorous data collection and analysis. Little's (2002) framework of *meaning*, *structure*, and *community* has usefulness across disciplines, from environmental psychology, to environment-behavior studies, to literacy. Children can find meaning through the strengthening of their personal sense of self-efficacy as a reader or learner, set in a physical environment that was designed to support or afford them a flow experience. The achievement of such an experience is one of the essential goals of a constructivist educational approach. Just as Csikszentmihalyi (1988) posits "oneness" between actor and action during "flow," the physical environment-as-setting may be regarded as an inextricable and necessary element of that intense experience, insofar as it reduces the number of distractions that inhibit or obstruct achievement of deep concentration. Control over environmental attributes such as noise, crowding, ambient temperature, and inappropriate lighting allow for *structure*, which in turn permits engagement to occur undisturbed. Finally, *community*, which allows for health and well-being, is necessary for the social construction of knowledge, including literacy, wherein the setting contains the necessary physical elements for collaboration and collegial co-existence with others.

The questions that I asked about how teachers view the impact of the classroom on how they implement balanced literacy and how they use the physical environment as they implement balanced literacy revealed that “school” as both a place and as an idea has great meaning for teachers as they are expected to create a child-centered constructivist learning environment. The “buckets” of meaning, structure, and community help create a picture of how teachers and children co-exist within and share the constructivist classroom.

CHAPTER TWO:

METHODS OF DATA COLLECTION AND ANALYSIS

The form of the study

"The role of researchers is to raise the quality of the public debate, to form and articulate questions, to analyze and evaluate answers," (Wohlwill & van Vliet, 1985, p.225). By undertaking the topic of this study, I intended to open a debate on the use of environment-behavior research to inform the design of physical settings in which evidence-based education was implemented. My goal was to pair evidence-based design with evidence-based education. To do so, I looked holistically and analytically at one case—a school—composed of an aggregate of several cases—teachers and students—in order to create a picture of one place, at one specific time. From that starting point, I hoped that a dialogue between environment-behavior researchers, educators, and designers will ensue.

The research was originally intended to be a case study of a single elementary school. Case studies, particularly of single cases, have historically been faulted for lack of rigor, their lack of representativeness, and linked to the problem of bias (Merriam, 1998, p. 43). Educational inquiry is intended generally to be applied in the classroom, and it is therefore imperative that the findings be trustworthy and reliable. Case studies, as qualitative research, are by definition unique and cannot be exactly duplicated. The results, unlike the results of quantitative research studies, are not generalizable. However, the school selected as the case to be studied and the larger school district may be considered to be typical, normal, and average based on the community demographics of range of income, education, and race and therefore a good choice as representative of other similar cases (Patton, 2002, p.243). The case study school is part of a United States public school system which accepts federal and state funding, nearly $29 million in

2009 (CSD website), and which therefore is held to the same national standards of educational quality and accountability as many other school systems across the country. The City-Data website reports that, demographically, the town in which the case study is set is 76% Caucasian, and 24% other races; the median household income was nearly twice as high as the rest of the state, but the cost of living was 50% higher than the U.S. average. The population was 82,000 in 2008. While the median income was high in relation to the rest of the country, the school district website boasts of spending approximately $14,000 per pupil annually, which is $4000 less than any other of the five school districts in the same county. In spite of having a higher median household income, this expenditure was on par with the rest of the state two years previous (2006, U.S. Census). Merriam (1998) writes, "A *typical* sample would be one that is selected because it reflects the average person, situation, or instance of the phenomenon of interest." Merriam quotes Patton, "When the typical site sampling strategy is used, the site is specifically selected because it is not in any major way atypical, extreme, deviant, or intensely unusual" (1998, p. 173).

The site of the case study can also be considered a "critical case" (Patton, 2002, p.236). Critical cases are those that may meet the criteria of, "if it happens here, it can happen anywhere." On one hand, the case study site might be considered average and typical of many other schools in the United States. However, it may also be viewed as a school situated in a school district of a relatively well-to-do suburban community largely free of violence, with an adequate school budget, buildings that are sufficient and well-maintained, and where the teachers are highly trained in their profession. In other words, this is a school district and community without serious poverty, with a high rate of home-ownership, and with a relatively well-educated citizenry and teaching force. Flyvbjerg (2011) writes that there is more to be learned from cases which are considered "most likely" or "least likely," as these cases are likely to either clearly

confirm or falsify propositions and hypotheses (p.307). Viewed as a critical case, this case study might point to issues relevant to other cases facing even greater challenges. It is a school that, because of its demographics and ordinariness, it is least likely to experience problems resulting from poverty, isolation, or lack of adequate teaching staff. In other words, what would be found at New Town Elementary would likely be found at most other public elementary schools. Flyvbjerg states, "…it is falsification and not verification that characterizes the case study" (p.310).

The objective of the research was to create a holistic picture of a bounded system, which was one school. While the findings would not be generalizable, there was significant value in creating the picture. Critical case sampling permits logical generalization and application of information to other cases, because if it is true of this one case, it is likely to be true of most other cases (Patton, 2002, p. 243). From the study of this school in this school district, it may be possible to extrapolate that the same or greater problems exist in less privileged schools and school districts.

In another sense, as Patton describes (2002), each classroom represents an individual case, nested within the case study of the entire school. Patton writes, "Cases are units of analysis" (p. 228). He strongly recommends that data should be collected on the lowest level unit of analysis possible. In this study, the lowest level unit of analysis was one classroom; given that, case records were maintained at that level. In fact, while this study began as the case study of one school, or a single case, the data was most rich and yielded the most meaningful findings when the study became a multiple case study across ten classrooms, encompassing ten teachers and thirty-one children. In the final analysis, though, the most meaningful themes were revealed when the words of the teachers, students, and administrators were studied and compared. In his discussion of case studies, Patton (2002) places the kind of case study that this

research became into the category of "Perspective/Worldview Based," where people who share a common experience, perspective, or culture are studied (p.231).

The underlying epistemology of the study

To create a holistic picture of literacy teaching and learning in the classroom setting, one must look at the situation from multiple points of view, and understand the experience of the actor from his or her own perspective. The epistemology of this study is social constructionism, which posits that meaning generation is always social, and the focus is on the collective generation and transmission of meaning, as shaped by language and other social processes. "…social constructionism emphasizes the hold our culture has on us: it shapes the way in which we see things (even the way in which we feel things!) and gives us a quite definite view of the world" (Crotty, 2005, p. 58). Literacy itself is a social construction, and a vehicle for sharing meaning among individuals in a social group. The essence of literacy education is to enable an individual to share in the life of the society and the culture. Schools and individual classrooms in particular, are social groups consisting of students, teachers, and aides. Balanced literacy and similar approaches are based on a perspective of symbolic interactionism, although that term was not found in writings on literacy theory.

Theoretical perspective: Symbolic interactionism

Congruently, the theoretical perspective, or philosophical stance underlying the methodology of this study is also interpretivism, specifically, symbolic interactionism. Symbolic interactionism is the theory that human communication and interaction is facilitated by words and other symbols that have acquired conventional meanings.

As articulated by Herbert Blumer (1969, p. 2) and described by Crotty (2005), symbolic interactionism has three basic assumptions or tenets:

- that human beings act toward things on the basis of the meanings that these things have for them;
- that the meaning of such things is derived from, and arises out of, the social interaction that one has with one's fellows;
- that these meanings are handled in, and modified through, an interpretive process used by the person in dealing with the things he encounters. (Crotty, 2005, p.72)

Crotty (2005) writes that the symbolic interactionist approach requires the investigator to take the standpoint of those studied (p.75). The central notion of symbolic interactionism, the putting oneself in the place of the other (p.8), was fundamental to my research. Studying people and attempting to communicate their experience is a kind of role-taking on the part of the researcher. This role-taking is an interaction, which is symbolic, and is only possible because of the significant symbols such as language and other tools that are shared by humans and through which they communicate (Crotty, 2005, p. 75). The interactionist approach is concerned with understanding, and the protagonist's view of actions, objects, and social experience and setting, and their meaning for him (Crotty, 2005, p. 75).

Additionally, the classroom is a milieu in which human beings interact with the physical aspects of the environment and with each other over time as they participate in the highly valued cultural and social activities of reading and writing. Literacy itself is a process of learning, interpreting, and interacting with symbols, which are letters and words, to create meaning and knowledge. Most significant to this study, however, is that the physical elements of the balanced literacy classroom, such as the large rug, the anchor charts, and the teacher's desk, and even an abstraction such as "the front of the room" communicate specific meanings to observers and inhabitants. Lang (1987) wrote that the physical structure, or milieu, afforded not only direct

support for human activities, but also symbolic meanings and associations for the human user and observer (p.103). Therefore, one aspect of the research was to understand the social reality that is materialized in the physical setting of the classroom through constructivist learning activities. Lang also wrote that, "The value of the affordance concept is specifically that it extends the psychological considerations of the individual to an analysis of the physical environment and … the design of functionally appropriate environmental features" (p.319).

Method of data analysis: Constructivist grounded theory methods

Grounded theory is a process of inductive theory building based on the observation and analysis of the data collected (Crotty, 2005, p.78).

Through grounded theory, a dialogue between researcher and data is formed, and the process of going back and forth from data to analysis affords opportunities for a deep and focused understanding of, and special insight into, the research participants and setting on the part of the researcher. The data may be analyzed as it is collected, and the researcher is permitted, even encouraged, to follow new threads or themes suggested by what has already been analyzed, and to collect additional data throughout the process (Charmaz, 2006). This design flexibility is a characteristic of grounded theory, and in particular of constructivist grounded theory as conceived by Charmaz. Charmaz, herself a constructivist, makes special note that the methods one chooses, "…affect[s] *which* phenomena you will see, *how*, *where*, and *when* you will view them, and *what* sense you will make of them" (15).

While the data collected varied in quality, relevance, and usefulness, the grounded theory process of ongoing analysis allowed me to continually evaluate what had been collected, and to guide the study in a more meaningful direction as the study proceeded. It was intended that the data would be coded as it was collected and transcribed or captured. As it happened, all the interviews were transcribed before any coding began. However, memos were consistently

created during the data collection phase, in order to follow what grounded theorists call the first mandate, to study the emerging data. Grounded theorists do not force the data to fit their preconceived ideas or theories; rather, they follow leads that arise from the data, which they define (Charmaz, p. 46, 2006). The memos led to revised thinking and directed my interest in possible emergent directions I made revisions to the interview questions in order to follow these new directions. As Charmaz writes (2006), the analysis of the qualitative data generates the concepts (p.47).

Line-by-line coding was used to analyze the raw interview and document data. Photographs and drawings were coded by appearance of identifiable object, area, or activity. As an example, bean bag chairs appeared in photographs as well as the children's drawings, and are an example of an object that led to or signified an initial code of "comfortable seating for one person."

As suggested by Patton (2002), a case record was constructed, in which the raw data was condensed, by being organized, classified, and edited into a manageable and accessible file. Patton writes, "The case study approach to qualitative analysis constitutes a specific way of collecting, organizing, and analyzing data; in that sense it represents an analysis *process*…The analysis process results in a *product:* a case study. In this way, the term, *case study,* can refer to either the process of analysis, or the product of analysis, or both" (p.447).The themes that arose from the qualitative data were organized using the conceptual framework of meaning, structure, and community, in order to create a nuanced and holistic understanding, on many levels, of the particular case that was the research subject.

The final step in the study was the writing of a case study narrative, in which the finding are presented thematically, providing a "readable, descriptive picture…enabling a reader to understand the case in all its uniqueness" (Patton, 2002, p.450). By writing up the findings as a

narrative, my aim was to bring the somewhat-neglected recently connection between educational methodology and the design of purposeful environments for children back to the research agenda.

Where possible in the writing of this dissertation, I have used the first person in relating my role in the research and analysis process. Charmaz (2006) discusses the "writer's voice" in her chapter on writing the draft. She notes that the analytic emphasis in grounded theory can work to make the author seem absent, or even worse, neutral. The sound of a human voice, Charmaz writes, makes for "compelling reading" (p.174 – 6). She urges authors to bring evocative writing into their narratives, asserting that by using one's own voice, an author can give life to the researcher's involvement with the studied phenomena, and not contrive to reproduce it.

Throughout the research phase, I tried to maintain an open and receptive attitude, characterized by Crotty as *empathic* (2005, p. 109), and by Patton as *empathic neutrality* (2002, p.51). Based on the theoretical research perspective of symbolic interactionism, I wanted to enter the minds and personae of those I interviewed and observed, to better understand their point of view of self, others, and setting. I also found that I used a transactional approach, in which I actively engaged with the data. The insights that I had were not in the minds of the research subjects, nor in any one place in the literature. My insights came into being through my engagement with the data, and as Crotty (2005) writes, there are different ways of reading and interpreting, and each way has something to offer researchers as they gather their data, and especially as they interpret the data that they have gathered (p. 109). This transaction with the data is a hallmark of qualitative research. Patton (2002) confirms this as heuristic inquiry, a conceptual approach which emphasizes connectedness and relationship, retains the essence of the

research participant in the examination of the data, and concludes with a "creative synthesis" that includes the researcher's intuition and tacit understanding (p. 108).

Grounded theory studies ask the question, "What is happening here?" The key methods of data collection were observations, a close reading of district documents and professional teaching manuals for educators, documentary photographs and sketches, and interviews with teachers, students and administrators. I used a variety of data collection methods in order to create a detailed picture in my mind of the teachers and students of the classrooms of the case study school, and to create the validity of the findings.

Direct observation, a close reading of the district documents and the professional education literature, and documentary photographs and sketches contributed to a mental image that I had before I interviewed the teachers and students. The data from the pilot project two years earlier also contributed. This mental image was not a preconception, but rather a developing idea, an understanding of the background and context into which I then placed the information gleaned from the interviews. Grounded theory supposes the continual building of understanding, as new or additional information is added to a pre-existing "picture". I found it very useful to make notes, or short memos, as I learned new information and further developed the picture. One memo from the period reads, "The teacher *must* create a physical environment which facilitates the kids' personal engagement with reading and writing. Literacy learning is on-going; the key is to "hook" the kids. Engagement is the goal – the district says."

The case study as a method of data collection and analysis

Case study is not only a choice of what is to be studied, but also a methodological choice. The term can mean a specific way of collecting, organizing, and analyzing data, representing an analysis process that results in a product, or case study (Patton, 2002, p. 447). A qualitative case

study research method was chosen in order to create a rich narrative from several data collection sources, including observation, semi-structured and unstructured interviews, photography, and document analysis. Qualitative data take the readers into the time and place of the observation, describing, capturing, and communicating the experience of others in their own words. The form of this research was a case study, which implies that it is unique; therefore, qualitative methods were appropriate. Qualitative data tell a story. This form of research provides an opportunity to learn a great deal; it opens doors to further research, and provides insightful observations and intuitive understanding, although one cannot generalize from single cases or very small samples (Patton, 2002, p. 46-47). Qualitative methodology may also include, during the analysis and discussion phase of the research, a transactional perspective. The final interpretation of the data, while faithfully trying to represent the whole picture of life in the balanced literacy classroom, may also be understood to have been constructed by the researcher during the act of reading, organizing, re-presenting, and interpreting the words and images from the research. While many quantitative instruments have been used in the study of purposeful educational environments, Dorman (2002) notes that,

> While some historical research involved low inference measures using a detached observer, the overwhelming methodological tradition is high inference… In fact, few genuine learning environment studies of the past 20 years have departed from the use of inhabitants' summary judgments of the environment. Indeed, the use of student perceptual data is considered essential to contemporary classroom environment research. (Retrieved from http://www.iier.org.au/qjer/qjer18/dorman.html)

Therefore, the points of view of students as well as adults were studied, in order to create a holistic picture of the case.

During the period of data collection, and to check the preliminary findings noted in my memos, I visited two other elementary schools in which balanced literacy or similar approaches

were implemented, and interviewed key personnel in both. One visit was to a private school located in New York City; and the other was to a public school, located in eastern Missouri in a suburb of St. Louis, in which the principal and Literacy Educator were interviewed together. I visited these schools to broaden awareness of other settings in which balanced literacy or similar methods were practiced, and on the chance that additional case studies would be necessary. Interviews in both locations confirmed the similarity of answers and experiences to those in the case study. In a grounded theory approach, the analytic method employed for this study, this is referred to as a process of confirming and disconfirming cases. There were important differences in mission, size, and physical plant between the school that constituted the case study for this research and the two others. However, I heard the same concerns and observations expressed by the administrators that I interviewed in the two outside schools as in the case study school, which reassured me that the single case I had elected to study could indeed be considered a critical case.

Validity

Qualitative studies cannot be evaluated by the same criteria as quantitative research. For social constructivist and interpretivist research, Lincoln and Guba (1986) suggest "credibility as an analog to internal validity, transferability as an analog to external validity, dependability as an analog to reliability and confirmability as an analog to objectivit.y. To be considered valid, qualitative research may be judged on its dependability, which comes from a systematic process systematically followed; trustworthiness, which is a corollary to rigor; a reflexive awareness on the part of the researcher of his own subjectivity; and a respect for the perspectives of others and a commitment to fair depictions of their viewpoints.

The internal validity of the study was enhanced in several ways. First, the collection and organization of data was systematic. Fundamental to the research was the triangulation of

methods and the use of multiple sources of data as I have previously described. Although it was intended to implement "member checks," in which data and tentative interpretations were to be taken back to those from whom they were derived, in order to ask them if the results were plausible (Merriam, p. 204), this only happened anecdotally.

Two peers were identified to review the lists of codes and themes that arose as the researcher analyzed the transcribed interviews, photographs, and documents, and apply grounded theory methods to the data. Although it was intended that this would happen after no more than three classrooms are documented, including interviews, it happened after the completed coding of all interviews to the second level of codes, but prior to the coding of memos, photographs, and children's drawings. Grounded theory methods encourage the modification of the direction of questions and inquiry in response to ongoing analysis of data; outside verification of themes and codes should also happen throughout the process of data collection. The peer verification of the interview coding prior to the coding of other data greatly increases the validity of the research findings. One peer coded one interview. The second peer helped sort the interview data into third level codes, or analytic categories, and in the process, read a great deal of the transcriptions. She discussed with me at length the various ways that the aggregate data might be organized to accurately portray the experience and stories of the teachers, and of the children. These discussions helped me to see the emerging grounded theory.

Finally, the first draft of the manuscript dissertation was sent to two colleagues for review and comment. Most significantly, new themes arose from the data for them, as they reviewed the Findings. These codes referred to the children's expression of the need, which one reviewer took to mean pressure from adults, to find inspiration—from something, *anything*, including from elements of the physical environment—in order to write. Also important were the

reviewers comments regarding the relationship of the research questions to the organization of the dissertation.

Wallendorf and Belk (1989), using Lincoln and Guba's criteria, suggest several ways in which researchers can assess the validity of their data. They write, "The use of these techniques enables researchers who are conducting as well as those who are reading the output of naturalistic inquiry to evaluate the completeness (or, alternatively, what Lincoln and Guba call "sloppiness") of the research procedures used..." (p.70). The techniques used in this study were prolonged engagement/persistent observation; triangulation of sources, methods, and researchers; regular on-site team interaction; debriefings by peers; purposive sampling; reflexive journal.

The methods, in detail

Permission to conduct the study

For the pilot study, conducted in 2008, permission was required from the district, as well as from the individual school. The doctoral research required renewal of permissions. Permission was obtained from the district administration: from the Assistant Superintendent for Student Learning, the Assistant Superintendent for Instruction and Professional Development, and from the building principal. Permission from the district for the expanded research included permission to study the entire school, to examine the archival records, and to interview district administrators. Permission was obtained to photograph students and teachers in the classroom, with the promise to blur the faces for privacy. The requirement to provide the district with a copy of the final research report was stipulated when the permissions were granted.

The acceptance of the proposed research activities by the district was facilitated by my academic credential of a Master of Arts degree from Teachers College Columbia University. Teachers College has been in the forefront of literacy education and research for more than a

century, and is held in particularly high regard in the New York metropolitan area, a suburb of which was the setting for this study. Having earned a degree from Teachers College not only facilitated data access, but insofar as Teachers College is highly respected by the teachers, and being a degree in education, I was positioned in the minds of the teachers as a fellow educator, a colleague; an insider, and not an outsider – a person empathetic to and aware of their concerns and challenges. The planned study was submitted to the University of Missouri Institutional Review Board, which was "Approved as EXEMPT."

The researcher as "observer-participant"

As Merriam describes, the researcher can assume one of several stances. For this research, the research stance was "observer-as-participant." Merriam describes this stance as having access to many people and a wide range of information, but that the level of the information is controlled by the group members being investigated. An observer-as-participant watches the activities of a group, interacts closely with members, and establishes an insider's identity without participating in the activities that constitute the core of group membership (1998). During observations, I was seated in a side area in full view of the children. They were allowed to speak to me, although they were discouraged by using the technique of avoiding eye contact. If asked a question, I replied. In some instances, the teacher made a special announcement to the class about their "visitor".

The selection of the site

The case study school was chosen for several reasons. First, balanced literacy was implemented district-wide 15 months prior to data collection. Also, the school is located in my hometown, and that proximity greatly facilitated the completion of the research because of its convenient access. As a town resident for more than 25 years, with a child currently attending

the local public high school, and as an active member of the Parent Teacher Association for many years, I have learned a great deal about the administrative system of the school district. The initial contact and a key informant for the pilot study, conducted in 2008, was a former principal within the school district, who later became Acting Principal at the school that was identified for this research. The Acting Principal was highly regarded in the district, and her initial support was the key for trust and contact with the teachers and district administrators, and for continuing access to the identified site. In fact, the initial idea of studying classrooms as settings for literacy activities came from discussions with the Acting Principal. The current principal, who at the time of the pilot project was in the position of "Principal Intern", was familiar and comfortable with me, thoroughly in support of this research, and welcoming.

Pre-study meeting with the teaching staff

Prior to the onset of the data collection at the school building, I was invited by the principal to address the teachers at their monthly staff meeting. The purpose and format of the research, my academic and personal background, that approval of the district and the principal to proceed had been obtained, and that I would be in contact with them in the near future to arrange the observations and interviews was explained at this meeting. Business cards that identified me as a doctoral candidate from the University of Missouri were distributed, and purposeful mention was made that I was a local resident. At the staff meeting, one of the original teachers who participated in the pilot study spoke up in support of the researcher and the study. As it became clear through the ensuing interviews, this teacher is highly respected within the building, and in hindsight, her endorsement was likely to have created an additional reassurance that the researcher was, if not an outright insider, then at least, neutral and not judgmental towards them.

Data collection: examining existing documents

School districts that attempt to implement a single approach such as balanced literacy, across all grades and in every building, face a huge challenge from the great variety of sources of knowledge about teaching and classroom arrangement, and from how teacher education and teaching methodology have changed over the decades. As much as possible, a district in this position must bring all its teachers to the same level of training in order to meet its goal.

In order to understand the school district's decision to implement balanced literacy across the district, archival documents related to the acceptance and implementation of balanced literacy within the school district were reviewed. I wanted to gain an understanding of how the district trained teachers in the balanced literacy method, and to review the training materials. The district administrator responsible for professional development and implementation of balanced literacy was interviewed for nearly two hours about the prior state of affairs under a recently-retired superintendent, and the new approach.

No internal documents or meeting memos regarding balanced literacy were reviewed by the researcher, although the district administrator did give the researcher the document prepared for teaching staff regarding the restructuring of the district's professional development program. This document was one which concerned the district's official rationale behind increased expectations and support for teachers' on-going and increased professional development activities as a condition of employment.

Over the period of years, and culminating in 2007, the school district created a Strategic Plan (Appendix A). The plan, called, "Vision 2020," addressed three key areas: learning and thinking skills; information and communications technology skills; and life skills. These areas required "work on behalf of student learning" by the school district, in the areas of "Teaching and Learning Processes," "Learning Environment," and "Organizational Culture." The official

school district website provided a clear look at the district's strategic plan, which stated both its mission, and its goals with regard to learning in general, including literacy. The bullet points that were covered by these vision areas explain the underpinnings of the teaching and learning culture at the case study school. The Strategic Plan and other district documents were available from the publicly accessible district website, and I closely reviewed them.

The school district provided only one document identifying the school district as a "learning community," and which was the brochure distributed to the teaching staff specifically describing professional development expectations and opportunities (See Figure 1).

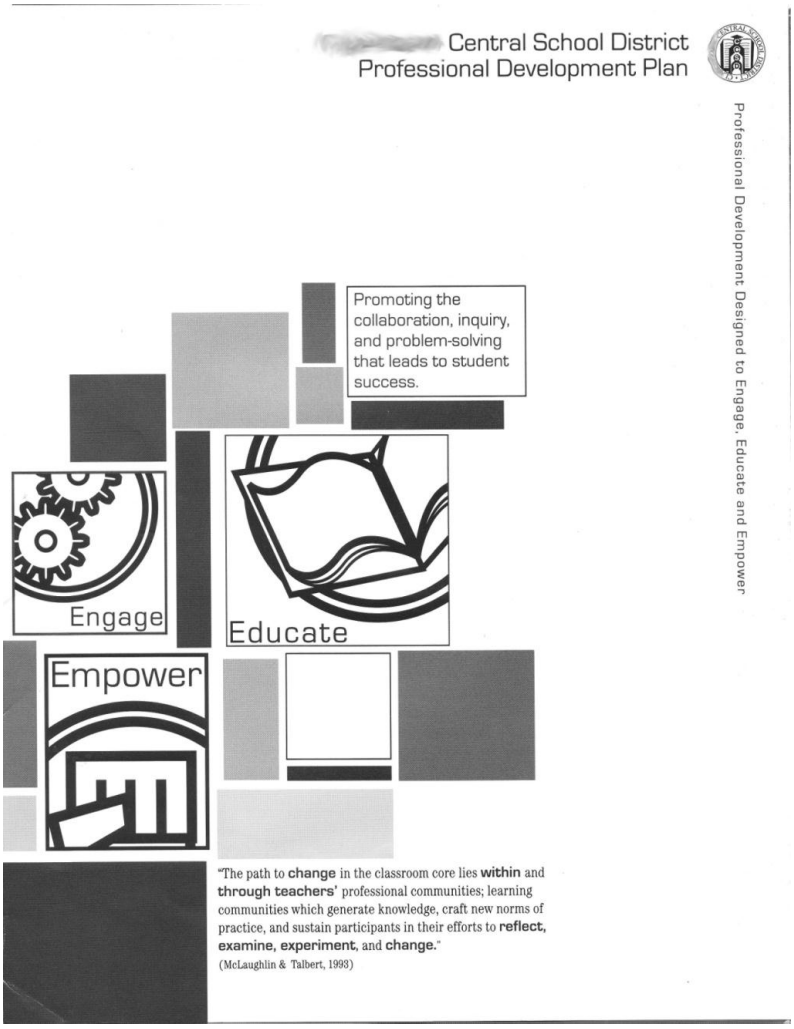


Figure 1. Cover of district professional development brochure (name obscured).

Interviewing and observing the district literacy learning facilitator.

The district had for many years maintained a team of specialist-teachers, whose role was to visit each elementary school and provide instructional support to teaching staff in response to specific requests made by individual building principals. Until the implementation of the district's 20/20 Vision Strategic Plan, these specialists had been known as "trainers", but now were to be referred to as "learning facilitators," which was in line with the re-framing of professional development as greater than simple teacher training. The district also created a demonstration classroom that teachers could visit, where they would observe typical third grade students working in an environment specifically set up for balanced literacy, and taught by an expert, who was himself one of the learning facilitators.

The district Director of Instruction and Professional Development invited me to observe the learning facilitator at work with students in the balanced literacy demonstration classroom, and to speak with him. I met the facilitator before the children entered the room, then observed for 1 ½ hours. He gave me permission to photograph the classroom, and the children working with him during the lesson period. Afterward, I interviewed the facilitator and received copies of printed materials that he had prepared for a typical visiting teacher. Among the papers he gave to me was a copy of a page from Danielson's "Framework for Learning" (See Appendix C).

Documentary classroom photographs

Each classroom was photographed while no children were in the room. The pilot study enabled me to develop codes related to the physical attributes of the setting, such as the presence of a large rug for group work, technology equipment, a personal desk for the teacher, a "word wall", etc. The intention of this documentation was to be able to conduct a cross-case comparison of the classrooms.

The photographs were primarily used as visual references, to verify or illustrate themes found in the documents and interviews. For instance, if teachers commented on how their classroom furniture layout was determined by the fixed placement of technology, such as computer workstations or the plasma screen, then the location of these elements could be verified in the photographs and drawings. Or in another possible example, if students noted that the teacher's desk was often far from where they were working, this would be verified in the floor plan sketches. The photographs are used throughout this document, identified as Figures, and used as references or illustrations of specific classroom areas or themes. The floor plans are included in the Appendix F.

Photographs of the rooms were analyzed in several ways. The photos were analyzed for an understanding of the amount and type of things mounted on the wall surfaces, for instance, the anchor charts, student work, and papers related to classroom management. Because the photos did not entirely represent every area of the classrooms, it was not possible to obtain an exact count of the number of these posted items.

Finally, the photographs were compared to sketched plans of each room (Appendix F), which had been quickly drawn on site. These sketches were diagrammed to better understand the location of the key elements of the classroom: the large group rug; the library; the teacher's desk, if there was one; the table where guided reading largely occurred; the children's work areas, i.e., desks and tables; and other elements, such as storage. The diagrams also revealed the adjacencies of the discrete areas, as well as the proportionate amount of square footage the areas occupied.

Some of the physical tools of balanced literacy appeared as codes within the photographic analysis, such as "large rug for gathering." However, the photographs provided

many other physical elements that were in effect, visual codes, such as "vertical display surfaces," "areas of fixed technology," and "paper storage."

Interviews with teachers and students

Interviews with teachers and students occurred within the classrooms. The interviews were taped using a digital voice recorder and transcribed.

Informed Consent. Informed consent was received from each adult participant. Parental consent was obtained for the students (Appendix D). Each participant and guardian was given a verbal or written description of the study prior to the interview, along with an Informed Consent document, but provided a list of sample questions in advance upon request. Only one teacher requested the list of questions in advance. Communication with the case study school faculty was mainly conducted via email, which was successful, or by informal encounters in the school hallways or office.

Structure of the interviews. A goal was set to interview a minimum of two teachers per grade level. The individual teachers of each classroom were interviewed with their prior permission. After initial observations, a decision was made not to include the kindergarten teachers, students, or rooms from the study, because these classrooms were visibly different in size and layout from the classrooms in grades 1-5. Later, although invited many times, none of the 1st grade teachers agreed to participate. Although invited individually, they decided that they were willing to only meet as a group, and then could not find a mutually convenient time to meet with the researcher. Therefore, the study ultimately included only teachers, students, and classrooms in grades 2-5.

During the pilot study, I had found that the teachers worked informally in pairs, and preferred to be interviewed this way. Those two-person interviews were full of rich description of the life of the classroom, from the teacher's point of view, and I had hoped to again capture

that dynamic conversation for the dissertation research. Interviews, which took place within the classrooms, were scheduled before or after school, or during the teachers' breaks, and lasted no more than 45 minutes. As it turned out, all the interviews, with the exception of one, were individual interviews. When I was given the opportunity to present my research goals to the teachers at one of their staff meetings, I was prepared to distribute the Informed Consent document, as well as a paper on which a teacher could list their contact information, and preferred time to meet. The completed forms were collected at the end of the staff meeting, and saved substantial time when it came to arranging interviews and communicating with teachers.

The questions for the teachers ranged from being quite specific, such as asking them to describe their training; to being completely open-ended, such as asking the teachers to describe their ideal environment for teaching literacy.

The pilot study used a similar set of questions, which were refined for the case study research. All interviews and conversations were semi-structured and open ended. Pressley, in his essay on his experience in research methods in reading education, describes interview questions as needing to be open-ended, "to make certain that the teachers' thinking was tapped as completely as possible," so that the answers would be filled with informative insights, containing rich interview data (Pressley in Robinson et al, 2004, p. 294). Questions were modified as the interviews were completed, but remained essentially the same, as they provided a serviceable framework for open and relaxed conversation.

Teacher interviews. The transcribed interviews with the teachers were the first interviews to be analyzed. The transcriptions were coded line by line (See Figure 2). The same process occurred with student interviews (See Figure 3). Line by line coding resulted in Level 1, or sub-codes, and then these were grouped into focused codes.

	LEVEL 1 CODES	
1. 1		INTERVIEWER: What's your favorite area in the classroom?
2.	Likes the carpet The carpet is a special time Talking on the rug Not standing in front Sitting with the children Meeting	TEACHER: I think on the carpet. I know I keep saying that, but just, I feel like when they're there it's, it's like a special time. I know it sounds corny, but it's like… But they, now, you know, even when we have our anti-bullying meetings, they know when they come to the carpet, it should be, you know, a time where we can get together and talk and it's, you know, I'm not standing in front of the room. You know, I sit on a chair and we sit together, whether it's in small-group meeting, or whether it's whole-group, they know it's, you know, for a reason.
3.		INTERVIEWER: Someone explained to me how they walk amongst the children there, because it's easy to manage what they're doing…
4.		INTERVIEWER: Would you put the rug any other place in the room? I mean, how did it end up there?
5.		INTERVIEWER: If you could think of 3 adjectives that you think the children would use to describe the room, what do you think they would say?
6.	Colorful Neat Organized Fun	TEACHER: I usually do this every year with my class. I get colorful, I get neat, and I get organized or, (sighs, thinks aloud) to describe their classroom - fun maybe?

Figure 2. Excerpt from teacher interview with Level 1 Codes.

	LEVEL 1 CODES	
		INT: Do you think children need their own desks?
	Children need their own desk	STUDENT: Yeah
		INT: What if you just had like some tables with bigger cubbies? Do you like having your own desks?
	Liking a place for his own stuff Hard to keep one's things separate	STUDENT: Yeah 'cause it has all your stuff in it but like when they are on the table it is hard to keep your stuff separate from other people.
	Liking privacy Wanting boundaries Not liking when people look in his desk	STUDENT: Sometimes things are private in your own desk and you don't want anybody take them, and a lot of people can see if it's slid over to somebody else's desk. Sometimes people lose their things in other people's desk and then they look for it. That happens to me. When I go and put something into my mailbox people will come over and they will peek in my desk.

Figure 3. Sample student interview with Level 1 codes.

Student Drawings. Students were asked to create drawings of their ideas about the "best classroom for learning how to read and write." Children were asked to draw their idea of the best classroom for reading and writing, and then to talk about what they had drawn. A typical question was, "what are the places you like the best (or least) for reading or writing?" (See Figure 4). The drawings were saved and catalogued (Appendix G).

The drawings were not formally coded, for several reasons. First of all, the initial intention of the drawing activity was to provide a comfortable setting to stimulate the children's thinking, and to prompt them to discuss what they liked in their classrooms relevant to literacy activities. While the drawings were not coded, they were examined to see if any repeating themes or elements emerged.

1. What would a good classroom for kids to learn reading and writing in, look like? How would *you* design it? Please draw a picture of the classroom you'd design.

After the drawings were completed, students were asked the following questions:

2. Show me/tell me about the places in your classroom where reading and writing happen.
3. Has your teacher made some special places in the room for teaching kids how to read and write? What makes them special?
4. Which is your favorite place(s) in the classroom? Why?
5. If you could learn reading and writing anywhere in any kind of place in the whole world, what kind of place would that be? Indoors or outdoors? etc.

Figure 4. Sample interview questions for students.

Four students were selected by each teacher to be interviewed. The teachers were directed to select children representing a range of intellectual abilities. Patton (2002) refers to this as "Maximum variation sampling—purposefully picking a wide range of cases to get variation on dimensions of interest" (p. 109). The intent was to provide information-rich cases that manifest the phenomenon intensely (Patton, 2002, p. 46). Interviews with students were conducted within the classrooms; both while the classroom was empty of others except for the teacher, and while class was underway. Children were interviewed in groups of two or three, and in one case, the entire classroom was invited to draw their idea of "the best classroom for reading and writing". The latter exercise occurred at the request of the teacher.

Analyzing the data

Using grounded theory methods, all the interviews were coded, the district documents were coded, and the photographs were closely examined; key themes became clear. I looked for anomalies within the data, and found some. However, the organization of the themes was critical in creating a coherent, meaningful narrative from the large amount of data. As different organizations were created, new threads of meaning arose, and over time, the anomalies became important parts of a complex story.

CHAPTER THREE

Findings

Figure 5. Exterior view of New Town Elementary.

New Town Elementary, the case study school, is a typical 1960's one-level brick elementary school (See Figure 5). It is divided into upper and lower schools, with Kindergarten – third grade, and fourth and fifth grades in separate wings. One classroom in each wing is a special education self-contained classroom, but implements balanced literacy, like the mainstream rooms. During the period of the formal study, the principal was in her first year in that position, although she had previously been a literacy trainer for the same district. The principal was very knowledgeable about balanced literacy, and interested in the proposed research question. For the current study, it was originally planned that each of the twenty-one classrooms in the school would be visited, observed, and photographed.

The school's mission as stated on its official website reads:

> Our children stand between the past and the future. Schools must reflect the wisdom of yesterday and the promise of tomorrow. Our goal is to develop self directed, independent, secure and responsible children who will have a love for learning, a

> curiosity of the world around them, and the ability to find solutions to questions so that they can grow socially, emotionally, and intellectually to their full potential. At [New Town] Elementary, we commit minds to inquiry, hearts to compassion, and lives to the service of humankind.

New Town Elementary was built in 1963. It is a one-story brick building, built in the modern style, laid out according to the then-popular "assembly-line" philosophy of education, in which children enter into kindergarten as 5 year olds, progress sequentially, in both educational and literal senses, for 7 years, and exit as 6th-graders, ready for middle school or junior high. The arrangement of classrooms along double-loaded corridors dates back to the turn of the 20th century and the reform movement in education, in which reformer John Philbrick devised the "egg-crate school" in an effort to connect the architectural form with the educational function of classifying students by grade and tested proficiency (Tyack, pp. 44-45). As originally planned, the individual classrooms were arranged with the initial grades at one end of a long corridor, and the older grades clustered in order at the other end of the school, with the two wings meeting at a central administrative area near the school entrance. Aluminum-framed windows, cinder block walls with heavy coats of shiny beige paint, and well-worn linoleum are the primary interior finish materials. The classrooms and corridors are lit with long fluorescent fixtures, and the windows are covered with pull-down roller shades of indeterminate age. The classrooms on two sides of the building face parking lots and blacktop; the other two sides look out onto grassy areas. There is an interior courtyard on to which some classrooms open. All the classrooms exit directly to the outdoors, as well as into an interior shared corridor. There are pleasant but minimal plantings and shrubbery along the front walk.

The teachers of the New Town Elementary were at various stages of their professional and personal lives. While the majority of the interviewees were female, two were male, as was

the teacher/learning facilitator who taught in the demonstration classroom. The teachers candidly expressed their sense of purpose and serious commitment to educating the children in their charge. Through the interviews, the teachers also expressed varying levels of comfort and acceptance of the recent push by a new school district administration for increased professional development, a constructivist approach to learning, and to balanced literacy itself.

In 2008, New Town's school district initiated a strategic plan, wrote and published a "vision" statement, and created a defined program of staff professional development, in order to have everyone – administrators, teachers, staff, and community members—working from a common understanding. The published district documents define and state the district approach to teaching and learning, and cover the gamut of educational objectives. The Professional Development document states, "While not specific to balanced literacy, the documents express and support evidence-based education, and the use of a constructivist approach to learning that has as its goal higher student outcomes. It also describes the school district as a learning organization (p. 4, CSD Professional Development document). The Professional Development document states that "Professional Development is an inherent value of any learning organization," and states a goal of creating professional learning communities, and promises to establish professional learning communities that focus on building the capacity of the entire organization to adapt to change, in a collective sense and not just on the level of individuals (p.4).

The strategic plan and the 2020 Vision document were obtained from the official public website of the school district. The district document codes included:

- Improving student performance
- Improving teaching effectiveness
- Using evidence-based educational strategies

- Valuing collaboration and team-work
- Becoming technologically aware and adept
- Valuing personal reflection and higher level synthetic thinking

The district administrators, including building principals, learning facilitators, and members of the school superintendent's staff, were charged with conveying the district vision and implementing the district strategic plan. In interviews, the responses of these individuals to my questions were consistent with the statements included in the published district documents. At the building level, teachers were encouraged to read professional literature and books, such as those written by Fountas and Pinnell (1996), and Diller (2008), and to form study groups. The principal of New Town Elementary maintained a reference library of these and other books, which she shared with teachers in the school. In fact, she loaned copies of these books to me, in order for me to better understand how she introduced and discussed balanced literacy with her staff.

The district 2020 Vision, the Strategic Plan, and the Professional Development Plan brochure were analyzed using grounded theory coding, and list goals that correlate to specific environmental requirements. For instance, "personal reflection" implies provision of a physical place in which to reflect and a physical accessory, such as a journal, in which to record one's reflections – as well as a physical place in which to keep that journal; "valuing collaboration and team-work" implies that a place is provided for teams to meet and work. In fact, these examples were cited by the building principal in her interview with me.

The professional development document quotes a study by Sanders and Rivers (1996): "The single greatest effect on student performance… [is] the effectiveness of the individual classroom teacher." I heard this statement several times, from a range of individuals: the initial

key informant, the outgoing principal who had first introduced me to New Town Elementary, the current principal, Principal D, and from other teachers themselves. As it turns out, Sanders and Rivers' large-scale quantitative study quoted derives its definition of "teacher effectiveness" through the math test scores of students. The study found that students who experience a three-year sequence of ineffective teachers can lag significantly behind their peers who experience a three-year or mixed sequence of effective teachers. While the study only addresses math learning in second-fourth graders, the authors generalize the results, and claim to have proved the primacy of teacher effectiveness on all learning. This assertion has become apocryphal in the educational realm.

The district document on professional development reveals a conflation of the key role of teachers in educating with the need to prepare teachers to teach in a constructivist manner. The district Assistant Superintendent for Instruction and Professional Development described herself as a constructivist in her interview, and mentioned by way of describing her academic credentials that she had studied with Lucy Calkins at Teachers College Columbia University, well-known as a whole language/constructivist literacy educator. The literature that the district employs to evaluate their teaching staff has a constructivist bias as well. Danielson (2007) writes,

> Constructivism stems from a long and respected tradition in cognitive psychology, especially in the writings of Dewey, Vygotsky, and Piaget. Although not universally accepted throughout all of the 20th century, constructivism is now acknowledged by cognitive psychologists as providing the most powerful framework for understanding how children (and adults) learn. (p.15)

Danielson provides no references to studies or literature to support her statement. She claims only that it, "derives from the most recent theoretical and empirical research about teaching and aims to apply to all situations" (p.14).

After closely examining the school district's strategic plan, the district's professional development document, and the materials prepared by the learning facilitator for distribution to observers, I found that there was a single, clear, and consistent message regarding the implementation of evidence-based education, professional development requirements, and constructivist education, including balanced literacy, at every level of school administration, from district to building-level. The polish of the professional development document, along with the Sanders and Rivers quote, among others, puts forth the district point of view with assurance and the strength of "science" behind it. In this way, the district was responding to both the pressure of the federal government for evidence-based educational techniques, and to the local pressure to create consistent classroom experiences and learning outcomes for children across ten elementary schools. Because the case study school's district, teachers were unionized, they were not required to participate in the new district professional development initiative. They were, however, required to teach using the methods selected by the district. As it will be seen, while teachers were willing to try what they considered to be a new approach (or what was to them, an old approach with a new name), they were just as often protective of their autonomy within the classroom, and of their personal sense of self-efficacy. Teachers viewed themselves as experts by virtue of experience and training; and eloquently expressed the meaning that the concept of "school" held for them.

Coming to understand the balanced literacy approach

In order to create a full and rich picture of how the teachers and students of New Town Elementary used the physical classroom for teaching and learning, I had to first understand a typical school day, and become acquainted with the tools and techniques of the balanced literacy approach. Observing in the classrooms enabled me to create a mental image to which I referred

when reading the interview and document data, and when I thought about the themes and how to organize them. A typical day began as children file into the classroom, through what is ideally a welcoming and cheerful entry area.

In the entry areas, there are baskets for them to drop off their homework or notes for the teacher, as well as the organizational charts used to assign different children to different scholastic or maintenance activities, or specific areas of the room, such as their "reading homes," and that are intended to help the children be independent throughout the day. At New Town, the entry areas varied quite a lot, from neat to chaotic (See Figures 6, 7, and 8). However, they all retained some of the same physical elements: school notices, a clock, the fire alarm bell, a fan, light switches, and the intercom or phone, all randomly mounted to the wall (See Figures 6, 7, and 8).

Figure 6. A larger view of a classroom entry area.

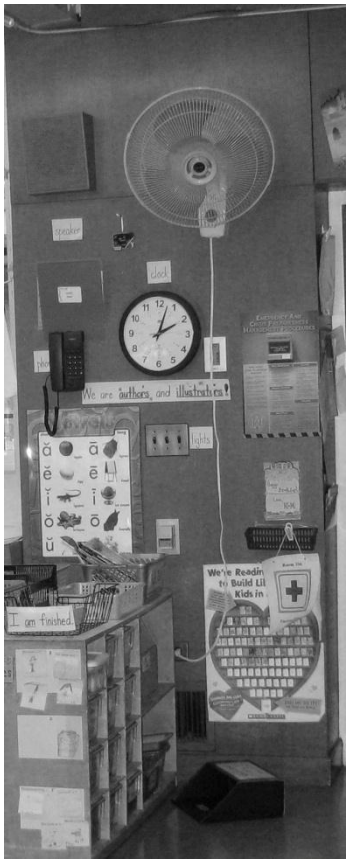


Figure 7. Entry with baskets to drop off finished work. Note the fan, clock, intercom phone, light switches, security alarm.

Figure 8. A well-organized entry area.

The documentary photographs of the classrooms provide a good image of the first impression of a typical classroom. In each room, I saw an example of every element of balanced literacy, as well as the environmental obstacles to engagement that are described by both teachers and students. The windows were typically obscured with drawn shades, upon which hung anchor charts and student work. The chalkboards were similarly covered with papers. The desks in most cases are pushed tightly together to create tables of four to six children. On each group table, there was usually a carry-all with pencils, rulers, and other office supplies. There were piles of papers and books everywhere.

As a rule, the large group work took place on a large rug, often connected with the library, and which was intended to accommodate everyone (See Figure 9).

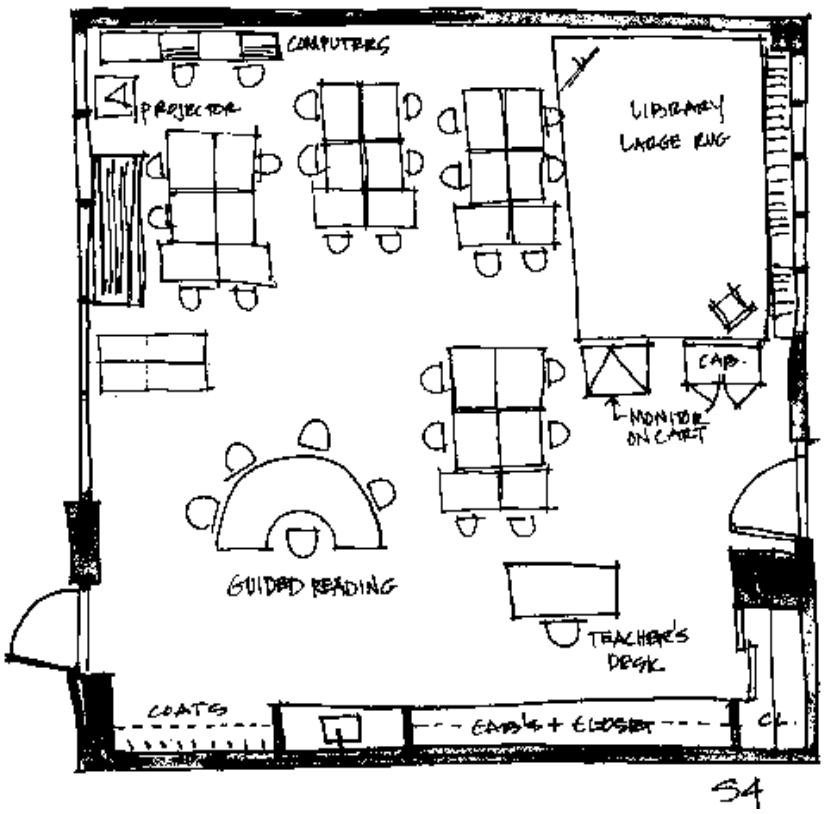


Figure 9. A typical fourth-grade classroom floor plan with furniture layout.

The teacher nearly always sat on a chair or on the carpet at the front of the group, with an easel and large chart paper nearby. The mini-lesson is the first step in a process referred to within the district as an "hourglass" – first, the whole group meets, then the children disperse for individual or small group learning, and finally, the entire class comes back together to share their experiences and thoughts collectively. The entire class and teacher, gathered on the large rug, which was not always large enough for all the children to fit comfortably. Each teacher had a special chair or stool at the front, next to an easel stocked with a large pad of paper.

The method by which the children found their places on the large rug for group time varied from class to class. Some teachers had instituted a chart, whereby each child had his designated spot, which was rotated periodically. In other classes, children were free to choose their place on the rug. Some children sat facing forward; others lay down with chin cupped in hand. I observed that students fidgeted, and when they did, they invariably touched or bothered another child, who would then be distracted from the lesson. If the teacher noticed, then the lesson was stopped for a momentary reprimand by her.

During independent reading, students moved to either a place of their own choosing, or to a designated nook. Some preferred to read at their desks. If there were more than two children on the rug, there would usually be discreet whispering and laughing. If the task were writing with a partner for collaborative learning, then the quiet interactions were allowed and were less furtive and more focused on the task at hand.

When students were asked to work quietly at their desks, for example to complete a journal entry or writing assignment, there was a substantial amount of walking around that occurred. The teacher would at these times usually be working with a small group of four or five students, in guided reading, at the half-round table (See Figure 10).

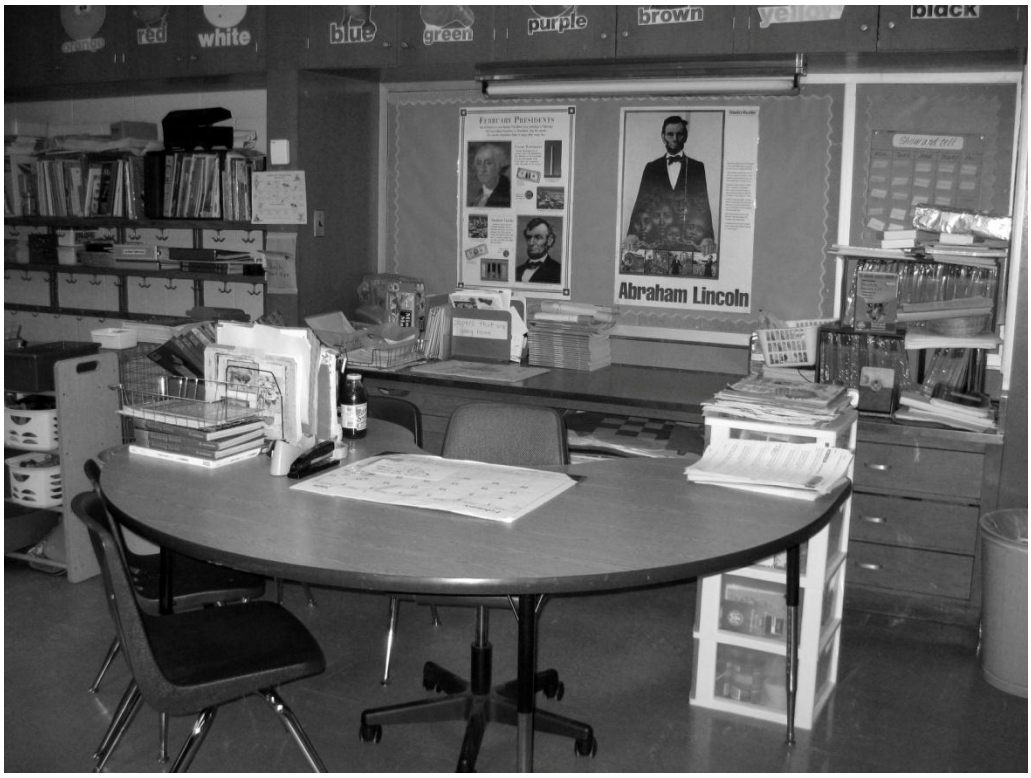


Figure 10. Half-round desk for guided reading and small group work.

This table was located at some perimeter location where the teacher would be able to scan the overall classroom while working with the small group. Sometimes an aide or assistant would also be in the room, possibly grading papers. The aide's desk or work area would also be along the perimeter of the room.

The Interviews

The interviews gave all the participants the opportunity to express and share their thoughts about the necessary elements of the ideal classroom for teaching and learning to read and write. There were two major constituencies within the school, the teachers and the students; a third constituency was the district administrators. All were asked the same question: to describe their ideal classroom for teaching and learning reading and writing, and other aspects of

literacy. Each interview ended with an unstructured discussion. In their interviews, district administrators, including the building principal and the learning facilitator, offered their ideas about their ideal view of an ideal environment for balanced literacy learning. As Charmaz advised, I let the discussion go where it seemed to naturally flow, following new threads as they arose.

A set of themes arose that I did not anticipate. In addition to themes strictly related to the physical attributes of the classroom, such as creating a comfortable and welcoming library, themes related to self-efficacy, autonomy, and the meaning of "school" arose. Teachers, administrators, and students often moved fluidly between their notions of the ideal classroom, to observations of their actual situation, with all its deficiencies; in doing so, they used the existing settings as a means of comparison to describe what they valued in their experience of learning and teaching, to highlight the conditions in they currently worked, their professional relationships with their teaching colleagues, and to illustrate what they thought could be improved. Ultimately, the themes that emerged from the interview data from all three groups revealed the physical and non-physical environmental attributes that each considered to be necessary for teaching and learning balanced literacy. Again, the categories of meaning, structure, and community served to organize the emerging themes.

Learning to create a physical setting for literacy

Very often, as a way of getting them to open up, I asked teachers about their training – where did they go to college? Where did they learn to teach? How did they learn to set up the classroom? Teachers described their formal and informal training experiences and provided insight into their culture of acquiring knowledge about the environment. Many of the case study teachers had multiple master's degrees, some in literacy. However, they told me that in their

formal education, little or no time was spent on the connection between teaching method and classroom design. Once they were placed in a school and given their own classroom, most teachers used their peers as mentors and resources as they struggled to create a functional and lively classroom environment, and to solve space, furnishing, and storage problems.

Formal and informal training. When discussing their training, most of the teachers described a substantial formal education coupled with an apprenticeship period as student or novice teachers. In most states, a period of student teaching is required before someone can earn their teaching license. During the on-site experience, a student teacher is assigned to a classroom, and supervised by a senior teacher in tasks such as lesson preparation and delivery, observation, and classroom management. This master-apprentice relationship is like a rite of passage for student teachers as they prepare for to take responsibility for their own classrooms. It made sense, therefore, that nearly every teacher interviewed described how they found a mentor, learned from a more experienced teacher, or learned from sharing with colleagues over the course of their professional career. This informal apprenticeship is a meaningful and substantial part of the culture of teaching. In fact, it is possible to see that this tradition or arrangement existed as well in the relationship between principals and teachers, and also between the learning facilitators and the teachers. It may be deduced that formal teacher training consciously incorporates informal training. In fact, the district document on professional development, which was issued by the Office of Instructional and Professional Development, especially draws attention to a professional apprenticeship program offered by the district to teachers, where teachers and building administration are invited to apply for an apprenticeship at the district offices with senior administration. This is a good example of how formal and informal training are integrated into the overall and on-going education of teachers. The findings

suggest that the meaning that teachers find in their roles is at least partly related to how they learned, both formally and informally, to teach, to manage a classroom, and to create a physical setting in which to work.

The teachers were asked if their college or graduate level education courses had addressed the physical layout of the classroom. According to the teachers, there was only the most fleeting mention of classroom layout or set-up. "In one literacy class that I was in, there was some discussion about classroom set-up. One class, maybe for a couple of days…I'd say, very, very little." And, "When I was in undergrad, I don't believe they taught you that. You know, there were math methods classes, there were reading methods, but there was nothing about how to set up a classroom." From another, "…I happen to be a general education and literacy major; I have a double major. So if I didn't have that literacy background I might not have heard of it at all…"

Other teachers had only slightly more substantial training:

> They did like a 'mock set-up your classroom' where you drew a diagram… they gave you a situation where you have twenty-five students, and how are you going to put them? Are you going to put them in groups or rows, and where are you going to put your desk, and where's the reading area? But other than that, it wasn't really discussed, or emphasized or anything.

Another took a graduate course on classroom management that tied management to room design:

> It was about managing your physical space. As a part of the class, I had to design a two-dimensional layout of what my class would look like…and the teacher believed, which rubbed off on me, in group tables to create collaborative conversation; he did not believe in rows of desks with the teacher up in the front. He believed in more progressive styles of organizing your classroom. He was a proponent of not having a teacher's desk in the classroom at all. He didn't want a teacher's desk.

These comments indicate that novice teachers are only briefly exposed to the connection between educational philosophy and room layout during their formal education, and almost certainly never learn of environment-behavior research. For the teachers interviewed, schools do not provide to teachers a standard template or guide to laying out a classroom; at New Town Elementary, the classrooms were not outfitted with the same furnishings. A teacher who had been recently hired in the district related the following:

> I have to tell you, the first day I walked into the classroom, and you know what they look like in the summer… like a disaster, and nothing's set up at all. I just stood there for a while and said, "Now what?" I really did. And I just stood there and said, "I don't know that I can do this." I said, "How do I know how to do this? Where do I begin?" And I stood there, you know, I was in (laughs) for a good six weeks. And I was just walking around in circles thinking about it. Then, you know, I did some reading, and I really was left to my own devices to try to figure it out. I got there, but it took a while. I just stood there and I said, 'Oh my goodness, now what?' It's like I needed an instruction manual.

Some newer schools may have uniformly furnished classrooms, but in an older school building like New Town Elementary, the classrooms were a hodgepodge of new furniture, older pieces, and castoffs and hand-me-downs, some provided by the district as the annual budget permitted, other pieces brought in by the classroom teacher.

Meaning

Commitment to teaching. In the interviews, teachers frequently talked about their commitment, sense of responsibility, and passion for teaching as they responded to a wide range of questions and prompts. Strong themes emerged from the grounded theory analysis of the data from the interviews with the teachers, particularly those that captured the teachers' sense of commitment, learning from a variety of sources, responsibility, and passion. It became clear that within the culture of professional educators, these characteristics and sense of purpose were

fundamental to the teachers' identity. This sense of commitment and passion revealed the teachers' own idealism, matched by the statements of the principal and the learning facilitator.

Finding a sense of self through teaching. A passion for teaching is the basis for the motivation and attitude of the teachers who were interviewed. The overriding message from the teachers was the intertwining of place with sense of self. The teachers used the term "school" to mean not only a physical place, but a culture and a community of which the teacher was an integral part. One teacher said, "This is my passion. In August, I just can't wait for school to begin. I look forward to it. I kind of lose my sense of self when I'm not teaching. So, it's a rewarding experience to be here." Another said,

> My whole philosophy was, 'if I'm going to be in the classroom at least 7 hours a day, I want it to be a place I'm comfortable in. I love coming in to my room. I love coming in on a Monday, and breathing in the stale air, and this—this is where I belong.

Teachers do not practice their profession in a vacuum, separate from place or from students. They became experts by being in classrooms with students. One teacher's comments summed up the experience of many, when she said,

> I thought I was a pretty good teacher before, but now... I feel like, I love coming to work every day. I tell them [the students] every day, 'this is where I want to be. I want to be with you.' "I love it. I love it. It's my passion.

Teachers were, to a person, aware of their responsibilities and committed to teaching their students the things they needed to know, academically and socially, and their answers gave a deeper dimension and understanding to this study. Their commitment to their work was their primary motivation for the time and effort that they put into creating the room setting: arranging and re-arranging the classroom furnishings, striving to become more organized, seeking to continually create a comfortable, attractive, and functional setting for learning. In my interview

with her, Mrs. K was one of the teachers who were most passionate about teaching, referring to it as her "calling." She wanted her students to love school as much as she did, to look forward to Monday morning, to learn deeply and remember their entire lives, the year they spent in her class.

It is significant to note that not a single teacher mentioned that classroom teachers were professionally evaluated by their supervisors on the physical layout and attributes of their classrooms as an indicator of their use of balanced literacy methods. While this was definitely the case, teachers never identified the desire to meet the expectations of the principal as a motivation for their desire to create a pleasing and functional classroom environment.

Who "owns" the classroom? Teachers wanted to inspire their students, and this, too, connected people—in this case, students—and their experience of learning, with the physical classroom. As one said,

> I wanted my kids to have ownership. I wanted them to be inspired to love school. To me – to expand their minds – I wanted them to come to school every day and leave with something every day. Something special, something they'll remember when they're older. Something that I didn't have that I experience growing up. I only remember the negative things that happened in school. And when they're in this classroom I want them to feel empowered. And so that's behind it: to feel happy, to feel motivated… To just be creative within, you know within the guidelines. So I just want it to be a place that kids want to come to every day and can grow.

A fifth-grade teacher with twenty-five years of experience noted that ownership of the classroom by the students is tied to responsibility, as well as independence. She says that the students clamor for control over the classroom environment, in particular, an area called the Critic's Corner, where kids can read books and do a critic's review on what they read.

"'Couldn't we do it?!'" they asked, "'could we do it this way? Could we hang up the pictures this way?'" She continued,

> So they wanted to do it a certain way. And then with regard to the bulletin boards, I have kids that decided, 'let's do this, let's make this a science bulletin board!' I kind of gave up control to the kids, where I guided them, but they own it. And I know that what we did this year belongs to them. And when they're older, they will remember it. You know." She went further, "They don't set up the classroom for September; I set it up. But when we get into the projects, it just sort of takes on a mind of its own, and the ownership falls to the kids.

While teachers were aware that they were there to help their students grow and learn; however, they still almost never described their classrooms as child-centered. The teachers viewed themselves as primary actors in the classroom. When speaking about their ideal classroom, teachers usually saw it in terms of what *they* needed, and did or did not have, in order to create a setting for the balanced literacy method, including what they needed to provide for the children. Mostly, there was the sense that teachers felt that they and their students formed a community, but that everyone knew who was in charge.

Still, the students had a feeling of ownership, too. While most teachers prepare the room for the children's arrival on the first school day and thereafter maintain control of the physical environment, one or two teachers do have the attitude that the room is the children's space, as well as the adult's. The teachers have observed in many cases that the physical attributes of the environment support the children's independence. One teacher said,

> It's a welcoming place because the students have control of the classroom. I give them jobs at the beginning of the week. And it took me a few years to realize that the more responsibility I hand over to my students, the more control I have over the classroom. When I was busy doing everything by myself so it could be perfect, the students… didn't have ownership of the class. They run the classroom now. Two children each week are

> responsible for the morning meeting, and the classroom is theirs. They each sit in the chairs above the other kids on the rug.

From a second-grade teacher came this: "I tell the kids, 'this room is an ugly place to be. You need to help make it ours.'" Interestingly, she did not say, "yours," as in "your classroom" – and neither did she refer to the room as "hers," to me.

For students, seeing their work on display meant a lot to them and was a connection between a student and her physical environment. "I like to see my work up, then it makes me happy and stuff, because… it just makes me happy to see what I've done." In another drawing, the student described providing, "lots of space to put things, like all your work, up. You want it to be shown, because you're proud of it." Children agreed that when they see their work and the work of other kids on display, it makes them feel like they've done a good job. Even when students did not like the wall posters, they liked seeing everyone's work on display (See Figure 11). The sense of pride in one's work came through over, and over again:

> I feel good knowing that I did it, it makes me feel like I did very good, and it makes me proud of myself 'cause even though it would go on the wall anyway, it makes me feel that I earned a place on it. I feel like that too, when I see my picture up on the bulletin board, I feel like, hey, I've got my own little spot in the whole thing.

Figure 11. Student work on display.

However, as some children described their ideal classrooms, they made special note of how they were often *not* comfortable putting their work on display with everyone else's. "I feel shy that they are going to laugh at me, that it's bad." These children dealt with this situation through design; in one child's ideal room, there would be a kids' bulletin board where anyone could freely post his work. Kids would be encouraged, because their friends, "…would compliment them on what they wrote."

"School" as a setting for place-identification. Teachers had very clear ideas about how their classrooms, and the greater school, *should* look. The room's paint colors, the decorations, the design of the bulletin boards – all contributed to a message of warmth, coziness, and "school-ness." This was part of how some of teachers identified themselves and their culture, as did this second-grade teacher:

> Outside each room in the hallways used to be primary colors. Like the outside of Susie's was red, mine was blue, green, yellow, and it made it look like a school. Between the fire inspector and between the painting and all that…

Her voice trailed off. Then she continued, "One year, we had hand-prints going down the hallway; it made it look like a school, and made it cozy. I like bright."

Looking at the photographs of the classrooms, one can see an example of every element of balanced literacy, as well as the environmental obstacles to engagement that are described by both teachers and students. The windows are obscured with drawn shades, upon which are hanging anchor charts and student work. The chalkboard is similarly covered with posters and notices. The desks in most cases are pushed tightly together to create tables of four to six children. On each group table, there is a carry-all with pencils, rulers, and other office supplies (See Figure 12).

Figure 12. Typical well-organized supply caddy on student table.

There are piles of paper everywhere. In addition, each classroom had a table where most guided reading activities, in which a teacher works with a few students at a time, took place.

In agreement, in one section of a document that Mr. G, the facilitator had prepared called, "Living a Literate Life: Rigor, Inquiry and Intimacy in the Classroom," he addressed the teacher's role in using the physical environment: "Create a visible climate that encourages serious, but joyful work on authentic tasks through the use of several different types of learning spaces—use alternative lighting, room configuration, rugs, bookshelves and decorative items to create intimate spaces." Mr. G writes that the students' responsibility is to, "Fully utilize the resources available and move independently in the classroom—work within the classroom with the knowledge that it is an honored place of scholarship and inquiry, a place to indulge learning passions and curiosity."

A fourth-grade teacher felt that the aesthetics of a classroom were based on the display of student work (See Figure 13). She wanted kids to understand that hers was a busy classroom.

> [I want them to know] that we're busy in here… that we get a lot of work done... I would like them to see that it's colorful, and that it's a kids' room; that there is kids' stuff up – not my stuff, but their stuff…that there are places to go. The environment is so much more sterile [now] for the kids. There is no place, literally, to display their work, except this one board. By the time the fire inspector is done, we're gonna be teaching in a hospital!

Figure 13 . Children's work on display in a colorful environment, before the fire inspector required most of the paper to be removed.

As they described their drawings of the ideal classroom for reading and writing, one child's comment best summed it up: "You need a place – you need a place for reading and writing. You need a place with books and stuff. That's like the key to a class."

The display of student work is valued by teachers and students alike as an affirmation of accomplishment and a source of self-esteem and class pride (See Figures 14 and 15). Student work is especially placed on display upon the occasion of special events, such as "Meet the Teacher" night, "Back to School" night, and when parent conferences occur.

Figure 14 . Student work on display, covering windows to the interior hallway.

Figure 15. Classroom windows, obscured by student work, as seen from the interior hallway.

Another way in which students become independent actors within the classroom is through the use of anchor charts. Anchor charts are made from large (24" wide x 30" long) sheets of newsprint. As the teacher introduces a mini-lesson, and as the children participate in the lesson, the teacher or a student will make notes on the topic on the chart. As the charts are created, they are displayed throughout the classroom on the walls and any available vertical surface. The anchor carts are displayed so that students, while working independently, can glance around and easily find the guidance from a previous lesson that they are seeking (See Figures 16 and 17). The anchor charts are typically quite large, and teachers use every available vertical surface for display. In addition to aiding the independent construction of knowledge by the students, the display of anchor charts also creates a visual record of the accomplishments and learned lessons of the year-to-date.

Figure 16. Anchor charts hanging on a clothesline for easy visual access.

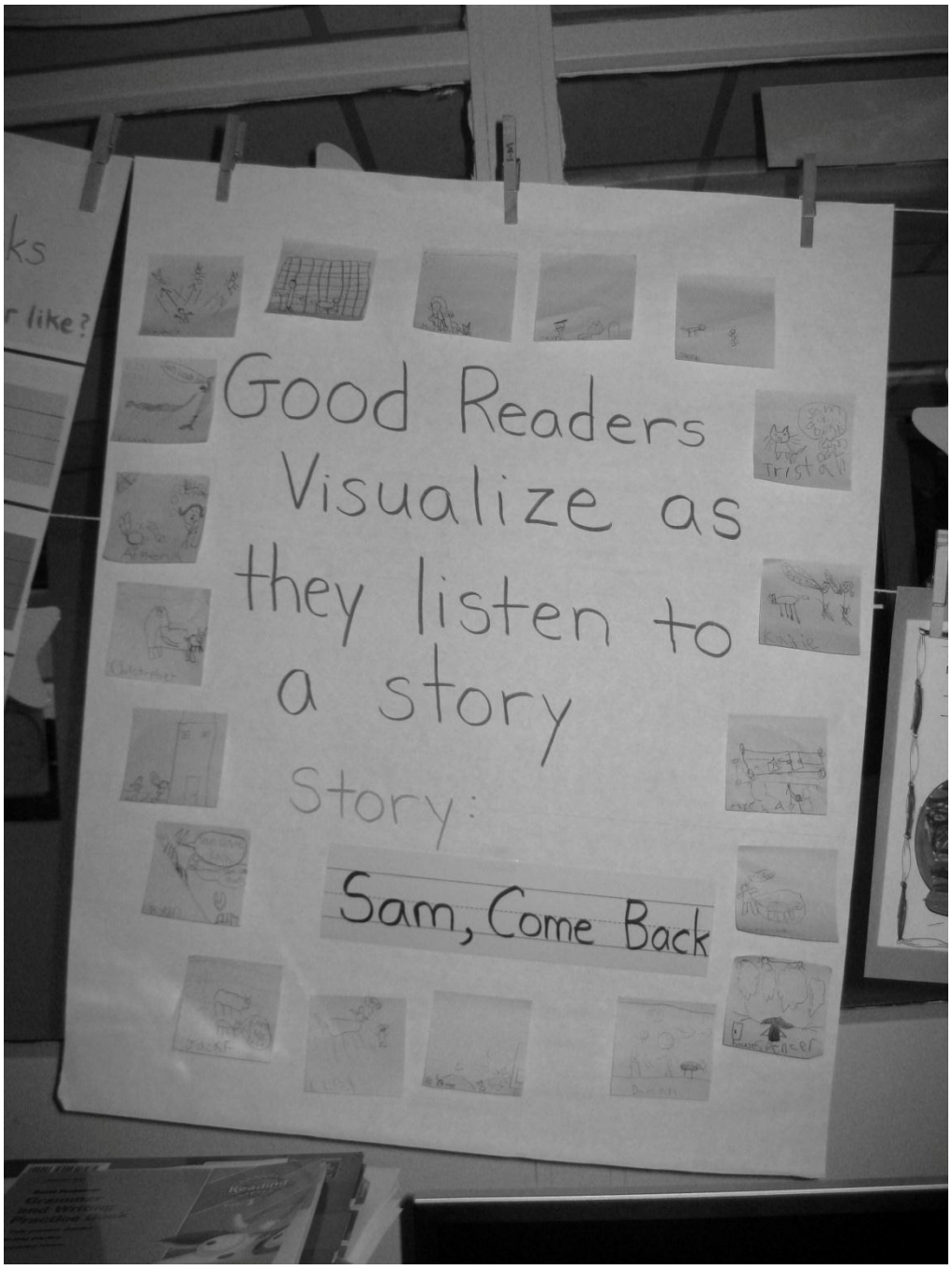


Figure 17 . Close view of an anchor chart, with student post-it drawings.

Students had very clear ideas about the ideal appearance of a classroom. Among the words that children used to describe their ideal classrooms were colorful, comfy, big, with "your words" all around; unique and different. They asked for spaces that were empty, lively but not

visually cluttered. One asked for "glass, glass, and more glass," meaning the windows. In their interviews, children referred often to wanting colorful and lively classrooms (See Figure 18).

Figure 18. A colorful classroom for reading.

Among the words that children used to describe their ideal classrooms were colorful, comfy, big, with "your words" all around; unique and different. Another invented a word, "book-y," meaning "lots of things that come from books." Over and over, children showed that to them, the design of a classroom needed to be pleasing to children in order to engage them. Said a second-grade girl,

> It's important to make sure that kids like what you make, because if they don't like it, less [sic] children will want to go into that classroom…" Describing her design, one said, "I made the walls colors to make them more exciting, because they're pretty. Kids don't really like boring stuff, they like exciting stuff.

Describing the ideal classroom that he had drawn, one young boy said, "This is calm and fun room…this is another writing room, where this desk is an ocean theme and these are on the ceiling and they're lights, it's like waves."

Some children focused on color as integral to their ideal classroom:

Interviewer:	What color do you think it should be?
3rd grade student 1:	I think it should be paint instead of wood. I think it should be sparkly blue like the sparkles!
Interviewer:	And what do you think?
3rd grade student 2:	I love it. I love colors instead of wood, on the door. It should be bright yellows and oranges, and bright green.
3rd grade student 1:	On the floor, the chairs, the table, the carpet!

Children saw color as inspiring. "I would put more color because if you like a certain color, and you get your choice, you'd like it more and read more because it would help you see more." Another said, "It should be bright colors, not this plain white—it's boring. You don't get any inspiration from that." "Yeah," said his friend, "all you'll get is white. Like if they had more bright colors, kids would have a better imagination of things than what they have now." While students wanted bright colors and liveliness, they also frequently commented that there was too much clutter in their classroom (See Figure 19).

Figure 19. A classroom both colorful and visually cluttered.

The brown cabinets of the existing rooms were judged to be "too plain." "I would like it if the room wasn't totally plain, like if the cabinets were covered with pictures of something. Or, posters… because if the cabinets are just brown, they are too plain." Children wanted the walls to be brighter, "because they are pretty much just like really dull" (See Figure 20).

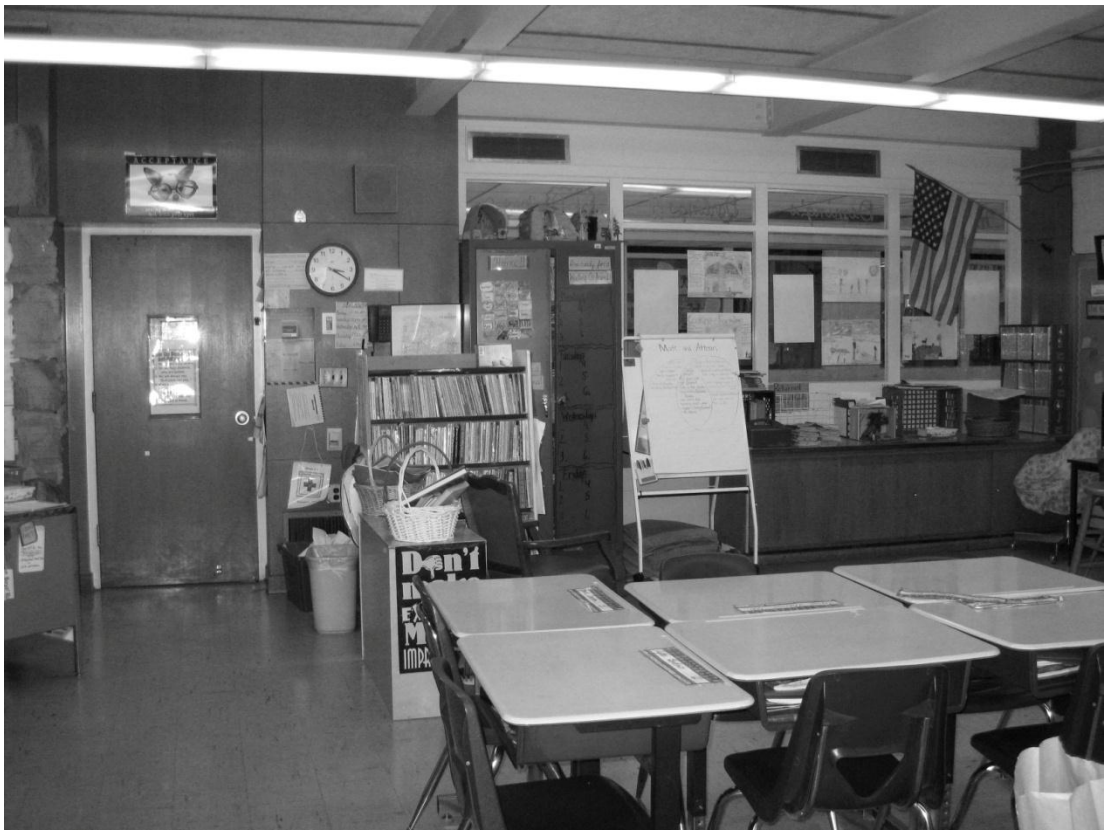


Figure 20 . A neater room, but very drab in color.

While they all wanted something brighter, a second-grader rejected white walls. Even though the classrooms were actually painted off-white, some students referred to the walls as white. He said, “I don’t like white. I would like to have sky blue walls, because it would be like light.” Another said, “I need a room of different colors, because colors wake people up more.” Other students mentioned turquoise, green and red, red and orange; often, they wanted to make each wall a different color (See Figure 21).

Figure 21. Another colorful classroom.

There were positive associations with colorful places, for which one child used museums as an example.

A fifth-grader summed it up, "That's why I like colorful classrooms. It gives it life. Kind of, you can feel the excitement. It makes things pop out, and I really like that."

Several teachers also referred to the fact that without the posters and student work, the classroom would come to look like it did in June. I was confused by what they meant. They each explained to me that in June, teachers begin in advance of the last day of school, to clean up the room with the help of the children. The rooms, which have grown full of student work, anchor charts, and completed projects, become empty. The walls are clean. The stacks of paper have dwindled. There was an air of sadness and nostalgia, the sense that a vibrant community was coming to a natural close. The teachers' comments about "June" helped me to understand that they saw the accumulation of papers as positive indicators of accomplishments, of markers

of all that had been learned and created over the school year. In essence, the visual aspect of the classroom was also understood as a tangible representation of the community that had developed.

Teachers felt it was their responsibility to fill the classroom with the artifacts of the communal life that developed over the course of the school year, and so the classrooms became cluttered (See Figure 22).

Figure 22 . Many kinds of student work on display.

The principal, in her role as supervisor and evaluator of teachers' effectiveness, looked at classrooms for evidence of constructivist learning, which is a process; not for a visual record of the work completed, which is a product. When observing a classroom environment, Principal D stated, "I look for visual information of lessons that have been learned: mini-lessons, model lessons, think-alouds." She continued,

> I look for pieces of evidence that the students are referring back to and not just being reminded of the lesson, but are actually using these anchor charts to help them with the

current work that they're doing, whether in small groups or independently. So I look for that… that's critical in a classroom.

Principal D looked for visual clues that teachers were fully committed to creating an environment for child-centered learning. For instance, if anchor charts were laminated, it indicated to her that, "it's something that the teacher is handing to the children, whereas if there is not a lamination, then you get a sense that the children are the ones that contributed to that anchor chart" (See Figure 23.

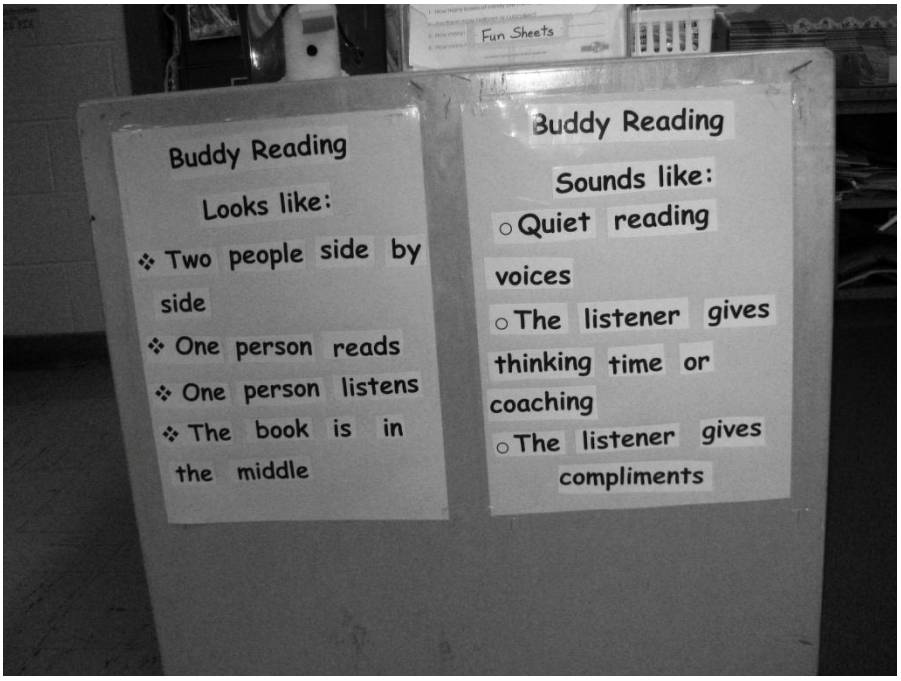


Figure 23. Laminated anchor charts near the library.

She explained that the teacher should understand that the anchor charts are re-done every year, "because they are supposed to be true to the students' thinking and learning that gets put on a page."

Principal D told me,

> It is important that students understand that their space and materials are the most important. It's not the teacher, it's the students. That learning, [the children's learning], is first and foremost, of primary concern. It's about them. We're not here for the teachers. We're here for the kids, and that it's more important. I think in some ways kids are more important than teachers. That's the message, the underlying message.
>
> If the classroom is child-centered, then the teacher understands that it's not her domain, but it's the students' domain, with her guidance and facilitation, which is a very different role to play… Student-driven, students making choices, and having control, being empowered; it really is more about the teacher-as-facilitator now, not the teacher as the end-all be-all leader. I think that teachers come to recognize this over time.

The teacher's desk. Over the time that I knew her, Principal D on many occasions encouraged hesitant teachers to give up their individual desks. In her view, the ideal was a classroom that "belonged to everyone." That meant no assigned seats, but tables and chairs that belonged to everyone. "This is everybody's workspace." Of course, the absence of an individual desk for the teacher reinforced the idea of a child-centered classroom. She said,

> The idea of taking the desk out of the classroom is really more about the environmental message that the teacher's things are not to overtake the classroom. The teacher's planning materials should not overtake the classroom. In years past we would see shelves upon shelves of stored teacher materials, and we wouldn't see as much room for children's manipulatives or student work or things that they needed. And teachers at their guided reading table for example, they will have some stored materials, but the key to this is, you only bring in what you need. What you don't need shouldn't be in the classroom, because the space is really more about the children than it is about the teacher. The focus is on the children.

However, the photographs belie the success of this strategy. The photographs show that the teachers still had their private papers and belongings all around them at their main work area. Often, the table designated for guided reading or small group activities simply served as the teacher's desk. Wherever the teacher's main workspace was, inevitably there were piles of paper (See Figure 24).

Figure 24 . A teacher's desk heaped with paper.

Interestingly, children agreed that teachers need a place to work, and for their things. It may be easily seen from the children's drawings that there is almost always a desk for the teacher included, and sometimes one for the aide. If one were looking only at the drawings, one might think that these were included solely because they exist in the actual classrooms.

However, when the students were describing their ideal classrooms, it was clear that they thought that the teacher needed a desk (See Figures 25 and 26), and that this was a natural thing to include.

> He needs a desk, otherwise it would be a whole room for the kids! He has all these documents and stuff and everything, and he can't just pile them. I think the teacher needs a little space 'cause he really needs a place to work, and organize his stuff.

Figure 25. Teacher's desk and back shelf.

Figure 26. Child's drawing showing a teacher's desk in a corner of the room.

As the children said, the teacher wasn't often seen at her desk, but she still needed someplace in the classroom to keep her things.

Exercising autonomy. Teachers have a strong sense of individuality and autonomy as they take on the task of creating the classroom setting. The task itself is viewed by them as an act of self-expression, and a statement of their individuality. One said,

> …and I don't think I've ever seen the way I run my classroom anywhere either. You know I've read some literature and I felt like I put everything together, and I took the kind of person that I was, and what I wanted…this [her room and her method of teaching] just evolved over the years, like I knew the kind of teacher that I wanted to be.

Another teacher described how he saw the individual interpretations and approaches of his colleagues, "they're all kind of doing the same things but not really doing the same things."

On innumerable occasions, a teacher referred to "my class" or "his classroom." However, the district-level push toward professional development in creating a constructivist, child-

centered physical environment was perceived by some teachers as a threat to their individuality and challenge to their expertise.

> One of the nicest things about teaching for me is the autonomy. And a lot of it is being taken away from us, little by little. I feel the same way about designing the room. I don't want my room to be a mirror of everybody else's room unless it happens to be what the kids work best with (See Figures 27 and 28).

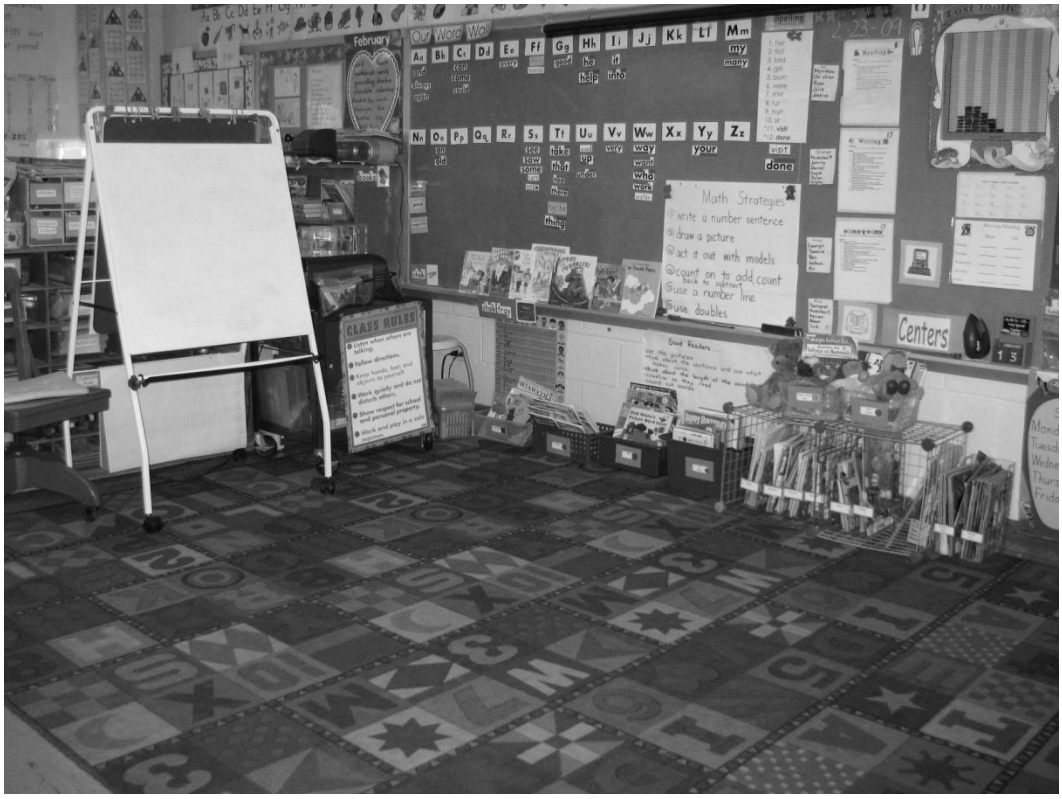


Figure 27. Large rug area with teacher's chair and easel with large pad to create anchor charts with the whole class; note that chalkboard is virtually completely covered with paper.

Figure 28. Different teacher, same rug – an example of how teachers get ideas from one another.

Structure

Teachers are required to assemble and organize a leveled library within their classroom. "Leveled" means that books are organized and displayed according to their complexity (See Figure 29). Also, the teacher is expected to accumulate books that reflect different genres, to appeal to students across their range of interests. The teacher receives a very modest annual

book budget from the school district, funds from the PTA, and from book companies such as Scholastic, but the teacher largely buys the books himself.

Figure 29. "Leveled" library with rug and rocking chair.

In strong contrast to both teachers and students, administrators did not address or acknowledge the less-than-ideal classroom environments they saw in the school. The overall attitude of administrators was that teachers had to first "get with the program," i.e., accept the premises *and* processes of balanced literacy, and that after that, it would take resourcefulness, pluck, and ingenuity on the part of each individual teacher to properly arrange the classroom to support the educational method, and skill to deal with the classroom management issues that might arise.

In terms of classroom management, teachers were challenged to create comfortable and novel places in which children could learn, because of the high level of attractiveness of such places, versus their limited availability. Some examples of this would be the use of a 3-seat couch in the classroom, one child monopolizing the sole rocking chair, and kids who always ran to lay claim to the beanbag chairs. In such situations, a teacher would be compelled to intervene verbally, or in other ways, such as devising seating charts that rotated students from one nook or reading area to another from week-to-week, and sign-up sheets for different spaces.

> When the beanbags first came in, we had a huge management issue over those. We had to go over when you can use them, and how you can use them, and you know – blah, blah, blah. But now, they're pretty good with those, too!

Teachers use the big rug both for large group meetings, and for independent reading time.

> If I had things like pillows and beanbags, they'd want to lay down, which last year they did; we did have the pillows over there, and that is what happened. The kids who got the pillows wanted to lay down all the time… and I can't fit twenty-four kids over there, to do real work.

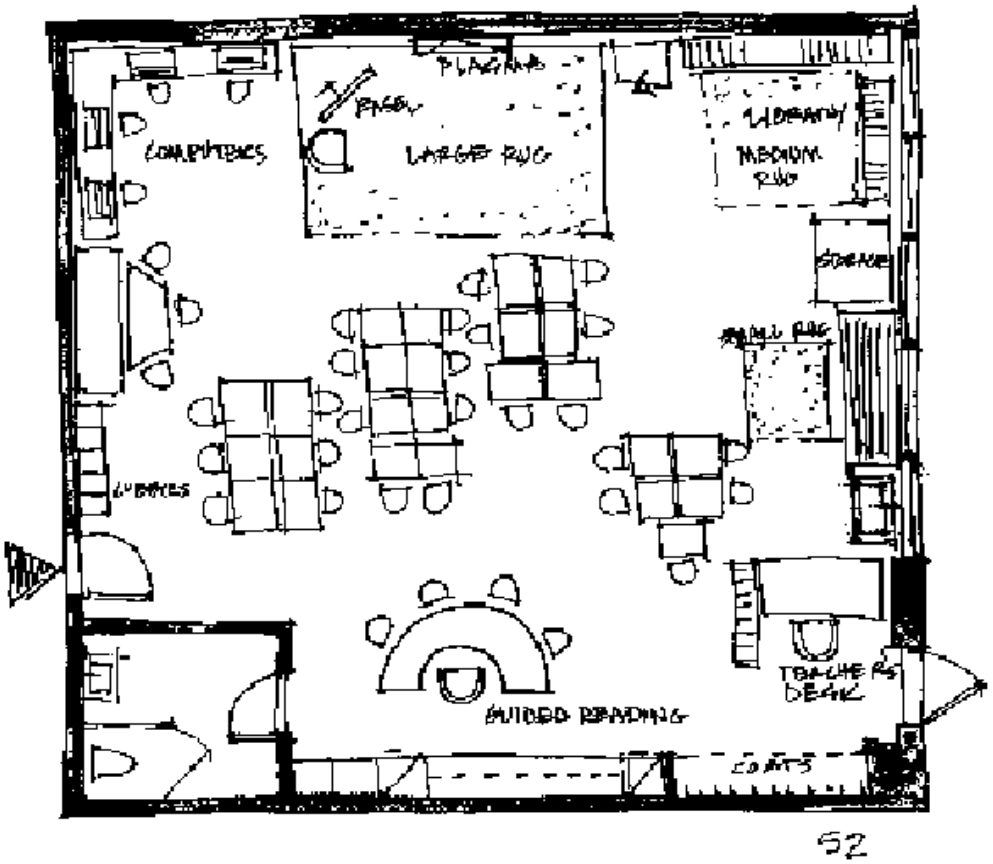


Figure 30. Typical classroom furniture layout (second-grade classroom).

Teachers are responsible for adapting the guidelines of Fountas and Pinnell, and Diller, and the district administrators, to their specific students, and to each year's specific circumstances, but by and large, their attitude could be summed up as, "Adapting theory to reality" – "it sometimes looks really good on paper, and in reality it does not work." Setting up or designing their classrooms was an opportunity for teachers to express their creativity. With regard to the furniture in the classroom, a second grade teacher made a case for movable furnishings. "I'm rarely satisfied for long with the room arrangement. Well, I have twenty-three children in here. I think if I had sixteen children, I could do a whole lot with the room."

Principal D concurred with creating a variety of choices. In her ideal classroom, Principal D would have a variety of places to sit for the purposes of reading: small rugs, a couch, a chair, a special cushioned seat, beanbags, etc. Providing choices of places for reading was, to her, "respectful of literacy as a part of every single person." Due to limitations on their resources and budgets, teachers felt limited in the choices that they could provide.

It can be seen here that there is an intrinsic conflict between the expectation of the district for the creation of a constructivist, child-centered environment, and the personal reward and meaning found by a teacher in the exercise of her autonomy, coupled with the apocryphal understanding, supported by the district and professional literature, that she is the principal actor within the classroom. This conflict manifested itself in numerous ways. For instance, I saw many times that the "teacher's chair" was often larger and more comfortable than the students' chairs (See Figure 31). The teacher's desk, when it was clearly such, held personal mementoes, framed photographs, and items related to work, such as a plan book (See Figure 32). The children's desks did not have personal items displayed.

Figure 31. It is clear that this teacher does not see herself as "equal" to her students, since she gave herself the most prestigious chair.

Figure 32. Typical teacher's desk, with personal photos, lesson plan book, and other items, well-positioned in a front corner, in order to oversee the classroom.

All discussion of autonomy aside, teachers were well aware of how their educational strategies and choices were limited by the actions of other professionals with whom they worked. Possibly because all the technology hardware in the classrooms was fixed in place, the topic of technology produced many comments from teachers about their frustration with the limitations it imposed on their ability to do their work. (It should be noted that there is working technology available in each classroom, usually three student computers and a teacher station, a plasma screen monitor, and an overhead projector. The fourth-grade students shared laptops, stored in a locked mobile cabinet, housed in one classroom.) Teachers welcome the educational potential of technology: "I would have laptops that worked for every kid." From a second-grade teacher, "I'd love to have, popping out of the desk, a little computer, and then when we're not using it, have it just go away. I would love that."

Students agreed. Many of the student drawings had both computers and the plasma. In New Town Elementary, only the first grade and kindergarten classes had Smart boards, but all the children seemed to know about them. Smart boards appeared in some drawings (See Figure 33).

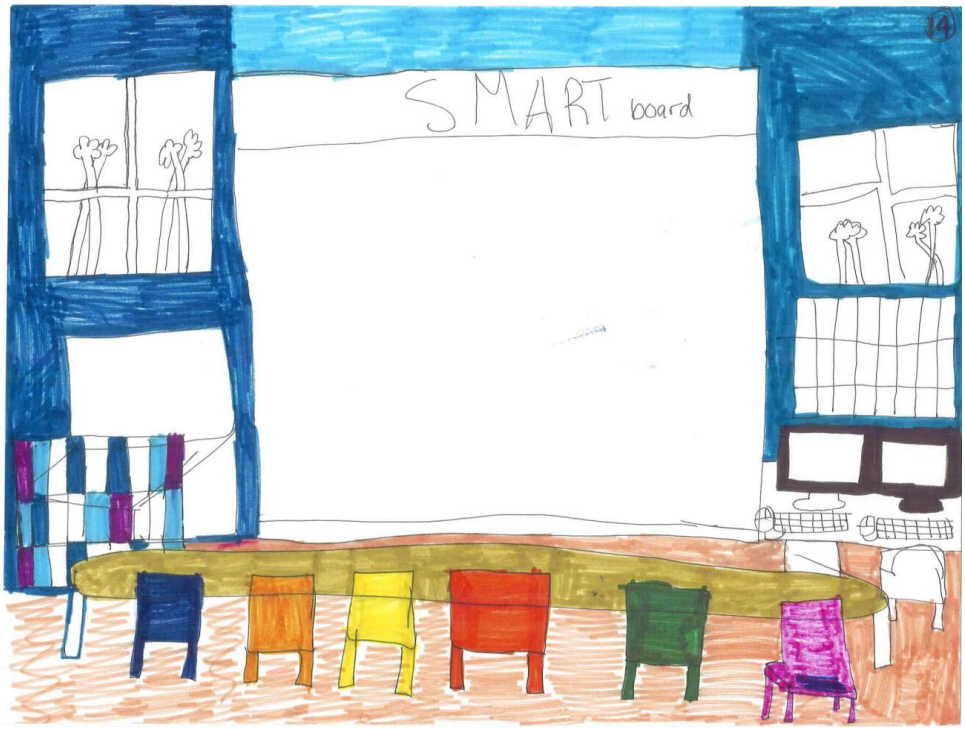


Figure 33. This drawing shows a Smart board and computers, two bookcases, plus a view of nature out the windows.

Another teacher described how the computers are hard-wired and cannot be moved:

> In this room actually I'm lucky, but when we taught in 1st grade they asked us where do we want the computers placed, and we all said put them closer to the windows because in the lower grades, when you sit on the rug and you do your morning meetings, you needed the bulletin board. If you go down to the lower wing, I would say, probably 90-100% of them have all the units from the, computers, right through the bulletin board. So when they did ask for our input, they did the opposite. They did what worked for them. Again, I understand that it's more practical, but I mean, they asked us, what do we want?" 'We want more electrical outlets.' 'Oh, that'll come with computers.' Do you see where the

electrical outlets are? [high up near the ceiling] When they do ask, I understand that there's a need or a placement necessary because of the way it is, but our requests fall on deaf ears. (See Figure 34)

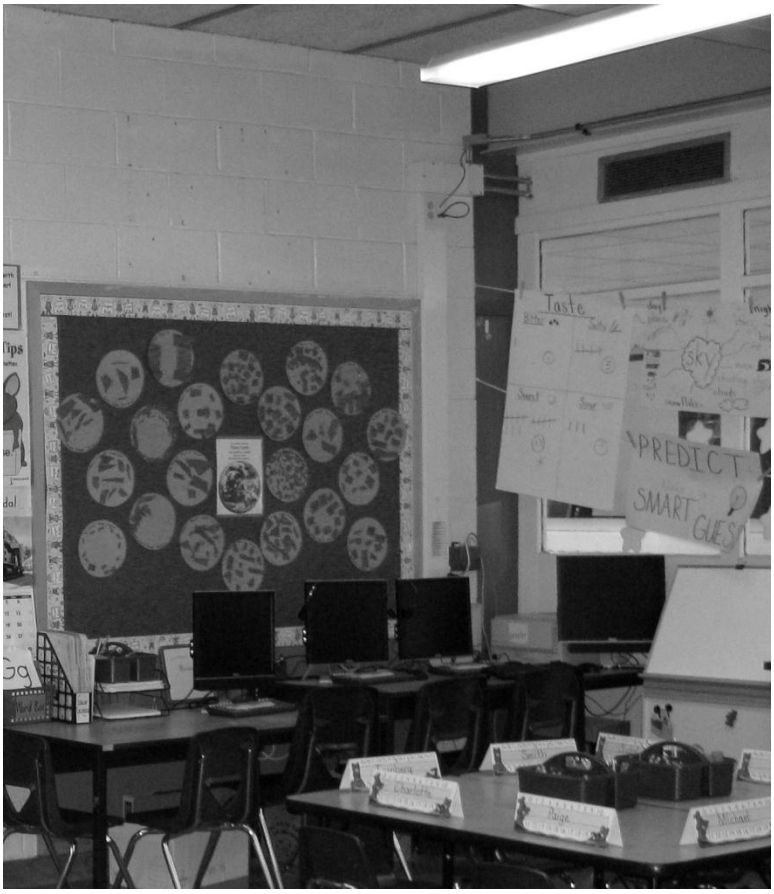


Figure 34. Typical student computer station setup; note electrical outlets near ceiling.

Many teachers felt that they needed the plasma, but that it had to be well-located, because it affected so many other physical elements of the room (See Figure 35).

The way that I looked at it is with 22 students, and being fifth graders, you know… it's different than 22 second graders…when I tried to put it in rows, it just didn't work. I had this great reading rug, which is very large, and I originally I had it in the middle. I had the same five groups, but they were scattered around and then the rug was in the middle which is kind of like I guess you could say was my stage, but everybody's stage whenever they wanted to share anything you know you could just think of it. And as far

as that, I thought that flow was great, but if you see where I put my plasma television, is to the left. So when I had it in the middle, the groups that were over in this corner here, where we're sitting, couldn't see the television.

So what do I do? PowerPoint's for math, they couldn't see the lesson. So I had half of them moved, sitting on the rug with their chairs taking notes, which, it's a way around the solution, but there was a lot of distractions while [moving]. And, some days it would be, the same students and other days it would be somebody else, and then other people from over here moving and so I ended up moving the rug back here and then moving the groups."

And I don't really like this flow because we're all kind of cramped but with the where the televisions is, it's well, I mean they push to try to use the technology so you try to use it, take advantage of it, and but then it it's not user friendly. If that was moved, if it was like three or four feet to the right, or where those maps are at, then I could keep my [rug], originally the way I had it cause it looked really great. It really looked-- I really liked it a lot. I enjoyed it and I think the students enjoyed it as well because when we had a presentation or … they write a book as a group and they wanted to share it with everybody else, you know, I gave them the staging area…that was everybody.., nobody had to crank their neck or anything it was just right there. So, but now we kind of use it back here and it … it works, it's not perfect, I don't think anything is really perfect, but I could get five extra feet of cable, and I could go back but …and those things are mounted and there's not a whole lot you can do, unfortunately.

Figure 35. The off-center, high, fixed location of the plasma screen monitor makes the room difficult to arrange.

The teacher's frustration with the limitations caused by the arbitrary placement of the plasma screen is palpable. He was attempting, with his "stage" to create a child-centered classroom; the physical limitations of the space actually limited his ability to be creative and achieve the goals of the district.

Ironically, students often wanted an open central space, too (See Figure 36).

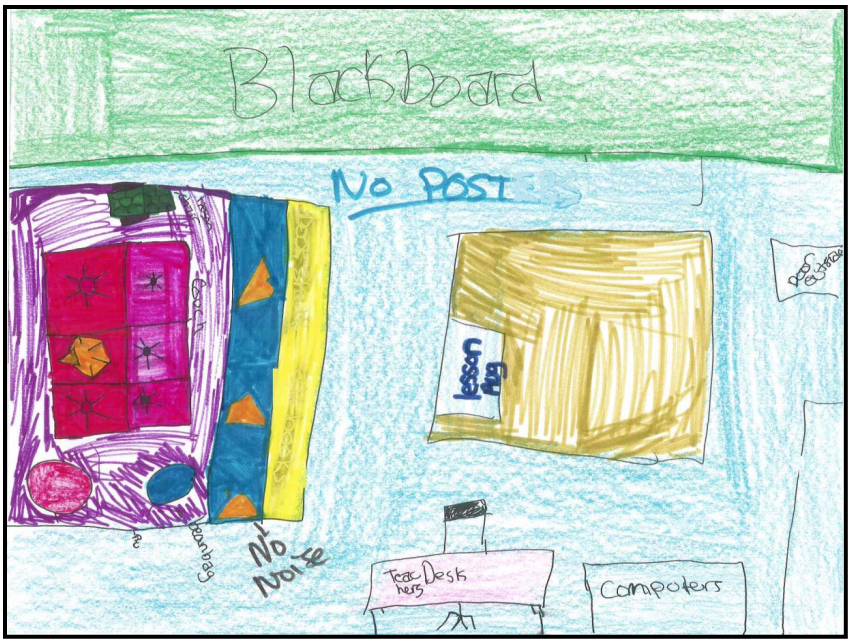


Figure 36. Big open area in the center of a classroom.

Students also noted issues with the plasma screens, due to the fact that they were mounted in fixed locations that often presented visibility problems. "I would move the plasma screen, because sometimes when I sit over there, I really couldn't see when she put a picture on it because it's far away." From another, "I would move the plasma so if they are doing a reading, all the kids could see what they are reading because I can't really see all the reading because it's hard to see unless you're right in front of it.

Students linked a desire for autonomy and independent movement around the classroom and control over the environment to creating and/or finding an optimal place within the classroom setting in which to concentrate on one's work. An older child in fifth-grade remarked,

> Well, I like the idea of the kids being able to set up the room because then, when you get to… you know how you want it to be, and your working standards, and if you're not in a comfortable situation, then you're not going to be able to do your work as well.

This student's classmate echoed this thought, when talking about using the large rug.

> We use it, we use it a lot, and she kind of lets us work and sit however way that we're comfortable, and the rug is a place where we can kind of hang out and we can do our work. I don't know how to say it…we do our work, by ourselves, but we're able to do it in any way that we want to do it.

Clearly, balanced literacy affords children the chance to work productively in places that they choose independently, based on personal awareness of their learning styles or needs. However, this opportunity seemed to be particularly offered to and appreciated by these older children.

> 5th Grade student 2: I have a question: what grade would this [room] be for? Like, certainly it would be so different if it were for a higher grade than for a lower grade.
>
> 5th Grade student 1: In fifth grade, you do a lot more work. You do less reading and more writing.
>
> 5th Grade student 2: He [the teacher] gives us choices, and I think to have options is very good. Yeah, you have choices when you grow up and this is the start of it. And I love it when he says to us, "guys, c'mon, you have to learn to take your own responsibility. I love it because he makes us feel like we're not little kids."

Even so, when the children were allowed to move independently within the classroom, they felt that they were able to control their immediate environment. One fourth-grader said, "Sometimes, I like to move away from the rug and with the pillow, move the pillow onto the floor so I can lay on the pillow, so no one can distract me." Across the grades, students expressed that they like a variety of places that they can go to read or write: "I like to be far away from a lot of the talking and fighting so I can think deeper."

Community

Individuals as part of a classroom community. Community, which is a key component of the constructivist approach to collaborative literacy learning, was valued by teachers, administrators, and students, but by each group for different reasons. Children clamored for time to socialize without being penalized. As stated earlier, administrators viewed community as a necessary element of a child-centered environment, in which children are self-directed and independent learners. For the teachers, "community" often meant providing opportunities for students to either work collaboratively, or to take ownership of the classroom environment and routines.

Another child, a second-grader, liked how the individual carpet squares that children could take for independent work time, could be used to be with friends. "We have these little carpets that we sit on that you can bring anywhere and sit down. Me and my best friend just sit down next to each other, but you can put them anywhere you want." Many children wanted to be near others, "we talk to each other to get ideas." Kids liked sharing ideas, and giving and receiving help when you "get stuck." Another liked a circular set up for the desks, "Because you can see everyone. You can hear them, every single person. You see their face, you're really comfortable, and you're like, it's fun. It really is."

As a fifth-grader said, "I like the idea of being close together because it doesn't feel like you have to be separated as a punishment if you're talking or whatever, you still get the feel of being around you friends, but like, also you have to have your personal space, you can't be too clumped together or else it's like you have no room for yourself." The large rug where everyone gathered for mini-lessons provided an opportunity to be together as a class and learn something new, but also created noise, distraction, and a feeling of being crowded.

The best classroom in the eyes of the children, across all the grades studied, would be one in which there is social interaction, yet protected personal space, and above all, freedom from distraction.

Teachers most often named areas such as the large rug as the area that represented community because, "this is where we come together as a class. Another said, "It's that kind of atmosphere where it's not threatening, it's just kind of a safe place, and we're all in this together" (See Figure 37). For the teachers, a sense of community arose in the creation of areas where the teacher and students gathered together, such as the large rug area, and when teachers gave over some control of the physical classroom to their students.

Figure 37. The rug as the "community" space in the classroom.

For the children, community existed in their social relationships, which developed not in the formal learning areas, but through informal interactions with their peers.

The children thought about the issue of socializing quite a bit, in their interviews and drawings of their ideal classroom (See Figure 38).

Interviewer:	I see one big table, all the chairs at one table. Why do you want everyone at one big table?
3rd Grade student:	So everybody could talk to each other. At recess, we could all switch chairs, and they wouldn't get assigned to people…
Interviewer:	To sit with your friends and different people?
3rd Grade student:	Yeah. Like if you're at one table her, and one table here, you're not really able to talk to each other.

Figure 38. Two large tables, to facilitate socializing.

As the interviews for each group transitioned from discussion of the ideal classroom to the actual classroom experiences of the children and adults, both children and adults expressed a range of reactions, from general satisfaction to deep frustration with the overall physical

environment, individual areas and elements within the room, and to the demands of the administration.

Teachers asserted their thoughts on the challenges of managing a classroom physical set up for balanced literacy. Such a classroom in which independent learning is stressed presents certain challenges to the teacher as she or he manages the children over the course of a school day. A second grade teacher describes it,

> These kids are rarely sitting in their seats for more than ten minutes at a time. There's a lot of movement in the classroom. They're walking from place to place, going from place to place. It's rare that they sit for more than ten minutes.

In their ideal classroom, having individually assigned places in which to work that were designated and controlled by the teacher was a strategy valued by the students. "The teacher is supposed to sit people near each other, like that they'll work well together, but they won't keep talking to each other because that's a big problem we have in here," observed a fourth-grade boy (See Figure 39).

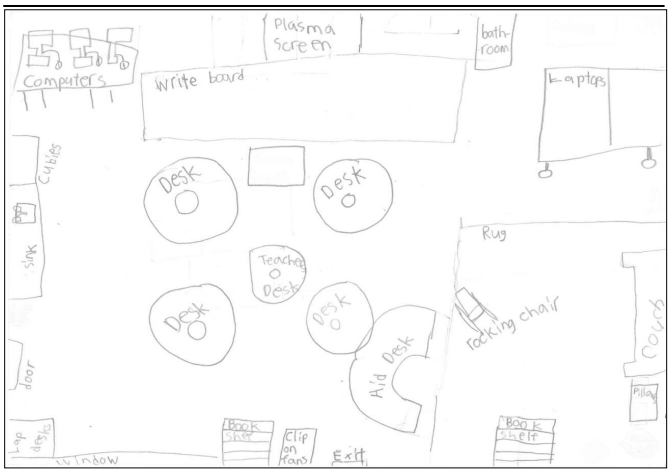


Figure 39. This child's ideal classroom would have the teacher in the center of the children, where she could see everyone, and pivot around to help them.

Assigned seats were perceived by the students as facilitating better work, due to fewer distractions from other children. Following the example of the learning facilitator, some teachers assigned specific places to kids for individual "reading homes." This strategy resonated with the children, because it meant that they did not have to fight over a pillow, etc., in order to find a comfortable spot. Clustering the children at one or two large tables shows up several times in the children's drawings (See Figure 40).

> I think it'd be good because if there's seven or eight kids at a table the teacher only has two tables to worry about and look at with fewer kids. And instead of here… let's say he's [the teacher] is looking at that table, and some kids are goofing off at that table, he won't be able to see that and a lot of kids would have been distracted.

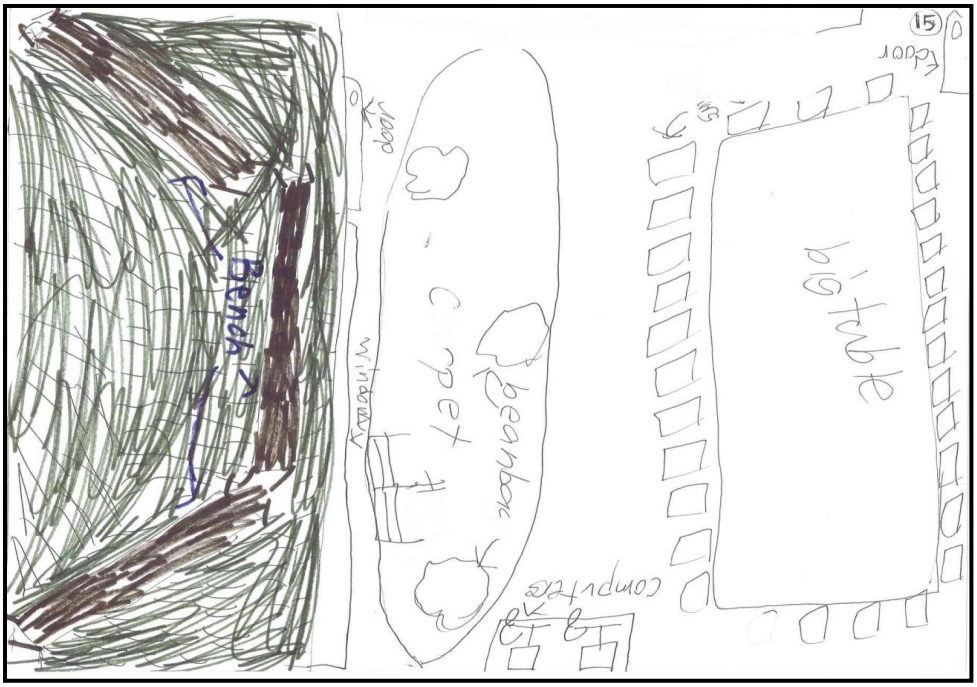


Figure 40. This fifth-grader drew a large table for all the children. Note that he has also dedicated a large part of his drawing to the outdoors, and to a carpet with beanbags.

The placement of the teacher's desk was very important to some students. "Well, I think if it's off to the front, it will make the kids feel like they're being watched every second, but if it's more to the back, he can watch the kids. A third-grade student thought that the teacher should be closer to the class for efficiency.

"If she's all the way over here, and when someone is all the way over there, they have to walk a bit, and she's there and we're here, we have to keep walking, walking until we get to the corner."

In fact, I observed children at every grade level moving freely when not engaged as a group on the rug. I saw children frequently getting out of their seats to get paper or supplies, or ask a question of the aide or the teacher. As they walked from their seat to their goal, and back, they often took the opportunity to pass a friend where he or she sat, to look around as they were walking, or to touch something with their hand. Their routes to their goal were circuitous, but not necessarily by design. To get from a seat at a group table in the far corner to where the teacher was, would mean threading one's way through zigzagged aisles, chair legs sticking out, book bags on the floor, and furniture items. The entire exercise of moving from one's seat to the teacher and back could easily take five minutes, which represented a substantial distraction from the work at hand, let alone achieving "flow." I also observed some teachers moving from child to child during the literacy period, pausing to work with an individual or a small group.

Children at every grade level expressed their need for quiet and freedom from distraction in order to read and write. Students showed a lot of concern about making sure their ideal classrooms had places that helped with concentration. Some of their comments related to quietness, and the control of noise (See Figures 41 and 42).

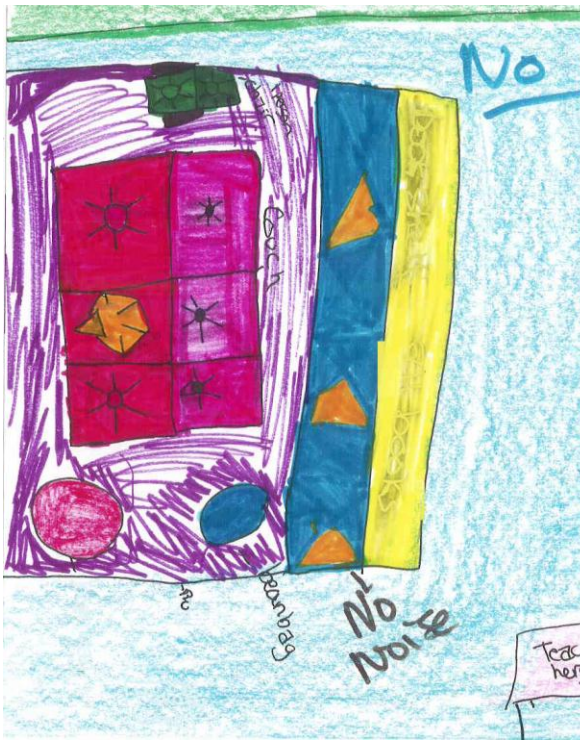


Figure 41. This student wanted quiet where she worked.

Figure 42. A student using a privacy enclosure in the demonstration classroom.

Other insights pointed out the distraction created by discomfort, illustrating how the students' perceptions of comfort were closely integrated with the quiet and peace.

Interviewer:	So, tell me about your drawing.
2nd Grade student 1:	This is the library. I like reading in the library because it's quiet and you can concentrate on your reading. People stay quiet in a library and it's a good place to write.
2nd Grade student 2:	At home, I read in my family room on the sofa. So that's why I drew a sofa here and here is someone reading a book and they are concentrating on the book in the quietness. And this is a desk and this is a chair 'cause this is where I like to write.
2nd Grade student 1:	I would also use the back table because back here all the desks are like over there, and it's much louder over there. Over here is sort of quiet.
4th Grade student:	If I'm reading with a friend, I like to go out in the hallway and just sit down.
Interviewer:	It's nice that you go in the hallway. What's good about it?
4th Grade student:	it's a lot quieter. It's quiet.
4th Grade student:	I like to write at my desk because there are not many distractions. It's a quiet place. Sometimes I like to go someplace and work by myself. And I work with two friends.

Even the provision of comfortable spaces for working independently caused problems for some.

Interviewer:	What's your favorite place for reading?
5th Grade student 1:	My favorite space is the rug.
Interviewer:	Do people read quietly there as individuals?
5th Grade student 1:	Yeah, and if it gets a little noisy, then some people could pick a different spot.

From another: "Everybody likes the pillows. There are so many people on the pillows that it's hard to think…yeah, because there are like three people on the pillows and on person on the rocking chair." And during writing time, "It's hard because people are just talking. Yesterday, I couldn't really think straight because everybody was just talking during writing time."

Students consistently showed awareness of their personal space, or lack of it. Students repeatedly expressed that they wanted personal space and freedom from crowding. The clear consensus amongst all the interviewed students was that they wanted a table to work at where they had room for their papers, with an area to keep some things out of sight and reach of others. Children wanted to have their personal space respected. "I like a little space. If one chair scooched over, you'd be in someone else's territory." The typical student desk sometimes had a small storage shelf, but in some classrooms there were tables instead. An older child said, "I think that kids like being close to each other…but you need your own personal space. Like on the tables here, sometimes it gets a little cluttered" (See Figure 43).

Figure 43. Typical arrangement of student desks. These are 2-person desks.

On solving the problem of shared space, he added, "you'll have to work together to try to see how the space is, how you want to work." While resolving the conflict arising from shared space would help social skills develop, it also led to a distraction.

In another fifth-grade classroom, pairs of students shared two-person attached desks. These had been ordered for the school by a previous principal. Fifth-graders had the most to say about personal space:

> I wish we had individual desks. Because when you have individual desks, umm, sometimes our chairs, my, the kid I sit next to, he likes to sit closer to the middle, so I, my chair is like all squooshed. If I had a separate thing, a bar that would go down right there, so I would have my space and he would have his.

Her friend added,

> Some people, they don't like it when other people put their stuff on their desk because then they have less space. I can remember feeling like this in second grade. I can remember feeling like this in all six years.

Balanced literacy activities require many notebooks and books to read, along with writing supplies. The children could not fit all of this into the desk area, if they had a desk of their own. Most rooms had cubbies too small to hold all the items the children used.

In their drawings and conversation, students clearly felt that for reading and writing, they needed larger desks than the ones they had. The older the student, the bigger their things, and the more room they needed. "So, if you made the desks bigger, it would be more useful 'cause as you get older, you need more stuff in your desk…" The teachers concurred that balanced literacy placed bigger demands on furniture and storage. One asked for larger desks for the students, noting that balanced literacy requires more notebooks and reading materials, and that requires more storage at the desk area. On the other hand, this same teacher felt hampered by a

lack of knowledge: “I don’t know enough about what’s out there. Are there desks that are better? Are there desks that are worse?”

A second-grader really felt strongly about needing a desk, rather than a table. He felt that the storage compartment in the desk helped him keep his things separate from other peoples’ things, and also helps to keep his things private. Most students asked for their own desk, and expressed liking having seats assigned to them, and desks of their own.

> Sometimes things are private in your own desk, and you don’t want anybody to take the, and a lot of people can see if it’s slid over to somebody else’s desk. Sometimes people lose their things in other people’s desks, and then they look for it. That happens to me. When I go and put something into my mailbox, people will come over and they will peek in my desk.

This was echoed by an older child, who said, “When a person has their desk, it’s kind of like their desk from the beginning of the year to the end of the year. It’s like their stuff, their property, it’s their territory.” He thought that it was important for people to have their own area, and for it to be respected.

This is a good example of the contrast between the expressed ideal of the district administrator, and the desire of the students. Principal D made it clear that in *her* ideal classroom, there would be no “assigned seats” and no personal desks for the children.

The number of students vis-à-vis the size of the room, and the classroom management issues raised by this, led a third-grader to relate a story of how when one boy in class, as he waits with a raised hand to answer the teacher’s question, always forgets his answer by the time he is called on, because he has to wait so long for his turn to talk. She thought that a class of ten or fifteen students would be optimal. A fifth-grade boy noted that,

> If it's a small amount of kids signing up for elementary, you could have fifteen in each class. That way the teacher will notice if one kid's getting lazy on their work. And it would keep kids on their toes. If we have a smaller number of kids, the teacher would see kids if they're slacking off or slowing down. It would be easier to help that kid.

Crowding is definitely an issue on the minds of the children. The large rug where a class typically meets for the mini-lesson is a locus of crowding.

4th-Grade student 1:	I think the rug we have now is too small because we keep crouching together
4th-Grade student 2:	I would change the rug, too, because I get crowded on it sometimes, too.
Interviewer:	Do people bother you when you're on the rug sometimes?
4th-Grade student 1:	Yes. A lot.
4th-Grade student 2:	A lot of people do get squished together. Then, they start yelling at each other.
4th-Grade student 1:	I'm making [drawing] two rugs. One for reading—the Reading Rug. And another one would be the Teaching Rug.
Interviewer:	What do kids do on the Teaching Rug?
4th-Grade student 1:	Mini-lessons. And when we're doing the test, she tells us to read, and we can go on the reading rug.

A third-grader wanted her ideal classroom to be literally empty, with hardly anything in it. When asked to elaborate, she replied,

> Like when it's full of stuff, it might not give you a good picture [a mental picture] because it would take a long time to look at all the stuff that might give you ideas, but if it's empty, you could just…it's easier to find a nice place to sit, and even if it [the classroom] becomes full, you might put it all in one spot, so it wouldn't take too long to go around this room. Like an hour.

Children wanted privacy, possibly as a way to protect themselves from being distracted. A second-grade student described his ideal desk area: "you put a box around your desk – with a knob. It's like your own little spot. And there would be like a shield to cover your spot. And this way, someone would have to knock to get in."

Sometimes the need for privacy was related to working with the teacher, out of earshot of other students. One child wanted a place to sit with the teacher, one-to-one: "…the teacher should be able to work with them…make the child comfortable. I could talk to him [the teacher] if I'm having trouble in this. They should be private areas." Interestingly, at least one child found the activity of collaborating with his classmates to be sometimes a problem:

> Talking could make your mind a little scrambled because then you have to think about the other person's idea and your idea, and which is better. Then when you think about whose is better, you would usually try that idea but even though I think your idea might be better, sometimes I stick with my idea because maybe I have a really good thing to do about it. Yes, I lose like half of it, because I have to think of their picture that theirs can go to. I think it might be easier to have a smaller class sometimes.

The teachers' observations of the children agreed in that the adults confirmed that children seemed to choose private areas, where they can be alone or with their friends. A very experienced teacher says, "Kids choose to go someplace by themselves…and I have a group of little girls who stand quietly in the corner. They've made themselves a little community. It' a quiet little place for them." Another says, "They like to go up onto the counter over there. They sit up on that counter." The teachers repeatedly mentioned how much the kids like to find spots to read that are under things: "their favorite thing was to go under that table; "they like to go under the computers"; "they enjoy being under, and in small spaces"; "they like to go under the coats at the coat rack."

One teacher described how the children put a lot of effort into creating nooks and private places. She related how although the rug and beanbags were the favorite place for the children to read,

> The other favorite place is behind my desk over here, and what they drag over is either one of the cushions, or the little rugs that I have. And they'll drag rugs over and sit back in there, because it's cozy and more special to them than being anywhere else. It's almost like a hut. You know what kids do… the blankets come out, the pillows, and I think it's that kind of feeling for them.
>
> I never needed all that room before. The groups were much larger in the past. They're much smaller now, and they change all the time depending on the skill that I'm focusing on. So, the reading groups, almost every other week, are changing. And it is much more work on the teacher. It's much more demanding.

Classroom management is a challenge, acknowledged by both teachers and students – but not so much by the principal. A balanced literacy approach requires the teacher to be more aware of each student at his individual level, and to monitor the student as they progress or encounter obstacles in becoming literate. In order to be in touch with the progress of each student during each school day, the teacher must adapt his or her method of observation and interaction. Because of the greater emphasis on individual and small group work, and on finding a comfortable nook or place in which to work, a teacher must circulate throughout the classroom while the children are working.

> Typically, if we're doing a read-aloud, I'll sit in a chair right at the front, but if we are doing writing or something, I'll kind of maneuver my way around and I wouldn't necessarily sit… because then there would be more of them coming to me. I try to go to them… I will try to squat down next to them." (See Figure 44)

Figure 44. Learning facilitator working with the students "where they are."

Going to the children, where ever they are in the room, is part of a child-centered approach:

> I try to maneuver my way through the little maze, through the groups, so I'm not standing just at the front all the time. I'm on top of my students more. I feel like I know exactly where they are, their reading level, their difficulties, their strengths. I feel like I know them as a reader, more now than I did years ago.

The students of most of the classes made mention of their need for the teacher to prevent disruption, keep people on task, and to generally manage the classroom. The students felt that the teacher should be where the kids were. Another located her teacher's desk in the middle of her ideal classroom, saying, "Our teacher's desk is on the side so it's really hard for us to keep going back and forth." The distance between teacher and students during their writing time

caused a disruption, noted by many students. When asked if her teacher ever sat at her desk, a third-grader said,

> Yes, if she's grading papers. I think she should be closer to the class so that she could actually look up and watch the class instead of being in the corner… she's all the way over, and when someone is all the way over there, they have to walk a bit, and she's there, and we're here, we have to keep walking, walking until we get to the corner…[and that's bad] because it wastes their time when she's farther away. And, if she looks up she can see if anyone is misbehaving.

A fourth-grader wanted the teacher to sit in the middle, to maintain control and contact with the students as they needed her:

Interviewer:	What about this table? Why is that a good table?
4th-Grade student 1:	Because the teacher can sit in the middle and then the teacher can see everyone, and…
4th-Grade student 2:	Yes, so she can write things down on the table so she doesn't have to go to our tables. I put it in the middle of the floor here, so the teacher has a swivel chair so she can just go around.
4th-Grade student 3:	I think it's a good idea for the teacher to sit in the middle because if she had a rolling chair, she can move to each table really easy.
Interviewer:	So, it's good to make sure the teacher can get to everybody when they need help?
4th-Grade student 3:	Yeah.

Another student said,

> I think it'd be good because if there's seven or eight kids at a table, the teacher only has two table to worry about and look at with fewer kids. Instead of here, he has to look at six tables with four kids on each, and let's say he's looking at that table, [and] some kids are goofing off at that table, he won't be able to see that, and a lot of kids at that table would have been distracted.

> See, you're very interested in having teachers very like… know where you are. But I think kids are more comfortable when they know, "Well, I can do it, but I'm just having some trouble, just let me think," and maybe if the teacher sees I'm not doing it I'll be able to just… it was, like, really distracting to me. I'm trying to write and all of the sudden…[there was a distraction because the teacher wasn't nearby, looking.

The very clear consensus from the children is that in the ideal classroom, the teacher needed to be "part of the room with the kids." The teacher was perceived as the person that kept the kids in order, and who was also there to answer spontaneous questions about the lesson underway.

The principal saw the reverse, which is that ideally, the teacher is an invisible presence in managing the classroom.

> Whereas we used to bang our heads against the wall and tell the kids, "Shh! It's reading time! You have 7 minutes left! I don't want hear another word from you! Not a sound! Everyone is reading! And this is what you used to go through, on a regular basis. No more. No more. I don't see that. In fact, I don't walk by classrooms and see teachers shushing children anymore. That's how respectful this work has become… A respect for the work... a sense of pride and work ethic. And, it's not easy to have that happen in a classroom. We usually start out with, 'You need to have a good work ethic.' You know, telling kids, 'You need to respect the work.' But it's how the teacher behaves, how the teacher conveys the information, the expectations of the children. Very important. Very, very important.

Another fifth-grade teacher describes the large rug as a key structural element of the physical space:

> If you like everyone sitting on the rug and keeping everybody in one centralized location, where it's easier to manage with a glance because you're all in one area…it's all on your personal preference, but I would say that I do enjoy the rug as long as it's large enough because you can also do that quick glance and say I need to walk over here real quick to

> make sure that this student gets started, or he's staring out the window so we make sure we bring him back, and things like that. Whereas, when they are scattered throughout the full classroom, it's a little bit more difficult to pick up on all of that because they're spread out.

Tellingly, one veteran teacher noted,

> What they [the district] suggest and what you really do with the personalities involved, you know…yeah, it would be great to just sit around all day at little tables and work. Realistically, you can't necessarily do that with children who don't get along, who need to work with a small group not a huge group, or who can't be left alone because left alone they either won't do anything, or will disrupt the little group that they're in. So, you need to have them near somebody, you may need a chair, you may need a more structured environment." "Sometimes, just to move them and then move them back… the moving is disruptive, and for certain children those transitions will throw them totally off. So rather than risk that, it sometimes is just easier… 'You're there, let's discuss it from where you are sitting.'

This teacher would have had difficulty explaining her decision to keep the students in their assigned seats, at their desks, if she had been observed by the principal.

Interestingly, the teachers represented physical safety to the children, through their central presence in the room. "Oh," added a fourth-grader, "there is a lot of teachers and aide watching us. Not just one supervising us, there are always at least two or three. Make me feel safe." Several children mentioned lockdown drills, needing to have a place, such as a teacher's desk, to hide behind without being seen from the windows. Some of the children mentioned the problem of fire and the display of anchor charts and student work. Many of the students' drawings show the exit door (See Figure 45).

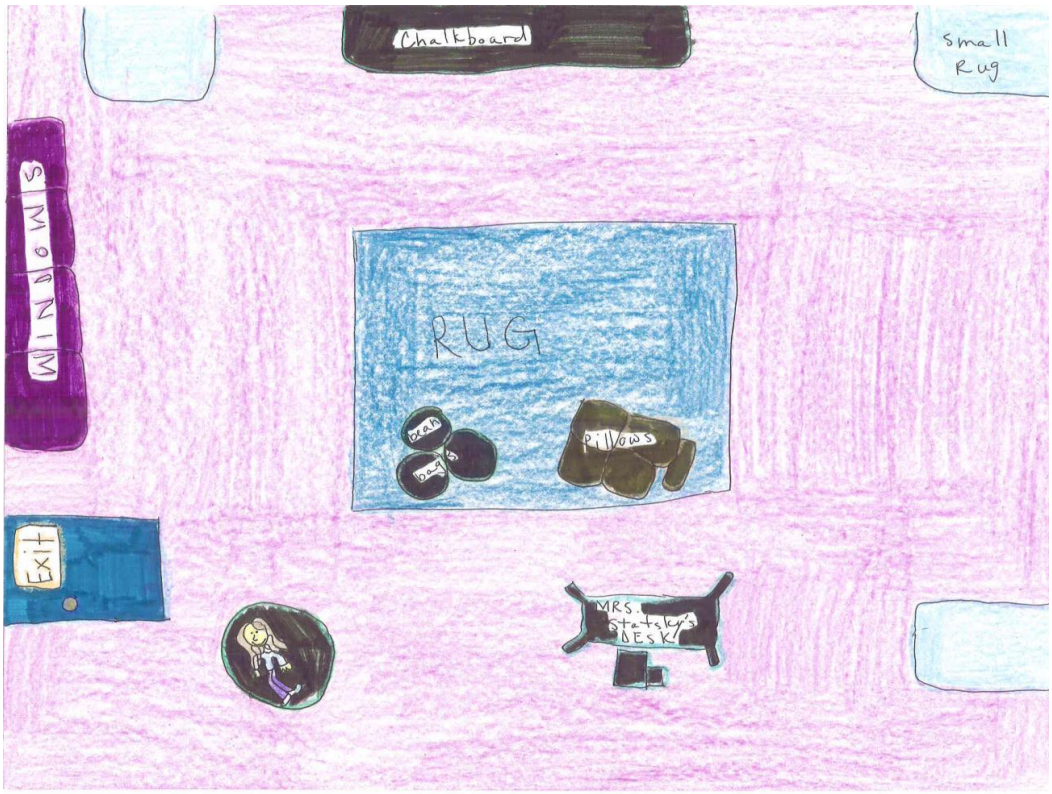


Figure 45. Note the "Exit" door on left.

In strong contrast to both teachers and students, administrators did not address or acknowledge the less-than-ideal classroom environments they saw in the school. The overall attitude of administrators was that teachers had to first "get with the program," i.e., accept the premises *and* processes of balanced literacy, and that after that, it would take resourcefulness, pluck, and ingenuity on the part of each individual teacher to properly arrange the classroom to support the educational method, and skill to deal with the classroom management issues that might arise.

In terms of classroom management, teachers were challenged to create comfortable and novel places in which children could learn, because of the high level of attractiveness of such

places, versus their limited availability. Some examples of this would be the use of a 3-seat couch in the classroom, one child monopolizing the sole rocking chair, and kids who always ran to lay claim to the beanbag chairs. In such situations, a teacher would be compelled to intervene verbally, or in other ways, such as devising seating charts that rotated students from one nook or reading area to another from week-to-week, and sign-up sheets for different spaces.

In many cases, the teacher retained his or her desk, or instead re-purposed the guided reading table as a teacher's desk, with the rear worksurface used as a credenza (Figure 46). Teachers without exception created small areas that were their own, where photographs and small mementoes were on display, even when they had given up their own desk. I observed tht the teachers used their table or desk as a vantage point from which they were able to survey the children during their independent work time, even while they themselves supervised a reading group or other child. The teacher's desk was always in a corner, or centered in the perimeter area of a wall near the entry door. It was never in the center of the children's table or desk area.

Figure 46. Guided reading table used by teacher as her desk. Note personal photographs.

Informal training: Creating a community of teachers. Just as a master-apprentice pattern is integral to the training of nearly every teacher through the student teaching experience, the pattern of mentor-mentee carries forward into the behavior of teachers after they become professional educators. There is a strong sense of community amongst the teachers, created through the sharing of teaching and classroom management strategies. The teachers of New Town Elementary referred often to how they learned from seeing what their colleagues had done in their classrooms, asking for help and guidance, and offering to help others who needed feedback. Personal experience and on-the-job learning was considered essential to becoming a master teacher, by the teachers themselves.

Learning from experience is a foundation of teacher-culture, from the first days of student teaching. Formal education requires the combination of coursework with an apprenticeship period as a student teacher. With regard to setting up the classroom, a teacher described it as a process, "It's a matter of seeing, listening, reading…a combination of everything. I'm not saying I'm there yet…don't get me wrong!" Everyone starts at the beginning: "I took everything out, and sat in the middle of the room, and I started getting an idea of what I wanted." One teacher summed it up, "I learned by doing, and I learned by the teachers around me…a lot of [what I do in the classroom] came from colleagues that I watched and stole things from, and ideas from, and you now, just…'okay, it didn't work this way, I'm going to switch it up."

> When we come in August, we spend weeks bringing in different brains. I would bring in Cynthia and Susie, 'okay, where do I put what? How would it work? And at some point, we set it up…" "We always bring in another teacher: 'so, what do you think of this?' Because just like with your house, the more eyes you have the better...

"Teachers come in here in the summer all the time, and we're all constantly looking at what everybody else's done, and changing things around a little, kind of like you do at home."

These accounts resonate with the comments of Fountas and Pinnell, who wrote that teachers should visit one another's classrooms to pick up ideas and see other solutions. "I read a lot of the updated literature, and we share a lot. The teachers in this school share a lot of stuff, so we get new ideas and approaches, and take pieces…or all." Principal D also made note of how teachers learn from one another,

> I don't see a running competition. I see a passion. I see more fun. Like, "Oh my god that is so cool. Look what you did in your room. Come help me do mine. I want to do something like that." And it's more of an appetite for, the fun of decorating your room. See, there is strategy involved, and I think teachers are learning why it's important to place things in certain areas, but when they see someone else do it... they realize that it's good for kids, it's fun for you, so let's just go do it.

From the data arose the theme of self-efficacy. Teachers felt that their charge was to rise to the challenge of educating as many as twenty-five children. Sometimes this meant doing so in a classroom filled with miscellaneous furnishings, with whatever small budget allocated to educational materials, using their creativity and intelligence. Within the interviews, teachers often expressed admiration for teachers who did a lot with a little, or showed resourcefulness in finding inexpensive and useful accessories, such as plastic rolling storage carts or shoe holders used as chore organizers (See Figure 42). This teacher was rueful; she described herself as doing everything to meet the needs of her classroom, but did not like it.

> I scavenged. Because I have so much in here, it's been scavenging over the years. So I have, you know…That's the only reason, yeah I mean, they removed this unit from under the windows, so they were throwing them out, I said, 'Please don't throw them out, we could always use more storage.' That's more storage. They redid the office, and that was from the main office before they redid it.

Figure 47. Shoe bags used to organize the class chore assignments.

Teachers expressed that it was part of their identity, as well as their job, to be resourceful, to do their best with what they were given in terms of the physical environment, from furniture to teaching supplies, in creating a functioning environment. "You do the best with what you've got…the materials we have, we try to adapt". At the same time, the statement reveals that if they are not given the equipment or materials that they need, they must still get the job done.

> In the second year, I started accumulating. I was like a little garbage picker. Anybody who had extra things would always throw them my way." "In my last school, there were a lot of rolling carts. And the rolling carts kind of made different areas – it cornered off different areas in the classroom.

One teacher related how she begged for discarded shelving from the renovated main office, cubbies that were displaced when the fresh air pumps were installed, and …

> …a beautiful chair…pulled out of the trash when I came. I needed a chair, and they said, 'oh, this works, let's just fix it' and there's my chair! Whatever!" "…whatever was in the room, whatever pieces you can pick up, and what you buy, with that you try to form a room…which is not the best way to do things! (See Figure 48).

Figure 48. This teacher brought the small rocking chair from home, and found the little table at a tag sale.

Repeatedly, I found that a sense of "making-do," or being creative with limited resources, was an important part of teachers' identity. Even Mr. G, the learning facilitator, showed agreement with this attitude. In his interview, Mr. G went to pains to assert that there was nothing special about the demonstration classroom, that what he had done could be accomplished by any other teacher. In fact, while the room was the same dull color as the classrooms of New Town Elementary, and did not materially differ from any typical classroom in terms of standard finishes or furniture, nor in the age of the school building, he had himself made some accessory

furnishings for the children, who were fourth graders, to use (See Figure 49). These accessories were privacy enclosures for readers. Ironically, they were made by Mr. G from discarded cardboard boxes or unpainted wood – again, an example of making-do with little, and being resourceful (See Figure 50).

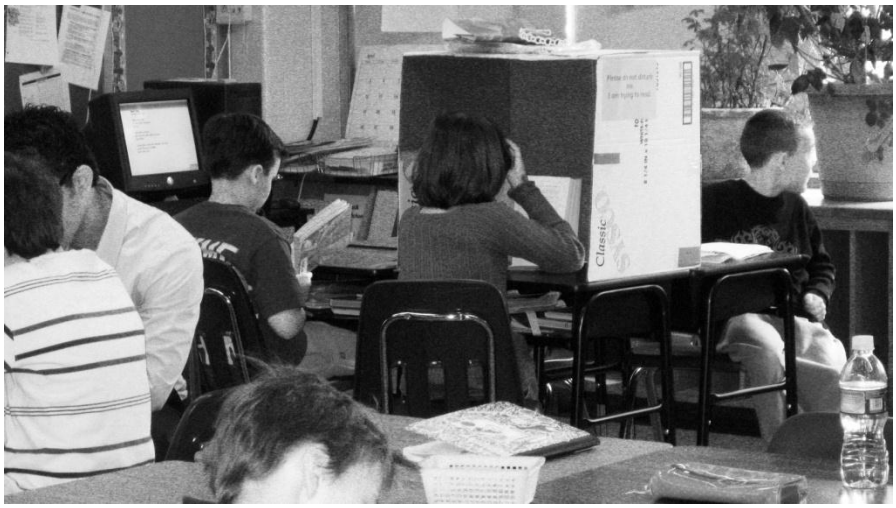


Figure 49. Privacy enclosure made from a cardboard box.

Figure 50. Privacy enclosure hand-made by Mr. G for the demonstration classroom.

Teachers were given the task and responsibility of creating a setting in which to teach children, and that would support balanced literacy activities, among other lessons; they were not given much in the way of appropriate furnishings, nor the budget to buy new items. The burden to create an appropriate setting was theirs, both because of their sense of responsibility and because they were going to be professionally evaluated on how the classroom looked. Therefore, teachers used every resource available to them to accomplish this goal, including but not limited to, scrounging for cast off furnishings, trading furniture with other teachers, going to the discount store, and bringing in furnishings and accessories from their own homes. While some of this activity was due to lack of funds from the district or principal's budget, "making-do" was clearly part of the resourcefulness that teachers on which teachers prided themselves.

One teacher felt that she and her colleagues were left out of the decision-making process during the design of the new library, and at other times. In her view, the teachers had either not been consulted, or they had been ignored. "What do you need? What would an ideal classroom be? They don't speak to the teachers. We are terribly lacking in storage. Whoever designed the coat racks should be shot. (*laughs*) It's ridiculous what we don't have."

In high contrast, Principal D emphasized that the creation of an aesthetically pleasing setting was fundamental to implementing balanced literacy – rather the opposite of what might happen when a teacher has to pull furniture out of the trash or scour the 99-cent store to furnish her classroom. Principal D said that a certain atmosphere was necessary for a well-functioning balanced literacy classroom. From the way that she described it, the required physical elements, such as sufficient vertical surface for display were inextricably intertwined with a warm and welcoming atmosphere. In her ideal classroom, in addition to storage, cabinet space, and the accoutrements of balanced literacy, there would be a couch or two, tables and tabletop supply

trays, a fully carpeted room for comfort and coziness, and "color, patterns, and warmness." The point that Principal D was making, was that an atmosphere of hominess and comfort was supportive of – and necessary for – engagement with literacy. The principal continued,

> I like the fact that the more home-oriented you make your room look, the more personal reading becomes, and when things are personal to children, then they take it in and master it more. So, when you see teachers have, multiple rugs on the floor, as opposed to just one large rug, they have smaller ones, there's a lamp, there's a couch, there's a chair, there's a special cushion seat, there's maybe, there could- I mean, any number of things… That to me is respectful of literacy as being a part of every single person. Literacy is something you should engage in, comfortably, happily. It should kind of resonate within you. And I think that when we make children sit at desks that are in rows and columns, and we just tell them to read, it's not personal. It's only personal if the child is, by nature, a reader in the first place, and you don't find a large percentage of them are. It has to be nurtured. It has to be grown.

Creating a home-like atmosphere. In fact, teachers also valued "hominess." They often brought furniture and pillows from their own homes to school to soften the hard surfaces of the classroom and to brighten it up. Along these lines, one teacher stressed that the classrooms needed to have their own character, to not be all the same. She personalized her room with furnishings from her own home.

> I think the rooms need a little personality. Like, that was my father's chair, so I brought that in. They love to sit in that. Before the principal bought us bean bags, I had my daughter's bean bag chairs from her room that I brought in; I had them until they wore out. And that stool, they love to sit on the stool and read.

In particular, the adults expressed a strong connection between comfort and home. Many teachers noted that the children preferred the most comfortable spots, such as the large rug. "It was a comfortable place. We have some bean bags, I have a couple of lounge chairs that I'll let

them open up. So, when they have free time, they gravitate towards it. I think they are happier there. 'Can I use the beanbags? Can we use the chairs?' 'Yeah…relax.' It's a place that when they have recess they play on the rug together, so it's really homey. It really is." In the teacher interviews, there was a connection between hominess, the desire for comfort in the classroom, and immersion or engagement with reading.

Several children added home-like touches to their drawings of their ideal classroom. "hominess" was not a term that was used by any of the children, although it was used often by the adults. In fact, the students rejected that term when I suggested it to them. According to a third-grader, who agreed that classrooms should be more like home than they were, but added, "I don't think they should feel like your home always… I think they should fell like 'around the world'. She was adding a fireplace, and a window, and some sculptures and pictures to her drawing (See Figures 51 and 52). Her friend added, "I think it should be comfy like your home, but I don't think it should be like the same thing. It should be something different."

Figure 51. This child drew a fireplace for coziness.

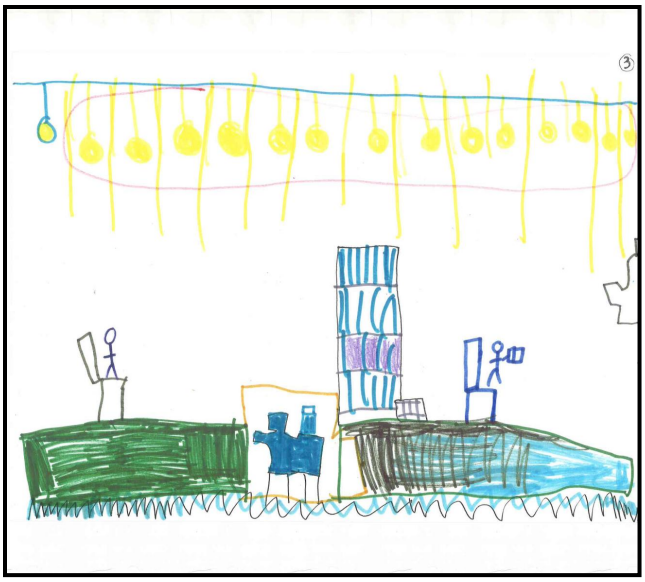


Figure 52. This classroom drawing shows decorative lighting.

One teacher related how she told her class, at the beginning of each year that reading for enjoyment entails finding a comfortable spot. She related how she told them,

> "When I read at my house, I rarely read at the kitchen table with my shoes on, with my good posture. Rarely. I like to take my shoes off, I'll relax in a comfortable chair, and I'll just lose myself in a good book. And time goes by, and I'm not even aware of it."

This teacher managed to get permission to bring a cast-off sofa from home, to her classroom (See Figure 53).

Figure 53. Sofa in a second-grade classroom.

The connection between home and reading by adults was also found in the demonstration classroom, taught by Mr. G. Mr. G manage his classroom by assigning children designated "reading homes" in the classroom – various nooks, counter spots, floor pillows, and even the portable privacy shelters that he had made himself. Principal D also noted about the experience of re-arranging the classroom, "It's like decorating your own home. 'Oh my god, I saw this idea, I've got to have this in my house. It's going to look beautiful.'"

Key attributes and areas of a classroom for literacy. Teachers, administrators, and students identified characteristics, attributes, and discrete areas that they considered integral to a good environment for literacy. Certain areas within the classroom were related to classroom management, in terms of both behavior and literacy activities. Furniture and technology were

also a key focus of teachers' and students' comments on what they thought necessary for teaching and learning.

The characteristic most valued by the students was comfort. Comfort was of primary importance.

> "I usually like to sit at my desk or at the rug, near the mailboxes, 'cause it's, just like, comfortable, and I'm alone, and it's quiet." "I'd sit either on the bean bag, or maybe sit on the rug with like, a back rest."

Interviewer:	What do you think about sofas and rocking chairs, and stuff like that?
4th Grade student:	I think kids would probably listen to the teacher more because if they were more comfortable, because when they are uncomfortable they keep moving around to make themselves comfortable.

As a fifth-grader put it, "Usually, I like writing at my desk, because I feel comfortable when I am at it, and since I'm comfortable, I can think better".

A fourth grader added: "I think I just put bean bags, comfortable benches, and beanbags, and comfortable chairs." The idea of a comfortable chair was important. When describing the typical molded plastic chairs, a fourth-grader said, "I hate them." She acknowledged that a cushion would make them okay. "Yeah, that would make them okay. The chairs (in the ideal classroom) could be cushioned chairs, not just like these solid chairs." A fifth-grader noted, "I actually like the library chairs, because they are wooden. But then, it has padding. It's got a pad right here and a pad right there. Yeah, it's cushioned" (See Figure 54).

Figure 54. The cushioned library chair that the children liked.

The hardness and uncomfortableness of the chairs was mentioned more than once. One third grader, who was not along in this, thought that there should be beanbags chairs at the

computers, “so that when you sit down, you can go on the computer on a comfy beanbag chair” (Figure 55).

Figure 55. Bean bag chair on a rug.

Bean bags, sofas, cushioned chairs – these were very important to students at every age. As one fifth-grader said, “I like the beanbags idea. Maybe, everyone should have their own bean bag. But… the rooms are small.”

Having a variety of comfortable places in which to read was a major theme in the children's interviews. One interchange with two fourth-grade boys went like this:

Student 1: I also like to read when I'm on pillows…also, it's more comfortable.

Interviewer: Big pillows that you can lay on, on the rug?

Student 1: Yeah. I need to relax when I read, at least.

Interviewer: Where do you read at home?

Student 1: In the wintertime, I like to read in front of my fireplace, because it keeps me warm. Yeah, some nights I bring like a flat chair into this room and I write on that when the fire is going so I get warm. So I write on the chair.

Student 2: I like to read on couches -- couches, or my bed. I looovvve reading, that's why. I read myself to bed. I would fall asleep because I have a book by my bed.

Interviewer: Would you sit on a counter or go under a desk to make yourself cozy?

Student 1: Yeah, and also the rocking chair.

Student 2: I don't like going under places because I tried it once and I got stuck, and I don't go under things anymore.

Teachers agreed. Most expressed their opinion that children needed to be comfortable when reading. Unfortunately, a teacher at the beginning of his or her career has few resources. "The kids were reading on the carpet today and the poor kids were like ouch, ow, ooh, aah. So one girl went and got her big fluffy jacket to lean against. I feel terrible because I don't have beanbags." That teacher was newly-tenured, had fewer furnishings of her own that she brought to the classroom than other teachers had, and was experiencing her first year in that classroom and school.

Rugs, however comfortable, presented a problem for the adults, of which the children were not aware: "…carpet was nice, but there is the issue of cleanliness." The principal was similarly conflicted, as she described her ideal classroom: "In terms of the look, I would

continue to see rugs, in fact, while it probably isn't feasible for schools this day and age, and thinking about allergies, and thinking about lice, and thinking about all these things."

When the children thought about what kind of floor covering the best classroom for reading and writing would have, it was once again related to comfort:

Interviewer:	What about the rug?
5th Grade Student:	I'd feel better if the whole room, instead of this hard tile is just a carpet. And like, we could sit there, and it would allow us to have more space if we sit there, and we could have a longer space.
Interviewer:	If there wasn't any edge to the carpet?
5th Grade Student:	That means we could sit anywhere in the room, yeah, anywhere you want to work.

A fourth-grade student said, "I put a giant carpet and a couple of bean bags because of, when you're reading, there is comfort."

When her students say that they don't like to read at their desks, one second-grade teacher tells them that during SSR (Super Silent Reading), that they can,

> …take your shoes off, you can sit on your desk, you can sit under your desk, you can sit on your chair and put your feet on your desk. As long as you are comfortable, I don't care how you're sitting. So, they get very excited. All you see are twenty-three relaxed bodies reading. And it's quiet. So long as they are reading, I don't care what they look like.

A classroom prepared for balanced literacy requires a wide variety and quantity of seating, tables and work surfaces in order to accommodate the different levels and groups into which the students are divided, and the different activities that they do. Every day, students will work in small groups, with a friend, and individually, as well as sitting at a desk, on a counter, or on a special chair. Teachers observed that children chose specific areas for specific activities. For example, they noted that some of the children chose to work at the computers in their

independent work time; "the people who are at the desks are usually the artists. They're working on some sort of art project. So they need the surface." Another said, "It depends on the child. Some children will say that their desk is their favorite place because their friends sit next to them. It's very individualized in that respect." The different places to work within the classroom provide affordances for specific activities.

Teachers were asked to name their "favorite" area in the classroom. Teachers frequently chose the settings where they had been successful creating an effective milieu, or behavior setting in which the desired behaviors did, in fact, occur. They liked their library area, guided reading table, and large rug – with some reservations.

Many teachers noted that the large rug serves to keep the children focused and organized when they are gathered together for the mini-lesson. The best, one teacher said, would be two rugs, one for group and one for reading. The large rug was clearly seen as a major organizing element in a balanced literacy classroom. Said a fifth-grade teacher,

> My favorite place would be the rug because that's where we can do read-alouds, and share ideas, or fool around. And if I'm doing a 'stop-and-jot' through a story, it just keeps everything organized, we are all in the same area.

Another said, "I just think having a good carpet area is incredibly important…and in the right spot." Teachers especially valued the large rug because, as the only place that the class could gather as a group once a day, it served to help create a sense of belonging to the group, or community. Although children did not mention the rug as a place of community, their drawings showed a rug in nearly every scene, often tied to the library (See Figure 56). Children agreed that they liked the rug very much, often because it was the most comfortable place in the room, or most different from the tables and chair in which to read or write.

Figure 56. This student included three carpeted areas in her drawing. The top left area is the library, with bookcases, beanbags, and decorative lighting.

Several teachers chose the library as an example of an effective milieu. "…the library. I think it's just, rich. I think it's rich with something for everybody." Although children did not verbally choose the library as their favorite place in the classroom in the interviews, a library of one kind or another, figures in nearly every child's drawing. It is definitely a place that is valued by the children, or else is accepted as necessary for a classroom "for reading and writing."

Children had a unique perspective, not shared or mentioned by teachers or administrators, on what they needed in order to be able to concentrate. One child said, "Like, if you go outside, your head is clear, you get fresh air and stuff, and you kind of can think more freely" (See Figures 57 and 58).

Figure 57. Younger student's "best classroom for reading," which includes many outdoor images.

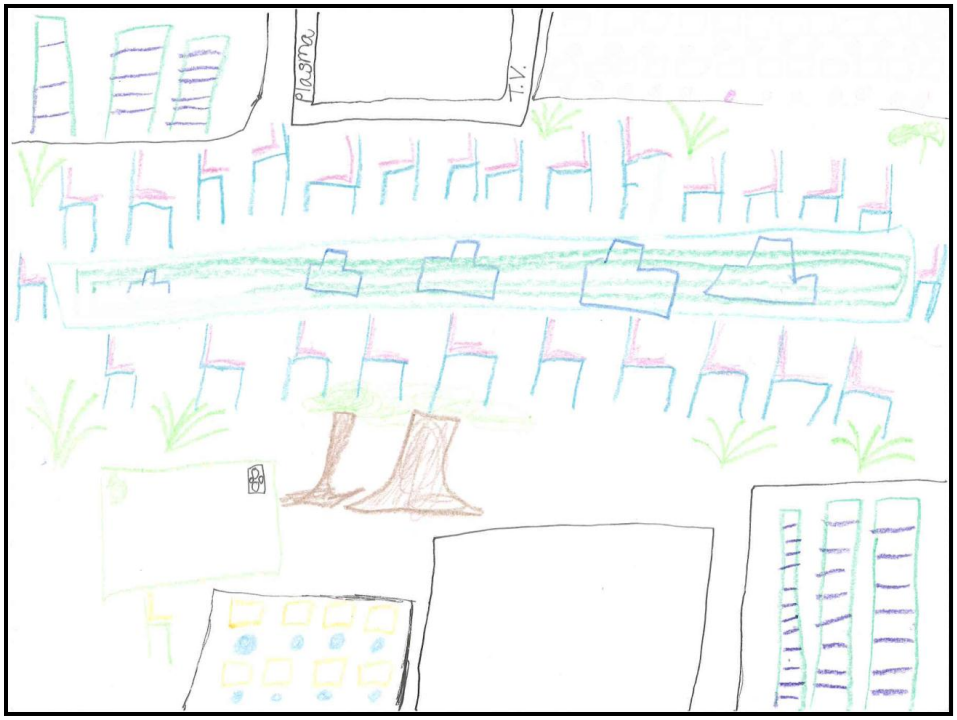


Figure 58. Outdoor images in an older student's ideal classroom.

Across all the grades, children communicated, whether verbally or through their drawings, about their need for a view of nature, or nature in their classrooms. An older student, talking about his classroom, in which the shades are fully pulled down, obscuring the windows:

> I kinda have a problem with the shades right now, because they're like, not letting anything in. I want, when I'm a kid- When I, like, turn around - I sit right there with the waterbottle … I turn around and I want to see, like, the sky and stuff; I can't see anything. I want to see, like, how I see… I don't know [why the shades are down] but it doesn't really let any light in and stuff, and I would kinda like that. I kinda like seeing what's outside besides school.

In an interview with a younger child:

Interviewer:	What would you change about the room you have? What could be different about *this* room?
Student:	I think there should be like, curtains that we can look out, like see through, colorful curtains bright orange see-through curtains, so that we could look outside.
Interviewer:	Instead of these blinds?
Student:	Yeah, you can't see through them. I want to have inspiration looking outside.

When questioned about the plants in her drawing, a child responded:

> Yeah because you might get information from it like cause when you're reading or writing something, especially when you're writing um like if you had plants you could write about that plant. Like, there is this type of poem called personification and if you use that on the plant then it would be pretty helpful. And also because if you had them in the classroom, they could help you like if you don't have that… it's like, in here, we don't really have that much stuff …it's like a normal classroom -- nothing really good in here, so if you had plants it would add a lot to the room.

Her classmate added, "Sometimes if you look outside, it gives you ideas." He related how a poet had come to the school the day before the interview, and he, "said he said he saw faces in the trees… and he wrote a poem about that, when we were writing…" When asked about if the teachers were worried about how kids are distracted by looking through the interior windows, one child noted, "Well it's not distracting for me because it actually gives me, like, concentration because it sometimes relaxes me just by looking at the right things out the window." Another student said, "I think a rug under a shady tree is a nice place to read 'cause the sounds of the outside make you concentrate on reading." Several children mentioned that they study near a window at home. One said,

> I like to be near a window. See I have, my backyard's getting done and now I have a pool, and my dad is a landscaper so he gets all these tropical plants, and I have to say it's really beautiful. So I have a bench by my windowsill, and I-I just sit on that and do my homework. Or I'm on my bed looking out the window.

On a related note, a fourth-grader said, "I'd like a pet cage in here…because if they wanted to read about the hamster, makes you feel comfortable and cozy…because, if you just read about a hamster or whatever animal, you could bring that animal in to study it." This child was especially interesting. He was not one of the four children from his class to be invited to be interviewed. Since the interviews took place in the classroom while school was in session, the process was in full view of all the children. This student came over to watch, and asked what was happening, and if he could join. I allowed that, with the teacher's nod of permission. As the teacher later told me, this child was a bit of a loner, difficult to communicate with; that he was motivated and articulate through the drawing and dialogue process was exciting to the teacher. This student added pets to his drawing of the ideal classroom (See Figure 59). He also emphasized his desire for a wall of windows and glass.

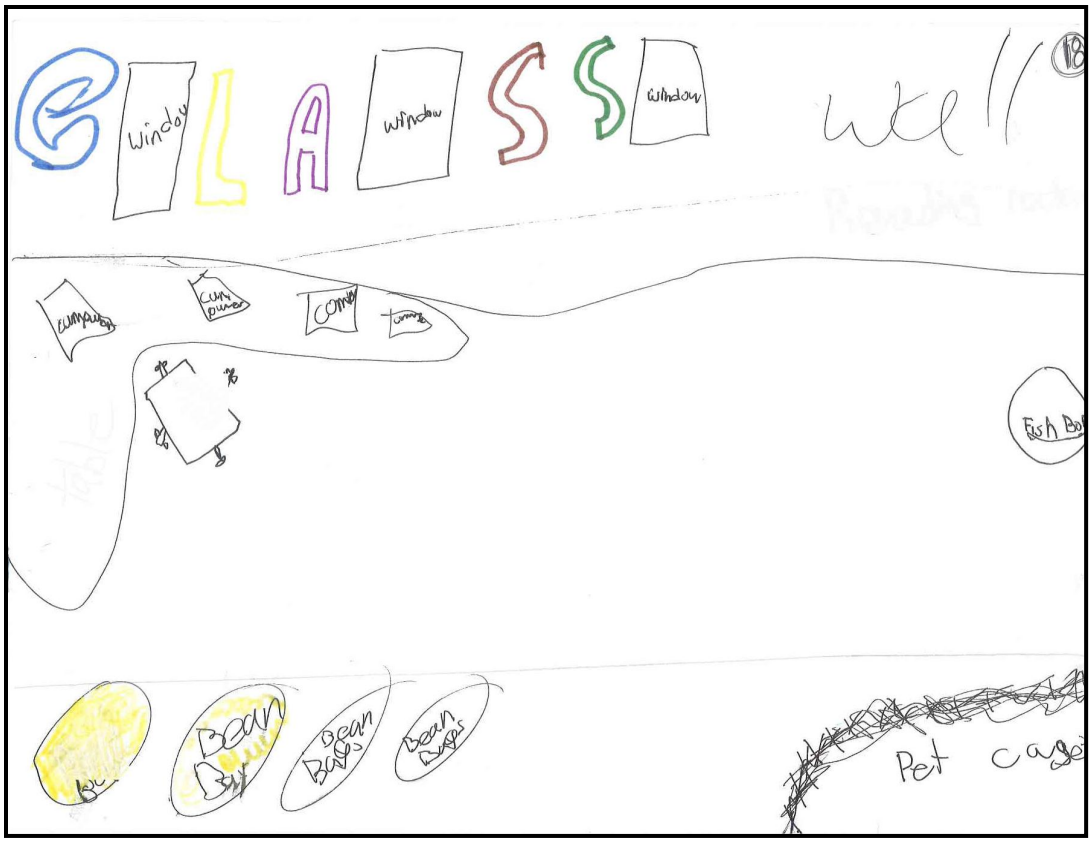


Figure 59. Drawing showing "pet cage" and fish bowl.

Children were also very articulate on the need for "big" movement in which they used their large muscles, in order to concentrate.

Interviewer:	So, kids need room to move around?
2nd Grade student 1:	Yeah, we do.
Interviewer:	is it hard to sit at a desk all day?
2nd Grade student 1:	Yeah, it's hard.
Interviewer:	So, you thought a climber in the classroom would be good?
2nd Grade student 1:	I think a climber would be good because you can exercise and it helps you to concentrate.
2nd Grade student 2:	Yeah, to spend your energy out of you so you can sit patiently and wait.
Interviewer:	Describe your picture.

2nd Grade student 2:	We're outside like in a park or something, and after you're done, you'll be able to concentrate because you're so sweaty and you'll be able to read 'cause you'll be so hot you can't go on.
Interviewer:	So, you said that playing helps?
2nd Grade student 1:	Because when you are playing, it helps your mind like a math game. That sometimes helps me. So, if you like concentrating on one thing…if you just concentrate on running, and then you play a math game, it refreshes all your math stuff that you already knew.

Another interview went like this:

Interviewer:	Well, do you think kids need to move around during the day?
Student 1:	Yes… that's nice, it really is.
Interviewer:	How do you do it now?
Student 2:	Recess. Yeah, we love recess. It's awesome. And we even move classes, sometimes we have extra recess, and it's awesome.
Student 1:	If you go outside, your head is clear, you get fresh air and stuff, and you can kind of think more freely.

Environmental attributes

There were key environmental factors of which the students made special note in their interviews. These included a view, lighting, and air temperature. Noise, of course, was addressed when the children spoke of needing a quiet place to work.

Light. Students who mentioned light or lighting did so in two ways, one with regard to sunshine and the control of glare; the other, with regard to decorative lighting. Images of suns appear in some drawings. Said a second-grader, "I'm drawing like a sky with the sun would come in with a burning spot right there and the sun would shine on all of us. I like sunshine." But, another said, "…and a lot of sunlight… but I don't want too much because it might be hard

to see." That child was torn between wanting to control the glare, and not liking the blackout shades that closed off the view of the outside. She suggested curtains that you can close and open. Fifth-graders, on the other hand, were aware of needing to control the sunlight: "Mr. L put the shades down because when you sit next to the window sometimes the sun can come in and hurt your eyes, or distract you while you're writing." Another student said, "I'm not very fond of light because it makes a glare."

A fourth-grader argued for having the overhead fluorescent lights off altogether. "I like when the lights are off, because I like it a little dark when I read and write. I like the lights off for watching something on the computer, because you can see it easier and focus on that." An even younger student described her drawing of her ideal classroom,

> I think you can see outside…but it has shades you can pull down enough. It has some shade. It should have more sunlight than the light from [the classroom lights]. I don't know… I think it just give you better light. I think that the sunlight is better if you turn off all the lights in the room. Then sometimes, some people think that if you're near a piece of paper and the window with the lights out, and it's kind of shining on your paper, it gives people good ideas.

With regard to the decorative lighting, which can be seen in several drawings, students commented on the fact that these were like their lights at home. They were controllable, and nicer to look at.

Interviewer:	So, those are lights that are hanging?
2nd Grade student:	Yeah, yellow lights.
Interviewer:	You think there could be better lights?
2nd Grade student:	If there were better lights, if they were more colorful, it could help people to relax a little better, maybe. I like the kind that aren't attached, that are hanging down.
Interviewer:	Is it good to be relaxed when you're reading?
2nd Grade student:	Yeah, we like that.

Needing good air temperature & control. The school building has two wings of classrooms, both in the form of double-loaded corridors. The corridors, which are parallel, put the classrooms of one side facing west, and the other facing east. This creates a "hot" side and a "cool" side to the building. From the photographs of classroom entry areas, one can see wall-mounted fans in each room.

Students were aware of the heat problem, and favored air conditioning for the summer months. "That would be a good idea," said a second-grader, "because instead of moving to this side to share the fans, it would be much easier 'cause of the air conditioning." His friend exclaimed, "They are wasting electricity!" The same student noted, as did others, that the fans were noisy, and that they were bothered by this. The school year is from early September to late June, and temperatures can rise to over 95 inside the building, depending on which side of the corridor the classroom was located. A fourth-grader, when asked if the heat affected her reading and writing, stated that, "It affects my reading and writing because it's so hot that I keep sweating… then it bothers me." The large wall or floor fans were ineffective. The second-grader noted that while the fan wasn't noisy, it "just blew soft." Only one table, the one closest to the fan, could feel the breeze. The ideal classroom, she said, would have clip-on fans for each desk. "So if one person is hot and one person is cold, the fan should only go to that person and not the whole entire classroom."

The teachers were most bothered by the very large (27" deep X 84" wide) fresh-air units that had recently been installed, displacing precious built-in storage and floor space (See Figure 60).

> Even the newest of the new, which is the air cool system, they went to the I imagine the health professionals and said, you know, "We need something that has air flowing," and to make it healthy for the children. Not paying any attention to the realistic classroom

situation. That blows 20 degree air into the room in order to circulate it, to make it healthy. The children are freezing… he ones that are closer… the ones that are closest to the unit. Okay, so, they're healthy and frozen. You know, we have popsicles. They sit with their winter jackets on. You know, it's really, realistically, it sounds really good. In practicality, the way they've set it up, it's blowing on children. We don't have enough room in this room to keep children away from that blower. So, again, you know, on one hand it works, yes, it meets the needs of your healthcare, your whatever-that-committee-is. In realistic terms, your children are frozen.

Figure 60. Typical fresh air supply unit, located in each classroom.

Organization. Both students and teachers think that the ideal balanced literacy classroom is well-organized. One teacher summed it up for many by saying,

> Nice big reading area, bookshelves and materials, my recess games are here, my construction papers there, and the kids can get glue sticks, pens, magic markers, paper over here. There are traffic patterns, so I can access anything I need, and kids are not bumping into each other. They get what they want. I know where everything is.

Like many other factors, organization was ultimately related to creating comfort and ease of movement for both adults and children. Students specifically saw the teacher's role in managing the classroom as an integral part of the classroom organization, and hence, the structure. The notions of organization, proximity of the teacher and ability to supervise, and ease of access to materials were all linked to freedom from distraction; freedom from distraction was seen as necessary for deep engagement with reading and writing, or flow.

Needing important things to be conveniently located. Students across all the grades agreed that the books and bookshelves should be close to the big rug, for convenience, just as the basket of writing supplies should be near at hand.

> If we're doing different things, like drawing and writing, it's good to have right there so the kids reach to it without walking to get the scissors and then walking back to your seat, and then they go back there to get crayons…

About the bookshelf in his drawing, a fifth-grade student said,

> My library is at the rug. Yeah, I like it there 'cause maybe you want a nice place to sit, you want to find another place that's soft and comfortable. Having a bookshelf in class is good because if you finish a book that you have and you still have enough time to just read, you can go over and pick out another book.

Comments abounded about making sure the entire room was not filled with the library, or with too many desks.

Having plentiful and appropriate storage. The teachers' ideal classroom has plenty of storage, appropriate for the specific item to be stored: "I would have desks and cubbies. That's a useful thing 'cause the kids have a lot of materials. They need to put some away and keep some handy." "You need shelving. There are needs in a classroom. You need certain things and spaces." Another offered, "You need child-friendly storage lockers. You need things that children can reach."

Teachers perceived that more storage would free up counter space, and that counter space could be used for individual reading nooks in the ideal classroom. They also perceived that better storage, including lockers or coat storage in the corridors, would make the classroom look better, and be more pleasant. "I would love the children to have a place to put their backpack and their jacket…and then walk into the classroom without it. The whole hook system for the jackets and backpacks doesn't work for me. Everything's on the floor…it's a big mess." The teachers were also concerned with the spread of lice and germs.

> More, you know, okay, storage… Just basics. Coat hanging where you're worried about pediculosis…You have coats touching each other. You don't have individual cubbies for each child. And come bad weather or I'd say you have wet coats touching, you have hats touching, you have things that immediately. You can spread germs that way. The children don't have room to store any of their supplies, because the desks are too small.

The children's thoughts about convenience overlapped with ideas about storage of their personal and school items. A fourth-grader said,

> I would prefer the desks to be a little wider so you could get more stuff in. They could make it a little wider, 'cause sometimes you have to really squeeze everything in. Because sometimes you have to put extra stuff in, but we might not have space. ..and then we don't know where to put it. And if you put it on the ground, it usually gets kicked around.

A second-grader envisioned everyone in the group having their own little bookcase. Cubbies were deemed useful because they held kids' "stuff," such as snacks, lunchboxes, and coats; and, although not big enough, and were thought to be located inconveniently, in general. Cubbies existed to keep each person's personal property separate from that of the others. The need for storage was recognized and generated creative solutions. One child, in designing a large table built from modular segments decided that there will be "little desk compartments near each chair." In the drawing of another, a third-grade girl, the library had shelves where kids would store their notebooks, right near the books that they would be reading.

Teachers need storage for papers and personal items. Teachers were unanimous on the need for a place for their papers and planner, and for their personal items, such as purse or briefcase, and for family photos. They repeatedly confirmed that if they had a desk, they never sat at it, but did need a place for storing paperwork that required privacy, such as graded papers and notes, as well as personal items, such as purses. One teacher's ideal situation would have included a shared teacher's work area or office, and a shared storage area for books, to relieve crowding in the classroom. One teacher said,

> This is not my ideal classroom. In some ways yes, and some ways I guess, you know, there's no black and white. Again, my primary complaint is storage, the lack of… and proper storage. [This classroom] does help in some ways, and it does hinder in others. So, is it meeting my needs? Yes, because it has to. I don't have a choice. It is not my ideal working conditions... I need way more storage. And just to make it neat. I'd love to be able to get rid of… I feel like I'm living in clutter, but I wish to know another way. With all the things that they give us, with all the paper work, with all...There is no other way to do it that I can think of. So I'm making do. I've tried to set it up as well as I can.

With regard to organization, Principal D viewed an organized classroom as a sign of respect for children. She strongly felt that being able to keep the students' books clean and easily retrieved sent the message that the notebook was "treasured" (See Figure 61). Principal D mentioned the need for appropriate storage within the classroom as a means of freeing children from having to "battle" with books and papers before they can begin their work, an environmental condition she stressed as a "huge" issue:

> The color of your room, how you design it…children will want to come to your room, if, physically, it's appealing, and it's organized, and it is not chaotic. Children who have a desk, for example, that is filled with papers, and they feel like they have to clean it out every week, are not happy coming in. If you have a table you take away that responsibility, and that's okay…everyone should have a clean area to work at, and feel comfortable they don't have to battle before they take out their math book… or their reading book.

Figure 61. Typical cubbies to hold students' books and notebooks. These were new cubbies, provided by Principal D to some classrooms, but not all. Note the clipboards in a crate on top.

In contrast, one teacher said,

> I finally got a metal cabinet because I had so much science supplies. Science is very supply-heavy. But, yet they keep sending me boxes of materials and, you know, there's just no place to put anything. So, [I need] way more storage. Practical storage, I mean…the school was built in the '50's. You see the narrow [shelves], you know, no practicality in it. There's a little bookcase over there. No practicality in it. No, there's not room for a class library, because of everything else that, you know, we have around. So, you know… there's no place to display the children's work.

One day, I observed in the classroom of Mrs. K, a fifth-grade teacher. Mrs. K was not a novice, although she explained to me that she had recently returned to teaching after a two-year hiatus. I observed the class for about 45 minutes, and then interviewed Mrs. K.

In this fifth grade classroom, I observed students working in what appeared to me to be a totally unique and engaged way, as compared to the students in other classrooms. I am especially noting this class, since it was clear that the teacher and students were all using the classroom actively for learning, not merely as a passive setting. The topic of the lesson was Greek myths. First, I observed the teacher reading a Greek myth aloud to the students. She sat in a rocking chair in the library area, ringed with low bookcases, as they gathered around her on the rug or pulled-up chairs (Figure 62). There were difficult or new words in the story, and as the teacher read, one student wrote the words on one-half of a large sheet of lined paper displayed on the standing easel behind the teacher’s chair. The students were rapt.

Figure 62. The whole class on the large rug, with the teacher doing a "modeled read" mini-lesson.

As soon as the story was over, and with barely a nod from the teacher, the students left the rug and efficiently began to move to new tasks, which they seemed to know about. Three students moved to the very large group rug and rolled it up and slid it to one side. Then, they unrolled a large brown paper banner or mural, approximately 12' x 5' in size, and began working on illustrations of the Greek gods, already in progress (Figure 63). Other children joined them.

Figure 63. Students working collaboratively on a large poster, after having rolled up the rug in order to do so.

Two boys went to the word list in the reading area, one opened a large dictionary displayed on the nearby shelf, and they began to find and write down the definitions of the new words from the reading (Figure 64). Two girls moved two chairs to the chalkboard, stood on them, and began to write something high up there. Other students went to their desks for various tasks, and some moved their chairs to another grouping, to be with other children. At his desk, one boy opened a book and became immediately engrossed; not once during this time was he interrupted by another child. The noise level was a hum, but not overwhelming or distracting. Everyone in the room was busy and engaged. This continued until the time came to break for "special," meaning a special class such as gym, art, or music, and the students left the room. I remained to speak to Mrs. K.

Figure 64 . Boys working on a vocabulary task, defining words from Greek myths.

Mrs. K explained that the class was working on a project called "Myth Fest," in which each child would become a certain Greek god for one day, and they would present a play to the whole school. The teacher told me how she had left teaching, feeling unfulfilled, until she met an older, retired teacher who taught her an educational method called project-based learning. Project-based learning is constructivist, multidisciplinary, and collaborative, and requires critical thinking. The teacher poses a problem or question, and the students work with the teacher's

guidance to brainstorm, respond, and approach the problem from a variety of approaches. In the example of Myth Fest, students researched their individual god; read the myths; expanded their vocabulary; learned about ancient Western culture; found ways to communicate their knowledge to others through art and dramatics; and designed a day-long event, including inviting guests and providing refreshments.

Aside from the method of education that I observed in action in Mrs. K's classroom, I observed in there a teacher and students for whom the physical elements of the classroom were viewed as completely manipulable, and not static. To Mrs. K, like her colleagues, the classroom was still a box, a container; however, to her, more than to anyone else that I interviewed, the individual elements, such as rugs, desks, chairs were all tools that had the potential to be used in ways other than they usually were.

Summary

Patton (2002) describes a process of identifying critical incidents, crises, or transitions in the "life" of a case study, in order to make judgments and interpretations about the content and meaning of the findings, to create a dramatic narrative (pp.451-2). During the period that I studied New Town Elementary, the larger school district of which it was a part had recently issued a new strategic plan and vision statement, the work of a newly-hired district school superintendent and her staff. The vision and strategic plan articulated called for a constructivist learning model, of which balanced literacy was a part, to be adopted across all ten elementary schools. Constructivism, as an educational approach, values deep engagement with the material for lasting learning, and as a stepping stone toward higher levels of thinking. Integral to the institution of constructivism and balanced literacy was the parallel institution of a highly-supported program of professional development for teaching staff across all grade levels. This

research study and the pilot study (2008) took place immediately following this critical incident, and during the transition period in which balanced literacy became a key facet of the experience of teaching and learning at New Town Elementary.

Through observation, document review, analysis of photographs, and interviews with teachers, students, and administrators, a multifaceted picture of several classrooms in the case study school was created. My goal was to better understand the role of the physical environment as balanced literacy was implemented. With the introduction of balanced literacy methods and a constructivist approach to learning to New Town Elementary, the school's teachers experienced an unusual time of unsettlement and change in their accepted routines and habitual ways of teaching. In the time of transition from the old to the new, I found that teachers, administrators, and students were willing to share their opinions, thoughts, and excitement about the new approach, along with their trepidations and frustrations. In the language of EBR, one can describe this time as when a long-standing behavior setting, in which there had for decades been a congruent relationship between the milieu and the standing pattern of behavior, was thrown into disarray when the pattern was changed. Barker's term, *synomorphy,* which is applied to describe a good fit between behavior and milieu, was no longer applicable to the classrooms of New Town Elementary (in Lang, 1987, p.113).

Meaning, structure, and community

The theoretical perspective underlying the methodology of this study, symbolic interactionism, assumes that people act toward things on the basis of the meanings that these things have for them; that the meaning of such things arises from the social interaction between people; and that there is a transaction between a person and things (Blumer, 1962, p.2). From this theoretical stance, one must consider the premise that people, in terms of their actions,

reactions, and interactions, are inseparable from the physical environment. A stance of symbolic interactionism allows one to begin to create a whole picture of the case study school. Educators are committed to improving the learning outcomes of their students; children of school age understand that they are expected to learn. And the educators and children of New Town Elementary understood that they were bound together *within their classrooms* in this common endeavor. Through their statements and drawings, both groups showed their awareness of how the physical classroom had an impact on teaching and learning balanced literacy.

In the classic studies of environmental psychology and geography by Hart, Moore, Gibson, and others, the physical environment is a blank slate, meaningless in and of itself, but to which people constructed meaning, individually or socially. Csikszentmihalyi described the intensity and total immersion that occurs during flow, without mentioning the importance or role of the physical setting in achieving that state. However, this cannot be said about a building or room that is purposefully constructed as a setting for the attainment of a state of engagement, such as a school. A school is different than a natural environment; it has a purpose, which is fundamentally to shelter people as they act and interact, as formal education occurs. If one accepts that the goal of a balanced literacy approach is to lead students toward an experience of personal engagement with the material, then one may also say that the purpose of the school building, or more specifically, the individual classroom, is to create the best possible setting for engagement to occur.

New Town Elementary was designed in 1963, when the paradigm of education was the factory model: students entered as raw material in first grade, and exited as more fully formed and informed products in the sixth grade. The factory model is based on a linear concept of objective learning, where students begin with memorization of the “basics” and acquire

knowledge of facts and master of skills incrementally, year by year. In fact, New Town Elementary itself is a linear design, with long corridors and classrooms aligned sequentially according to grade level. In the interviews, one teacher made special note of how the design of the original built-in storage shelves and cubbies was too shallow, and that while it might have once been useful, that it no longer fit the needs of the current teaching strategies, materials, or methods.

On the other hand, constructivism is a web-like model, where learning is seen as a personal, reflective, and transformative process, where a student's ideas, experiences, and viewpoints are integrated and something new is constructed (Sandholtz et al, 1997, p.12). Students are encouraged to follow their personal interests, and to find a personal way to engage with the material. The teacher's role is to facilitate individuals' abilities to construct knowledge (Sandholtz et al, 1997, p.12). Educational theorists have determined that constructivist classrooms need to be less hierarchical, more collaborative, and supportive of active engagement (Brooks and Brooks, 1993). Just as an example, a constructivist classroom requires a great deal of storage and sheer square footage, to accommodate the wide variety of teaching materials and discrete learning areas.

Therefore, by 2008, New Town Elementary was an aging building that no longer functioned to support either the learning of students as imagined by the administrators, the teaching required by the teachers; or the needs of the students as they themselves described them. In fact, the outdated design of the school building and the individual classrooms were in conceptual conflict with a constructivist method of teaching. Nevertheless, the teachers at New Town were instructed to create constructivist learning settings within the basic boxes that were their classrooms.

Under the guidance of the district administrators and the professional literature, teachers focused on the importance of giving or providing their students with an opportunity for a meaningful engagement with literacy. Constructivism is completely tied up with the idea of creating a meaningful learning experience, with its underlying assumption being that when meaning is created, the learning will be on a higher level of synthesis and application. The analysis showed that "meaning" was the most important association teacher had with the classroom, and with their role in it. The data reinforced the validity of the theoretical perspective of symbolic interactionism, or the assignment of meaning by people to the physical elements of the environment. The adults involved with education – the teachers, principal, and district administrators—invested the experience of school with intense meaning. One teacher was especially notable for her passion for teaching, and her desire to have her students remember their year with her as a positive experience of learning for their entire lives, as opposed to having a negative memory. For many years, I have heard the saying, "The teacher's pet becomes the teacher." Within the context of this study, it is possible to connect the dots: teachers love learning, they love school, and the whole idea of school has had great meaning for them over the course of their lives; this is what they want to pass on to their students, and is the root of their passion.

The principal, among several others, conflated creating a constructivist environment for balanced literacy with creating a warm, inviting home-y atmosphere. Feeling comfortable, connected with positive connotations of "home", was seen by the adults as a necessary element in the experience of coming to love learning. Several teachers spoke about their passion for teaching, and revealed how their identity was intertwined with the physical place of "school." Teachers were dismayed when they could not decorate the classrooms with posters, or hang

student work on every surface, calling it "sterile." They saw a benefit of their roles as teachers as having autonomy and control; loss of control, as in being required to teach in a certain way, was resented.

Children looked for meaning in their classroom environment, through their desire to be 'inspired"; this comes directly from the constructivist methodology. Students noted consistently that they were looking for "inspiration" from any place they could find it: nature, pets, or plants. Balanced literacy emphasizes a personal connection to what one is reading, or as a starting point for writing exercises or reaction essays. Students were well aware of needing to find that point of connection, of reference to something personally meaningful. Unfortunately, there were no plants or pets in the actual classrooms, and only rarely a view or access to nature. These things only appeared in the students' drawings, as elements of the ideal classroom. In a second reference to meaning, students asked to be allowed more time to be with their friends, which is tied in this studied to the category of "community." Certainly, children of the ages studied are in the period of their lives where their social relationships are paramount to them. On its face, this should not be in conflict with either constructivism or the emphasis on the collaborative skills needed for future workers. But, in New Town Elementary, as in most traditional schools, socializing with one's peers in class outside of working together on a school assignment is seen as being "off-task." This is a good example of theory, and its value on collaboration and teamwork, and reality, which is the teacher's and administrators' drive toward order and management are in direct conflict.

Children wanted "structure" more than anything else in their physical environment. I found that students craved environmental support, in terms of controlling distraction, noise, and other disruptive aspects of the environment. Constructivism presupposes that children, once they

are freed to be independent learners, will want an environment in which the adult is merely a resource person.

For the students, the most important feature of the environment was the aspect of structure, or how order was or was not supported by the physical elements of the classroom, including through the person of the teacher. For a young child, especially within the context of a classroom, the teacher is actually a physical component of the environment. Barker and Gibson, and even Hart and Moore, looked at children within a physical setting but never acknowledged that the adults were an integral piece of the picture. Because they were studying children, and children were often with mothers and teachers and other women during the decades of their research, can this be a result of underlying or unacknowledged sexism? That is for another study, but poses some interesting questions. Also, Csikszentmihalyi writes about finding "flow," but does not address the effect of the physical surroundings necessary for flow to occur. A young child may need the help of an adult, and the *structure* of the physical classroom is also necessary. There must be places of respite and refuge from noise, from interruption, and from distraction.

In spite of the basic tenet of constructivist learning, which is the child-centered classroom, the children themselves viewed the teacher as a necessary environmental element for the control of distraction. In other words, not only was the teacher viewed as one of many elements of the physical environment, he or she was also imbued with meaning for the children. The teacher was a symbol of adult control and the giver of order and safety. The children were aware that they needed help in achieving a setting that would allow them to become engaged with literacy, to have a flow experience.

More importantly, there must be systems in place that create a milieu in which distracting others is not acceptable. This is a difficult problem, but it is not as if there was no example at

New Town Elementary in which this did not occur. I am referring to the classroom of Mrs. K. In that classroom, children were independently motivated, talking was allowed, and children were on-task for the entire time. Yes, there was a low hum or buzz in the room as I observed the children working on MythFest, but at no time over several hours did I see any single child "bother" another. Mrs. K was able to create a setting in which children felt ownership, identity as being part of a group, and were empowered to act independently. Was it because they were fifth-graders, and older children with more maturity and skills in self-control? Even here, though, where the children were largely self-directed, there was an awareness that the teacher was in control. Her students used phrases such as, "she lets us…" to describe what they liked about their educational experience. Upon analysis, it appears that only the administrators believed that the children should be able to govern themselves. Why Mrs K was so successful in implementing a constructivist classroom should be further studied. What was she doing that was different?

Through children's descriptions of their drawings of the "best classroom for reading and writing," students were very clear about the importance of physical comfort, freedom or protection from distraction, places of refuge within the classroom, personal space, privacy, and the opportunity to socialize with their friends at appropriate time, without rebuke. The findings revealed that children are far more aware of what they need in a physical space than one may think. The children of the case study classrooms spoke and drew eloquently about their need for comfortable places in which to read and write, their desire for their own space, and to not be disturbed while trying to achieve a flow state. The children called for more opportunities for big movement within the classroom, and places where socializing was acceptable. They were

perfectly aware of discomfort, lack of privacy and personal space, separation from nature, and drab color and lighting in their classrooms.

In contrast to the teachers and administrators, students never mentioned home or hominess at all. The only references to home by children were in the context of a child noting that his or her house had some structure that improved their ability to concentrate, such as a comfortable chair or good lighting. It is possible to interpret this omission to mean that for students, home is a less-valued place in terms of learning because there they have little independence, but school is highly valued because that is where they feel empowered. At any rate, "hominess," as a virtue of the physical environment, was much more highly valued by the adults than by the children.

To summarize, administrators, repeating the dicta of constructivist learning and balanced literacy, valued the creation of a homey, welcoming classroom in which to create a sense of community, with an absence of individual ownership or personal space, but in which self-directed learning and personal engagement with literacy were valued. In contrast, children valued a classroom high in comfort and environmental control of noise and other distractions, and which provided opportunity for personal space and for socializing. Within the context of this case study, constructivist learning theory, in calling for a child-centered classroom environment, dismissed the desire of the children themselves for adult guidance and protection.

The design of a classroom for constructivist learning and balanced literacy

This study found that there was no coherent direction from the district regarding evidence-based design to be incorporated into the physical classrooms. In fact, the district documents barely mentioned the classroom environment as a critical element of constructivist

learning, a clear signal that it the administration was not aware and did not acknowledge the effect of the physical environment on learning.

Teachers at New City Elementary, like many others, were not sufficiently financially supported in the design of their classrooms for constructivist learning or balanced literacy. They begged, borrowed, and took from the trash, the bean bag chairs, desks, filing cabinets, rocking chairs, large and small rugs, clipboards, books, shelves, and many other furnishings and accessories that they needed in their classrooms. By the time the data collection period of the study had ended, the Great Recession of 2009 had begun, and the school district had frozen all funding for items such as furniture. But, no matter, the teachers at New Town – like their administrators – thought nothing of having a motley assemblage of furnishings, as an expression of their resourcefulness, pluck, and individuality. This "make-do" attitude, so ingrained in their informal training and teacher-culture as evidence of creativity and ingenuity, was ultimately self-defeating. Each classroom was a product of what the teacher was able to acquire; in that sense, no classroom was properly furnished. Desks were inappropriate, chairs were uncomfortable, bean bag chairs were too big or too few, and floor rugs were too small or too hard.

Awareness and incorporation of environment-behavior research findings

The district documents, professional publications, administrators, and building principal all described an ideal classroom setting with discrete physical elements: a large rug for whole class gatherings, a rich library, nooks and other places for individual reading activities, a guided reading table, and non-assigned desks or tables for writing. However, none of these sources referenced existing EBR evidence of the effects of noise, light, privacy, or view of nature, for example, on learning. As the most striking example, *in every single classroom*, window shades were pulled down and covered with papers, limiting how much daylight could enter. The closest

these sources came to understanding the effect of environmental factors was through their emphasis on creating a "warm" or home-y atmosphere. Ironically, the New Town teachers, like others across the nation, are required by federal and state mandate to prepare their students to take and pass standardized tests. Educational journal articles debate methods to achieve better outcomes. Districts implement professional development programs and new curricula to achieve better outcomes. Districts and parents celebrate when reading scores go up a few points. Teachers are evaluated on their effectiveness from year to year in getting their students to do better, as in, scoring higher on the standardized tests. One can only ask that if teachers were aware of the findings of Heshong Mahone, in which reading scores increased by 7 to 27 percent *based on the single factor of increased daylight in the classroom*, what they would do differently. Would they put in air conditioning and mesh shades to control heat and glare, to enable the children (and adults) to get more light into the classrooms? Would they, with their creativity and ingenuity, find other ways to display anchor charts and student work? During the course of my research, the Fire Inspector told the school that there were only limited areas on the walls or vertical surfaces where paper could be hung. The teachers were in a tizzy. Without their anchor charts, how could they implement balanced literacy? Without a display of student work, how would student feel pride and empowerment? "It wouldn't look like a school," one teacher said. Outside of the time covered by my research, I learned that one of the teachers along with her student teacher had invented a small table stand that would hold miniaturized versions of the large anchor charts. They copied the big charts down to letter-size paper, and placed one flip stand at every group table for students to use. This was a brilliant solution, and a tribute to the sense of responsibility and creative problem-solving that seem to be the mark of a dedicated teacher.

The district played no role in solving the conflicts between the attributes of the existing physical classroom, and the requirement to implement balanced literacy. It was left to the classroom teachers to note that when the temperature in the classroom was too hot, or too cold, the children could not concentrate because of their discomfort. It was left to the children themselves to observe that the glare from the fluorescent lighting obscured their vision of the plasma screen during a lesson, that they worried about their personal belongings, and that the noise level in the classroom was unbearably distracting. The teachers asked in various ways, if deep engagement requires intense concentration, doesn't the school district have an obligation to provide a physical environment in which that may occur? Teachers sardonically noted that the district's view was "theory", but that they were the ones charged with "reality".

Evidence-based education and evidence-based design

The complexity of studying the ecology of the classroom means that qualitative research is the better tool than quantitative study in creating a holistic and nuanced picture over time. The interpretation is open to challenge based on the interpreter's beliefs, biases, interests, and situation. With this research, I strove for understanding, not explanation. My aim was for local knowledge – understanding of these people, at this time, in this place. On the other hand, one can say that because of the standardization of educational practices now governed to a degree by NCLB, this study has a context similar to others. As a critical case, the findings from New Town Elementary can provide valuable insights applicable to other schools.

CHAPTER FOUR: DISCUSSION AND IMPLICATIONS

Discussion

New Town Elementary is an ordinary public school, typical of thousands across the United States. It is part of a larger corporate organization, a school district, in which decisions affecting every district unit, including how the physical work environments were to be used, were made by a small group of executives through a classic strategic planning and visioning process. While the findings of a qualitative research study cannot be generalized, the very ordinariness of this case makes it a critical case. Berger and Luckmann (1966) assert that, "commonsense 'knowledge' constitutes the fabric of meanings without which no society could exist" (p.15). As a critical case, the commonsense findings from this study are likely to apply to other cases.

This dissertation research revealed that:

1. The physical environment of the ordinary and commonplace public school classroom does not meet the requirements of an environment for literacy. The rigid limitations of the existing physical classrooms, coupled with power of the entrenched person-environment relationship of the teachers and their classroom settings, severely proscribed the creation of a constructivist environment for literacy in spite of great effort by administrators such as superintendents and building principals to insert such an educational approach into the existing system and physical plant.

2. An organizational process that does not maintain a holistic view of person and environment is itself imperfect, and leads to an imperfect result. The contradiction between the

strategic planning process and its implementation revealed a conflict between the mental models of the organizational leadership and those of the teachers and students.

Symbolic interactionism posits that human communication and interaction is facilitated by words and other symbols that have acquired conventional meanings. Blumer's thesis that human beings act toward things on the basis of the meanings that these things have for them (Crotty, p. 72, 2005) is particularly resonant in places of purposeful cultural transmission such as schools. For example, the word "school" itself has a conventional meaning, as does a physical building which is labeled and used as a school. In another example, an adult-sized desk located in a primary classroom may connote the authority of the teacher who uses it, both to the teacher, and to the students. Just as individual words carry meaning, so do individual buildings, furnishings, and objects. And, just as sentences are constructed from arrangements of particular words, the way in which a building is situated on a site, in context with its surroundings; how one approaches a building, and the arrangement of interior rooms in which the furniture pieces have been arranged and placed in a particular way – all of these carry meaning. These things are symbolic and are part of the narrative of meaning being constructed by not only those who use the building or space, but also by those who factor the space and its objects into the meaning that they construct of the world itself. Indeed, meaning is created in physical environments, through the activities that happen there, through the particular individual elements, their locations, and the overall arrangement of parts to a whole. However, it must not be overlooked that buildings, like words, are selected and placed and arranged by a person or people, as they construct meaning.

Meaning is constructed as the physical environment takes form; implicit in this process of creation of place is the creation of self. In a constructionist epistemology, human beings create

meaning as they engage with the world and the objects in the world that they are interpreting (Crotty, 2005, p.43). It is through this engagement, which occurs early in life that people create mental models that they use to deal with emotional or threatening issues (Argyris, p. 231, 1999).

> In the process of growing up, all of us learn and warehouse master programs for dealing with difficult situations. These programs are sets of rules we use to design our own actions and interpret the actions of others. We retrieve them whenever we need to diagnose a problem or invent or size up a solution. (p.232)

Learning is one essential human activity in which meaning is both socially and individually constructed. To constructivist educators, the role of formal education is to provide guided and enriched activities that facilitate the construction of knowledge by learners in a social setting. Creation of knowledge and cultural transmission are perhaps the most fundamental goals of education. With particular regard to literacy, Scribner writes,

> Literacy is an outcome of cultural transmission; the individual child or adult does not extract the meaning of written symbols through personal interaction with the physical objects that embody them. Literacy abilities are acquired through the course of participation in socially organized activities with written language. (p.8, 1984)

Upon reflection, it is clear that "socially organized activities with written language" (Scribner, p. 8, 1984) occur formally *in* a place, at and over time and space; they are situated in a school, during a school day. Within the physical parameters of a public school, the formal place in which education is situated is a classroom. Therefore, understanding of how the physical environment affects learning, and in particular, literacy, is a valid and valuable inquiry for environment-behavior theorists and researchers.

Educational theorist, Howard Gardner (1993) asserts a "distributed notion of intelligence" in which knowledge exists in both people and the animate and inanimate objects

with which they work and co-exist; and that these entities become internalized, and an inseparable part of the person (p.224-225). In the interactionist perspective, the physical environment has an effect upon social interaction, motivation, and behavior; in turn, these "person" processes impact the environment. Whereas "interaction" implies two discrete entities, *a* person and *an* environment, which interact without affecting their own identities, "transaction" addresses the effect that one entity has upon the other and the cycle of change that occurs through the interdependent and active participation of person with environment, and vice-versa (Lawton, in Altman & Christensen, p. 357, 1990). Lawton writes, "Transaction thus moves beyond interaction to view person and environment as inseparable …" (p.357).

Attributes of the ordinary physical classroom are obstacles to literacy.

The physical environment of the ordinary and commonplace public school classroom does not meet the requirements of an environment for literacy.

New Town Elementary was an aging but well-maintained single-story building that had been designed to support a prior educational method, now referred to somewhat derogatorily as the "assembly line" method. Students entered in kindergarten in classrooms situated at the beginning of a long corridor, and literally progressed up the row of classrooms until they exited the building after completing a year in one of the fifth grade classrooms, located at the end of the line. Over the years, there had been some changes and additions to the building, but the typical or standard classroom had not substantially changed. The additional requirements of technology, in the form of computers, had made the most impact, up until the implementation of the latest strategic plan, which called for a dramatic pedagogical change to constructivism.

The age of the elementary school building meant that when it was originally placed on its site and constructed in the 1960's, no thought was given to concerns about energy conservation.

Numerous teachers and students made special note of the "hot side" and the cool side of the building. The building design, similar to thousands of others built in the 1960's, used a double-loaded corridor plan as befit the assembly-line classrooms, and this created a situation in which half the classrooms were at least 10 degrees hotter in the warm weather due to the way the building was directionally oriented. The building did not have air-conditioning in the classrooms, although it had been installed in the offices. In addition, the windows were single-glazed, meaning that they were energy *in*efficient, and allowed the air in the classroom to fluctuate greatly in the area along the exterior wall. To control the air temperature, teachers routinely pulled down the large opaque roller blinds to fully cover the glass. In some cases, they also used the children's work to cover the glass. When the fire inspector limited the amount of paper, posters, and children's work that could be displayed, and where it could be displayed, then the work came down but the blinds still covered the window glass. When asked about this, teachers responded that they covered the windows to keep the sun out, and also to limit distraction.

The Heshong Mahone (1999) study in California found that the environmental factor of daylight had a significant impact on reading scores, raising them from 6 to 27%. This was evidence based on a large-scale quantitative study that met all the criteria of the U.S. Department of Education., but the results were completely unknown to the district administrators, and not disseminated to the classroom teachers. In other environment-behavior studies, it was found that sensory experiences, in particular temperature and lighting, may affect mood (Russell and Snodgrass, p. 260, 1991. The substantial research findings on the effect of lighting and air temperature on student learning and mood were not taken into account.

At some point prior to the study, the case study school district had installed very large fresh-air supply generators, which in the winter provided continuous icy blast of air, such that the children nearest the unit were forced to work in their overcoats. These units could not be controlled by the classroom teachers—there was no way to modify the air flow or shut the units off. Why were these units installed when there were operable windows in each room? After the events of September 11th, 2001, the local and national community had become hyper-aware of security for local schools. A local murder in 2005 exacerbated fears. Local schools, including New Town Elementary, instituted "lock-down" drills, and teachers were instructed to keep windows and fire exit doors from classrooms to the outdoors closed at all times. Therefore, the fresh-air units were installed to provide fresh air because the windows and doors were required to be shut. The requirement to keep the windows and fire doors closed also prohibited teachers in the non-air-conditioned school from creating cross-ventilation across the corridor on the hottest days. Children and teachers complained about the sound of the large floor and wall fans that were required on the hottest days, about the intense heat and lack of breeze, and how this situation severely affected the ability of the children to concentrate. At the very least, the lack of temperature control was an obstacle to achievement of the goal of the constructivist method, student engagement with the material.

But, there were further obstacles, as well.

Environment-behavior research has found indications that a view of nature or access to nature increases concentration levels of students with Attention Deficit Disorder (A.Taylor and F. Kuo, p. 1, 2008). Because the exit doors were always closed, and the exterior windows largely covered, students' experience of nature during the school day was limited to the times when they were allowed outdoor recess. In good weather, the time outside was about thirty

minutes. Even so, some students indicated a longing for more plants and pets in their ideal classrooms. As one teacher explained, pets had long ago been banned due to fears of causing allergic reactions in some children.

Persistence on task and the ability to concentrate have been shown to relate to the amount of visual information present in the physical environment. Besides the balanced literacy requirement to display a year's accumulation of anchor charts around the classroom, teachers feel compelled by their training and culture to create displays of student work, and posters exhorting good behavior, such as, "No Bullying Zone." In their interviews, teachers associated posters with creating a cheerful environment, and the display of student work was highly valued by both students and teachers. In a recent article in the Journal of Neuroscience (S. McMains and S. Kastner, 2011), researchers found that too much visual information or "clutter" in the environment competed with other neurological needs that required attention, and inhibited or suppressed neural processing. And yet, a constructivist approach asks teachers to create a visually rich environment that facilitates independent learning. It is unclear at what point visual richness becomes visual clutter, but when the goal of the educational method being used is engagement, and the physical environment is an obstacle to that, it is time to find out.

Student's persistence on task has been linked to a "happy" setting (Santrock, 1976). Obstacles such as lack of control over temperature, lighting, crowding, noise, uncomfortable seating, and lack of storage created stress and unhappiness for both the children and the teachers who were interviewed as part of this dissertation. Through their drawings and interviews, students consistently thought that the "ideal" classroom should be a happier, more colorful, and brighter place—and significantly quieter, with more personal space and privacy. Students asked for areas where they could be comfortable, that would be quiet, or where they could escape the

other 20+ members of their class. Children repeatedly cited noise as one of the biggest obstacles to being able to concentrate as they tried to read and write. The classrooms of New City Elementary were boxes with windows and floors made of hard, noise-reflecting materials, such as unsheathed cinderblock walls with undraped windows, and vinyl tile flooring. Only the ceiling plane was treated acoustically, with glued-on tiles. Both teachers and students wanted comfortable places to sit, but only the teacher had the option of bringing in a comfortable chair from home. The hard surfaces were barely mitigated by a limited number of comfortable or padded seating areas. "Chairs with pads" and "bean bags" were often requested by children for their ideal classrooms. In their actual classrooms, comfortable seating for children was limited, and rationed.

The desire for comfort is separate from the exhortation by the building principal for teachers to create "homey" classroom settings. In the case of New Town Elementary, it is possible to understand that the term "homey" was symbolic of a place of comfort and safety, both physical and psychological. The concept of "home" is a common theme of the identity of institutions in which culture is transmitted, such as churches or schools. Environment-behavior researchers have investigated the concept of home in many ways, and in many settings, yet a full understanding is elusive. For organizations, however, home is tied to a sense of place.

Hominess as a goal was created at New Town Elementary through the purposeful actions of teachers. However, this goal was not strictly educational. Teachers brought residential furniture from their own homes into their classrooms. They personalized the classrooms with family photographs and mementos. Baker and Scheidt (2005) identified three interrelated constructs that contribute to a sense of place: place attachment, place identity, and place dependence. They described place attachments as complex concepts that involve inseparable

blends of affect, cognition, practices, physical settings, people, and temporal qualities, which together provided a basis for communal as well as individual aspects of identity (p. 280). Personalization of one's environment marks greater place attachment, and has been found to help employees cope with stress, and enhance well-being by allowing the expression of personality and individuality; the ability to personalize has been found to be psychologically important to employees and was associated with greater job satisfaction and performance (Wells, p.240, 2000). Teachers were attached to their school and classroom, and spoke eloquently in their interviews of trying to make an ugly, impersonal environment "welcoming and warm."

But the "hominess" at New Town Elementary was promoted by the administration as a teaching strategy, associated with the creation of comfortable places for reading and for the benefit of the students, not for the adult employee (the teacher.) In fact, the teachers at New Town Elementary were clearly instructed to subordinate themselves to the children, in order to create a child-centered classroom. Teachers were strongly encouraged to not have a designated desk, to work without that traditional symbol of adult authority, in order to re-define themselves as something beside the person in charge of the classroom. A child-centered classroom is a key component of constructivist education. However, many children wanted the teacher to have a desk, and for that desk to be placed right in the middle of the children's work area. At the very least, they wanted a teacher to sit where he or she would have a good vantage point for watching over the children as they worked. The desk was clearly a symbol of adult authority. In fact, in many instances, the students want *even more* authoritarian intervention on the part of the teacher to keep order. The interviews with the students reveal that they without hesitation identify the teacher as the person in charge, and the teacher's desk was centrally located in many drawings. As for the teachers themselves, the documentary photographs clearly show the presence of

family photographs and personal memorabilia located in each classroom at the place where the teacher worked most often, be it a desk or a table. Even if they had agreed to give up their desks, teachers would or could not give up their need to personalize their area, either to assert territoriality or to create a reminder of who they were.

Goffman (1961) wrote, "whenever worlds are laid on, underlives develop" (p. 305). In the case of New Town Elementary, the teachers had formed a strong informal network. This network was consistent with the tradition of apprenticeship and collegial mentoring integral to teacher training. Through this network, teachers traded ideas, strategies, and even furniture to enhance their teaching and daily lives in the classroom. It was over this informal "underlife" that the district administrators attempted to lay on an administrative structure based on the attributes of a learning organization, as they saw it. In doing so, they neglected to take into account the strong and fortified network of the teachers.

Deeply held internal images of how the world works are referred to by cognitive scientists as mental models (Senge, p. 174, 1990). People create mental models of appropriate behavior and thinking through their experiences in places like schools, which are physical places filled with people, and with physical objects used for learning. While people do not always behave congruently with what they say they believe, they always do behave congruently with the mental models that they have created as a way of understanding and moving through daily life. Mental models shape perception and control behavior (Senge, p.175, 1990). At New School Elementary, teachers shared a mental model of themselves as autonomous, responsible, and *the* persons of authority within the classroom setting. Their self-image and place-identity included seeing that it was they who managed the classrooms on a day-to-day basis, and they who designed the physical classroom environment. This view was acknowledged by the district

administrators were committed to instituting a constructivist educational approach, including balanced literacy, but not given much weight. The constructivist approach was imposed on both teachers and students from the administration that controlled them; without an understanding or awareness of the mental model that controlled the behavior and thinking of the teachers.

Being a teacher in an elementary school is an unusual situation for an adult, inasmuch as an adult, one is now working in a setting strikingly similar to one that was experienced as a child. Most bankers, it is safe to assume, did not spend most of their childhood waking hours in a bank. If, as constructivism and symbolic interactionism posit, meaning and knowledge are constructed by individuals either alone or with others through transaction with the physical environment, then it is logical to assume that teachers, when they were children, did this as children, in classrooms as they themselves were educated. The interviews with teachers resonate with the meaning that "school" carries for them. The teachers talked about the school looking "like a school not a hospital," and how they loved the smell of "school." These adults chose to enter the profession of teaching *because* of the great meaning that school held for them. They spoke of "my room" and "my class." They invested hours and hours in creating an inviting and functional physical environment. They exerted their ingenuity and sense of "can-do" and "make-do" by taking rubbish and castoff furnishings and making them usable. Teachers personalized the rooms they were given, and put signs on the door that said, for example, "Mrs. K's Room." And yet, the constructivist, child-centered approach said that this must not happen. It was simply not acceptable. What this method does not take into account, however, is that teachers themselves have created meaning associated with the particular place called "school," and that must be taken into account when implementing a child-centered pedagogy. The "underlives" of which

Goffman wrote, continued to exist at New Town Elementary through the period of pedagogical change, and in many ways, prevailed.

An imperfect organizational process obstructs learning

The findings also demonstrated that an organizational process that does not maintain a holistic view of person and environment is itself imperfect, and leads to an imperfect result.

If one accepts the premise that people and their physical environments are inextricably connected, then one must also acknowledge the role played by the physical setting as knowledge is created. Education, like any other organized activity, is praxis *and* product; both the processes of teaching and learning, and also, that which is learned. In addition to the process of learning and the product of learning, i.e., knowledge, the remaining elements of education have been traditionally identified as being the learner and the teacher. I assert that the *physical environment* must also be considered an essential part of what is identified as "education."

Peter Senge's (1990) theory of the learning organization encourages individual members of any type of organization to think collectively for the good of the whole. "Systems thinking" is a term applied to holistic thinking about an organization as a system, in which every element is seen as interrelated**.** There is a strong conceptual link between the work of organizational leaders, and designers of both product and places. Cognitive psychologist Donald Norman discusses it this way,

> What is design thinking? It means stepping back from the immediate issue and taking a broader look. It requires systems thinking: realizing that any problem is part of larger whole, and that the solution is likely to require understanding the entire system. It

> requires deep immersion into the topic, often involving observation and analysis. (http://www.core77.com/blog/columns/design_thinking_a_useful_myth_16790.asp)

Public educational systems are organizations that, like other organizations, are "collectivities made up of individuals," and as such, they have been conceived as behavioral settings for human interaction, socio-cultural contexts in which individuals engage in symbolic interaction, and other terms for settings in which individuals think and act (Argyris, p.6-7, 1996). Senge urges leaders of learning organizations to solicit and rely on the knowledge of the individual members, and to harvest it for the greater good.

Designers rely on research and theories of behavior. The environment has been conceptualized by Rapoport (in Wapner et al, 2000) in four complementary ways: as 1, the organization of space, time, meaning, and communication; 2, as a cultural landscape; 3, as a system of settings within which systems of activities take place; and 4, as composed of fixed, semi-fixed, and non-fixed elements (p.121). Hillier (1999) describes buildings as if they are like language, in that they embody, impart, and transmit social information (p.195). With regard to settings for learning, environment-behavior research has found that the external physical environment actively influences memory and learning. When learning occurs in a meaningful place, it has been found that learning is deeper (Zeisel, p. 149, 2006). Schools and classrooms are buildings and physical environments in which the process of cultural transmission occurs. In fact, the transmission of culture is their very reason for being.

Designers use theory to inform how they work, and what they design. Like Senge's description of organizations in general, design is both praxis and product. Within the context of a learning organization, Senge describes his idea of a new role for top executives:

> The essence of the new role…will be what we might call *manager as researcher and designer*. What does she or he research? Understanding the organization as a system and understanding the internal and external forces driving change. What does she or he design? The learning processes whereby managers throughout the organization come to understand these trends and forces. (p.299)

In other words, the manager-as-designer designs the organization. Senge continues,

> Real designers are continually trying to understand wholes…crucial design work for leaders of learning organizations concerns integrating vision, values, and purpose, systems thinking, and mental models—or more broadly, integrating all the learning disciplines (p.343)

Environment-behavior research, closely allied with the field of design of the built environment, has much to offer to organizational leaders as they seek to form, guide, or change their organizations. Organizational leaders, like designers, use theory, research, and application as they articulate and implement their strategic plans and make decisions about the design of physical facilities to support business practices. Today, based on environment-behavior research findings, the physical workplace has come to be thought of as a powerful and active tool of business and of the organization (p.7) rather than as a passive symbol or mere physical container.

However, there is one way in which organizations are "containers" – and that is how they function as repositories or holding environments for knowledge. This knowledge may be held in the minds of the individual members, the files and written records, and in the physical objects that members use "as references and guideposts as they go about their business" (Argyris, p.12, 1996). Referencing Barker's work on behavior settings, Argyris writes that Barker's study revealed how everyday knowledge is embedded in familiar places, "such as the corner

drugstore—in the presence of the soda fountain, the prescription counter, the candy display. Everyone who belongs to the culture in which that setting has its place knows how to deliver the appropriate behavior" (p.12, 1996). As stated earlier, people create meaning through interaction with the physical environment and the artifacts that it contains. People create an intricate web of associations and meaning through their sensorial transaction with specific of objects and specific settings, particularly in cultural institutions. In this way, the container for human behavior must be acknowledged and addressed by a "learning organization" when the time has come for change.

Organizations are made up of people, and key policy makers within organizations determine and articulate the strategic plan of that organization. Organizational change begins with an initiatory process and moves on to implementation that occurs in a physical place. In the case of the school district of which New Town Elementary was a part, the goal of the strategic planning process was improved learning outcomes. Senge (2000) writes that a fundamental problem with strategic planning is that the "resulting vision does not build upon people's personal visions" (p. 213), meaning the mental models of key groups, the teachers and students.

In New Town Elementary, the policy-makers charged with strategic planning neglected to take into account the mental models held by teachers and children, which were integral to the people-environment transaction at the smallest unit level, the classroom, and therefore essential to the success of the proposed change. In this case, the ideals of an organization which espoused a constructivist philosophy of education and a commitment to building "learning communities" were in direct conflict with the deeply ingrained place identity long-held by many of the individual classroom teachers, and of the students. Altman (1990) believed that it was necessary to integrate psychological processes and places, or environments, with a consideration

of temporal qualities, and look at them holistically, as place-process units of analysis (p.242). His was a transactionalist perspective, which he described as seeking to understand unique events that are temporally, spatially, and situationally bounded. He wrote that, "…the interactional approach…builds knowledge from the bottom up…with relationships between variables cumulating to yield understanding of the whole" (p.248). Lawton and Parmalee articulated the problems caused by the subject-object duality:

> The problems that emerge from this duality revolve around two issues: is the individual's behavior determined by conditions in his or her environment, or in his or her own internal wiring? How can the environment and the person interactively shape each other? (Schwarz, p.13, 2003).

While the New Town Elementary case study revealed that the district administrators conceived of their organization as a learning community composed of individual teachers and of individual schools that themselves were learning communities, the administrators did not act in a way that was consistent with the guiding tenets of the organizational idea. The strategic planning process, which may have been well-intentioned, either did not solicit "knowledge" at the level of the individual teacher or student, or if it did, the knowledge was not incorporated into the resulting plan. As one teacher repeatedly noted, even when the suggestions of teachers for improvements in the physical environment were solicited, they were ignored. The teachers' litany became, "theory vs. reality" – wherein district-level planning was seen as out of touch with the daily classroom reality experienced by the teachers.

In summary, the New Town school district planning process was well-intentioned, but did not go far enough. The district administrators were limited by their own lack of knowledge, and their confidence that they were fully informed about the teachers, the students, and the

transaction with the physical environment as they taught and learned. Within education, as in other organizations, the elements of praxis, product, people, and place are inextricable from one another. Unless all are taken into account when an educational organization creates strategic plans to improve education, then the planning process and the resulting plan will both be flawed. In fact, this is what was found during the study – although they self-described as supporters of a learning community, the district administrators acted instead as traditional leaders. They acted as "special people who set the direction, [made] the key decisions, and energize[d] the troops…and were deeply rooted in an individualistic and nonsystemic worldview" (Senge, p. 340, 1990). This research revealed that more productive and long-lasting educational change may be effected through a more holistic approach to the strategic planning process, in which the physical environment, person-environment transaction, and environment-behavior research findings are taken into account.

Conclusions and Implications

What implications does this research have for educational organizations, for teachers, and designers? The issues identified call for close attention by educators and others. It is time for environmental designers to look anew at cognitive psychology, neuroscience, and environment-behavior research in the context of education and literacy theory. This dissertation has created no new solid theory. But, it has further developed understanding of the relationship between the environment and learning, and in that sense, has provided theoretical building blocks for future theory.

There has been much discussion of the connection, or disconnection, between theory and application, across many disciplines. Rosmarin (1984) seeks the reconciliation of theory and action. She quotes William James: "Theories thus become instruments, not answers to enigmas

in which we can rest" (p.31). She posits that theory can be directly and immediately connected to methodology, and to the practice of one's applied art (p. 33).

Strategic planning is a complex process, particularly for organizations, such as schools districts. Organizations such as these must be holistic in their thinking and planning. They are responsible for the most important kinds of places: those places that hold the deepest meaning for people, as these places are where people receive the culture of their communities and construct meaning that they will carry with them for their entire lives. Organizational leaders utilize a strategic planning process to achieve the same ends. Like designers, organizational leaders articulate a vision, identify concrete goals, and undertake specific actions. "Design," writes Stanford Anderson, "is not some special, arcane process, but is rather allied to common sense and to the pursuit of rationality (p. 2). The product of planning can only be as good as the process is holistic; therefore, the process must include theory, and an awareness of the powerful connection between people and the physical environment.

The purpose of planning is action. As Senge (1990) writes, "Design is, by its nature, an integrative science because *design requires making something work in practice*" (p. 342). The purpose of planning for education is to create an effective strategy for improving learning outcomes. By thinking like designers and integrating theory and research across disciplines, educational leaders with designers and environment-behavior researchers as partners, can be more effective as they act to improve learning and implement change.

Educational settings are a relatively unexplored frontier for environment-behavior researchers. Like healthcare settings and outdoor environments, classrooms and schools are ubiquitous. Over a person's lifetime, he or she will almost definitely spend a substantial amount of time in school. Educators have created a huge body of theory and research into how people

acquire, create, and construct knowledge, but in doing so, they have largely ignored the transaction of people and the environments in which they learn. Environment-behavior researchers have largely done the same. And yet, can there be a more important research topic?

This dissertation opens the door for further study of the effect of environmental attributes such as noise, thermal comfort, and lighting levels on learning, and the effects of access to nature on learning. This should be further studied. Is it known yet how the simple element of comfortable seating affects learning? It is an aphorism of reading to "curl up in a chair with a good book," but no one really knows if the chair influences the retention, memory, or construction of knowledge. On these topics, at this level, and at the theoretical level, environment-behavior research holds promise for education, and educational outcomes.

These findings also have implications for teachers, laboring in the classroom each day. Prominent educational psychologist, Michael Pressley (2004), wrote, "The true experiment is a high ideal for producing cause and effect conclusions. Sometimes, however, it is not the best approach" (in Robinson et al, p. 293). Pressley explains why he spent a good part of his career as a qualitative researcher using grounded theory analysis. As a literacy expert and educator, he recognized that education is a highly complex process that cannot be fully captured by quantitative research; through grounded theory, Pressley was able to capture and identify the wide subtle variables that were part of the instructional methods that hestudied, and allowed him to create a rich, theoretical description of them (p. 294). Pressley wrote,

> School-based folks need to spend time studying [the scientific research edge] as well, for they have a role in advancing science, too…educators [can take] the starting point defined by the scientific cutting edge and [create] a new cutting edge. (p.297)

The classroom teacher has a significant role to play in using the findings of environment-behavior research, testing its impact on the ability of students to engage in learning, to achieve states of high concentration and flow, and to improve literacy. Good educators—those who teach with a sense of purpose, who feel responsibility for their students, and who are empowered by their administration and by themselves as professionals—are in the best position to test how the physical classroom environment affects learning. To paraphrase Pressley (p.297), good environment-behavior scientists and good educators become better scientists and better educators together.

APPENDIXES

Appendix A

School District Strategic Plan “Vision 2020” Document

EXECUTIVE SUMMARY

[redacted] CENTRAL SCHOOL DISTRICT
STRATEGIC PLANNING PROCESS: 20/20 FOCUS
2006-2007

The Board of Education of [redacted] Central School District directed the implementation of a strategic planning process to engage all stakeholders in identifying priorities for the District and to prepare our students for success in an ever changing, global society. This need for strategic planning was identified during the 2005-2006 school year as the transition planning from the Superintendency of Dr. [redacted] was undertaken. It was determined that the services of a consultant with national experience in working with high performing schools as well as expertise in the skills needed by students for success in 21st century communities and workplaces would be sought.

Dr. Kathleen Fitzpatrick, the founding director and CEO of the Leadership for Learning Alliance, was identified as the consultant to provide services relative to the strategic planning process, known as the 20/20 Focus (see Tabs #1 and #3). Dr. Fitzpatrick received national recognition as an educational consultant for her work in analyzing attributes of high performing school systems. Among her many accomplishments, she served as the Executive Director of the National Study of School Evaluation (NSSE), which is the research and development arm of the regional school accreditation commissions, focusing on supporting school improvement and accreditation needs of schools across the United States and abroad.

The strategic planning process was designed to foster a shared sense of purpose and direction for the work of the District on behalf of student learning and to develop a plan of action to advance the shared vision of the school system. The 20/20 Focus officially began with a Board of Education retreat that occurred on August 1-2, 2006, as Dr. Fitzpatrick worked with Board members to frame the process and respond to questions. Involvement of District administrators occurred next with an administrative leadership meeting on August 31, 2006 to establish the foundation for work to occur during the 2006-2007 school year (see Tab #2). It was determined that Dr. [redacted], Associate Superintendent for Personnel and K-12 Curriculum and Instruction, and Dr. [redacted], Assistant Superintendent for Student Learning, would co-facilitate the year-long planning process.

Preliminary work continued on September 22, 2006, as Dr. Fitzpatrick provided an overview of the 20/20 Focus to the Administrative Leadership Team. Dr. Fitzpatrick also briefed the newly created Steering Committee for Strategic Planning on preparations needed for the first of four Strategic Planning Summits to occur on October 30, 2006 (see Tabs #4 and #5). Steering Committee members were as follows: Dr. [redacted], Ms. [redacted] (Elementary Principal and [redacted] Administrators' Association President), Mr. [redacted] (High School Principal), [redacted], Esq. (Board of Education Member), Mr. [redacted] (Secondary Teacher and Clarkstown Teachers' Association President), Ms. [redacted] (Community Member), M[redacted] (Director of Transportation), Mr. [redacted] (Director of Facilities and Operations), and Ms. [redacted] (Elementary Teacher). The following describes the four-part planning framework, grounded in research on

high performing school systems and collaborative planning model, which was utilized for the District's strategic planning.

DISCOVERY: Research Phase.

***C**lass of 2020: What do we know about the strengths and successes of the [redacted] Schools? What does the research say about effective districts, student learning, and system effectiveness? How can we learn from the research and grow as we focus on the Class of 2020?*

At the first Strategic Planning Summit held on October 30, 2006, a District-wide planning team assembled to answer the questions noted above (see Tab #6). The planning team was comprised of 90 members from all stakeholder groups, including teachers, students, parents, Board of Education members, administrators, support staff, and community members. Members of the planning team worked in pairs, groups of four, and table groups of eight during the full-day session to identify themes from high point experiences they had within the District, as well as their highest hopes for the future to strengthen the quality of the work of the District on behalf of student learning.

The strength of the strategic planning process was in the **involvement of all stakeholder groups during the four planning days**, as well as in the **ongoing work that occurred at Community Forums and School Study Team meetings** after the planning days to gather important feedback to the process (see Tabs #7, #8, and #9). Community Forums were attended by individuals who reside within the District and were willing to contribute to the development of the vision and overall plan for the District. School Study Teams were assembled in each of the ten elementary, three middle, two high schools, and Birchwood, and were comprised of teachers, students, parents, administrators, and support staff, providing a forum for contribution and input to the process. Another positive attribute of the process was its grounding in the latest research on student learning, school and classroom teaching effectiveness, system effectiveness, and leadership effectiveness, and its review during administrative leadership and School Study Team meetings (see Tabs #8 and #9).

Steering Committee Meetings occurred during this first phase of strategic planning to synthesize feedback from the planning group, Community Forums, and School Study Teams relative to **themes from high point stories** and **the highest hopes for the future** in preparation for the second Strategic Planning Summit (see Tab #10).

The following emerged as the themes from the high point stories of the District (see Tab #11):

- Collaboration/team work;
- Commitment of community, administrators, and teachers to the improvement of programs for students and staff;
- Opportunities for programs for students and teacher training in order to raise standards for students;
- Recognition of accomplishments;
- Communication among all stakeholders and between schools; and
- Positive connections between students and staff.

Highest hopes for the future were described as follows (see Tab #11):

- Commitment to improve facilities and a commitment to technology;
- Commitment to Professional Development;

- Encouraging service and volunteerism;
- Creating a culture of life-long learning and continued professional development;
- Encouraging community involvement and support that is essential to maintaining quality schools; and
- Providing a safe and healthy learning environment.

20/20 Vision for Students in [redacted] CSD

In addition to demonstrating proficiency in core subjects, [redacted] CSD's 20/20 vision for students includes the following types of skills:

Learning and Thinking Skills:

- Independent, critical thinkers and problem solvers, who are intellectually curious and creative

Information and Communication Technology Skills:

- Able to analyze, evaluate, and utilize media, including various forms of media
- Communicators who can effectively read, write, listen and speak

Life Skills:

- Socially, academically, and personally responsible, empowered to make healthy life choices
- Confident and competent participants in a global community, who are capable of productive collaboration
- Able to recognize, value, and adapt to change

Vision for the Work of [redacted] CSD on Behalf of Student Learning

Teaching and Learning Processes:

- Are responsive to research-based practices, emerging trends, and student data
- Are differentiated for all students
- Are interdisciplinary, inquiry-based, and show relevance between content and the real world
- Are facilitated by teachers who support students in constructing their own knowledge
- Provide opportunities for cooperative, interdependent, and independent learning experiences

Learning Environment:

- Is inspiring, inviting, clean, safe, and well-maintained with access to all
- Is technologically state-of-the-art

Organizational Culture:

- Creates a rich learning environment for students and staff in which teacher and student creativity are encouraged in a supportive environment
- Promotes K-12 consistency in curriculum and instructional resources
- Supports and promotes engaging professional development for all staff

Stakeholders (Students, Staff, Parents, and Community Members):

- Provide resources necessary to achieve the vision for the District
- Participate in decision making to develop a sense of ownership
- Accept responsibility and be willing to be held accountable for honoring the core values of the District and contributing to the advancement of the vision

Priority Goals for 20/20 Vision for Students

1. Students will take ownership of their actions by demonstrating self-advocacy, initiative, responsibility, and critical thinking skills.

2. Utilizing technology effectively as a tool, students will communicate, construct learning, and demonstrate problem-solving and decision-making skills.

Priority Goals for 20/20 Vision for the District on Behalf of Student Learning

1. The District will allocate resources in alignment with learning goals to create facilities which enhance and maintain technologically advanced, efficient, and safe environments that are conducive to learning.

2. The District will ensure high standards by using a variety of research-based curriculum and instructional models and professional development to create opportunities for all students to become critical thinkers and life-long learners.

"There is no power for change greater than a community discovering what it cares about" (Wheatley, 2002).

Appendix B

District Professional Development Brochure

Professional Development Fosters Success

In today's ever-changing, increasingly interconnected world, teachers must be prepared to meet the needs of students who will be expected to grasp more challenging and demanding content. Students will also need to be prepared for a future in which they will be required to quickly adapt and adjust their skills according to the workforce. Collaboration, inquiry, problem-solving, and reflection must be embedded in professional development, which will help teachers to meet these expectations for student learning.

The two most important purposes of professional development are to:

IMPROVE STUDENT PERFORMANCE
ENHANCE PROFESSIONAL PRACTICE

These purposes are embodied in the district's professional development plan and strategic plan which articulate our 20/20 vision for student learning. Professional development across all employee groups will be data-driven and research-based to ensure that all learners acquire the skills and knowledge necessary to succeed in the knowledge and information age.

Setting a course for developing independent and critical thinkers

The [redacted] Central School District's 20/20 vision for student learning emerged from the work of the district-wide Strategic Planning Team. To succeed in the knowledge and information age, students will need to be:

- Independent, critical thinkers and problem solvers who are intellectually curious and creative
- Able to analyze, evaluate, and utilize various forms of media
- Communicators who can effectively read, write, listen, and speak
- Socially, academically, and personally responsible, empowered to make healthy life choices
- Confident and competent participants in a global community who are capable of productive collaboration
- Able to recognize, value, and adapt to change

The district recognizes that students won't become independent and critical thinkers, effective communicators and collaborators, problem-solvers, and confident participants in a global society if teachers don't share these same attributes and qualities.

Professional development will build these capacities across the system to ensure that all students are exposed to instruction that builds critical and evolving skill sets.

"The single **greatest effect** on student **performance** is not race; it's not poverty; it's the **effectiveness** of the individual classroom **teacher.**"
(Sanders and Rivers, 1996)

Success

The Professional Development Plan

Laying the Foundation to Enable Us to Achieve Our Goals

This plan lays the foundation for helping the district to realize its 20/20 vision for student learning. The plan involves three levels of responsibility:

The Office of Instruction and Professional Development & the District-Wide Professional Development Team

- Facilitate, coordinate, plan and support professional development opportunities that support the implementation of school-based professional development plans
  - Establish a district-wide professional development team with a representative from each school-based team
  - Offer professional development team technical support
- Offer in-service courses related to:
  - Best practices that foster higher order thinking, problem-solving, collaboration, and inquiry-based learning in all content areas
  - Instructional coaching
  - Peer review or critical friends teams
  - Student work review teams
  - School or district-wide study teams
- Create "get acquainted" seminars on the APPR (Annual Professional Performance Review) process
  - Offer in-service credit to participate in video dialogue groups
  - Facilitate in-service lesson study groups
  - Establish expert guest speaker sessions to address topics related to needs determined by school and system-wide data
  - Support curriculum committee work
- Create site-based professional development institutes on critical topics that emerge from school or system-wide data
  - Support the implementation of classroom walkthroughs as per the UCLA model
  - Host lesson fairs to showcase effective instructional practices. In-service credit is available
  - Offer mentoring support
  - Facilitate teacher research teams that establish a topic of study that is connected to the school's professional development plan. Teams can apply for mini-grants to attend a professional conference, receive in-service credit or receive a partial scholarship to enroll in a graduate course related to the area of teaching.
- Publish an electronic professional development newsletter to communicate activities occurring across the district and within the schools
  - Create a professional development website with links to resources and materials
  - Establish a professional development library of best practices, research, and support materials
- Develop "professional apprenticeships" for teachers, department chairs, and assistant principals through the assignment of blocks of time at school sites or at the district office
  - Prospective apprentices may apply for in-service credit.
- Facilitate networking opportunities with other districts to share resources, practices, and knowledge
- Establish a "teacher scholar" program to allow teacher experts to work with leave replacement teachers across the district
  - Teacher scholars may apply for in-service credit.

Lifelong Learning

Principals and their Professional Development Teams

Create and submit an annual school professional development plan

This plan will be data-driven and includes student assessment data, teacher observations and evaluations, classroom walk-throughs, and learning walks.

- Quarterly professional development plan review sessions will occur with the principal and the professional development team to examine evidence of the implementation of the plan. Supporting evidence may include artifacts such as surveys, regular feedback from teams, minutes from meetings, team agendas, action plans, teacher observations, learning walks, and student work samples and products.
- Principals may need to examine school schedules, team meeting times, teacher assigned duties and other times to establish opportunities during the school day for cross team meetings, coaching, mentoring, modeling, demonstrations, book talks, study teams, classroom walk-throughs, student work review teams, video dialogues, and other job-embedded learning.

Use the Superintendent's conference days to reinforce the year long professional development plan.

- The use of this time will be approved by the Superintendent's staff.

Establish learning opportunities

The Office of Instruction and Professional Development will coordinate opportunities for mentoring meetings, coaching sessions, classroom inter-vistations, teacher-led seminars and learning sessions, and cross district classroom visitations.

- Create model classrooms where teachers can visit to observe specific practices
- Attend professional conferences as a team which could include the principal, assistant principal or department chairperson along with several teachers and teaching assistants. Conference attendance must include an explanation of how the information learned at the conference will support the goals articulated in the professional development plan
- Establish school-based professional development laboratories or "learning labs" in consultation with the Office of Instruction and Professional Development
- Create study teams to build knowledge around practice. Study teams may apply for in-service credit
- Coordinate instructional support teams for non-tenured and tenured teachers which are non-evaluative visits to classrooms to provide recommendations and suggestions for improvement

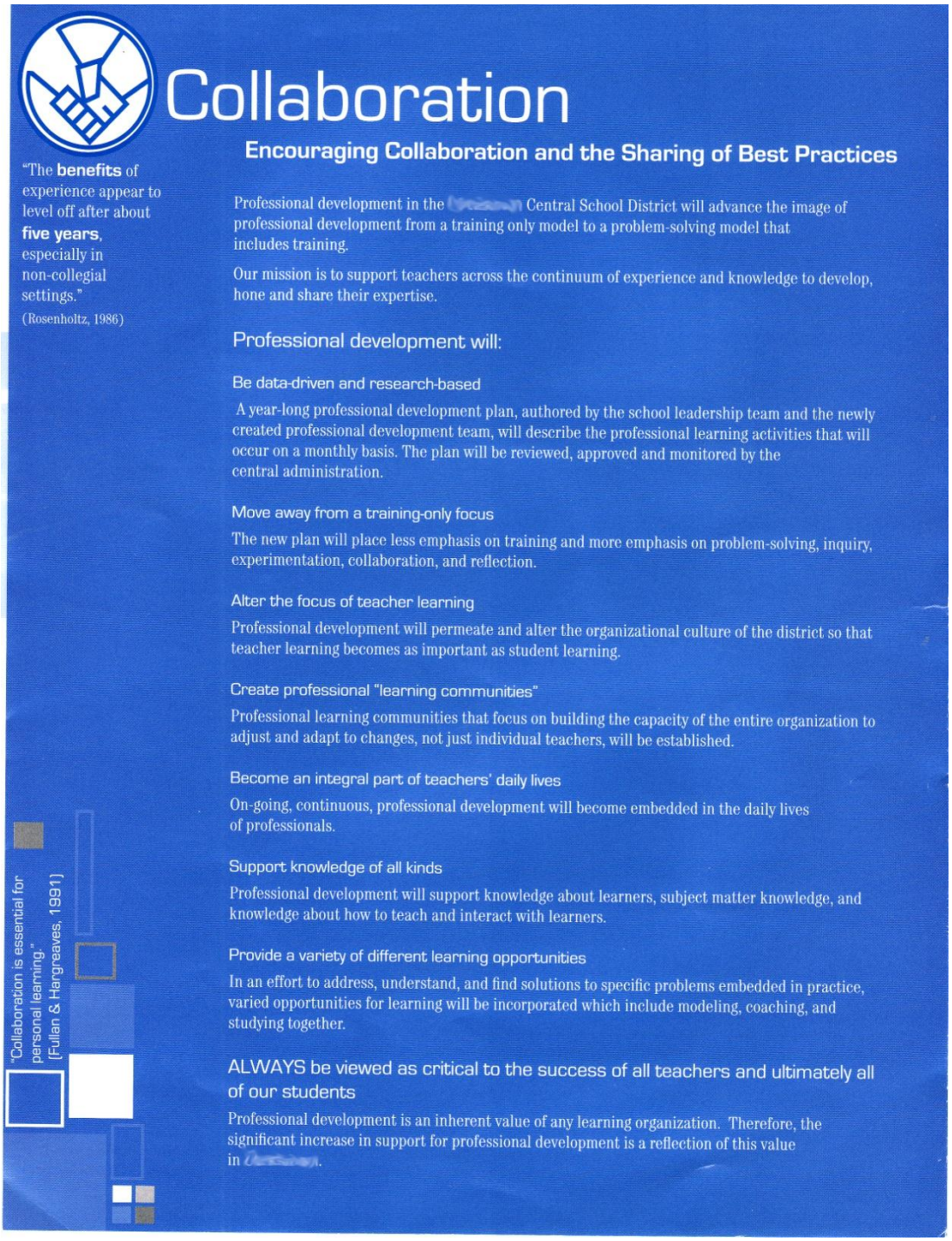
"Inquiry is the engine of vitality and self-renewal." (Stacey, 1992)

The Superintendent's Staff

- Review and approve school-based professional development plans
- Facilitate quarterly professional development plan review sessions with principals and their teams to track and monitor the implementation of the plan
- Conduct program reviews to identify specific areas in need of improvement. Principals will follow up with an action plan that reflects the professional development plan and a timeline for improvement.

These collective responsibilities will help the district to realize its 20/20 vision for student learning.

After September 28, 2007, the district will be using an electronic program called My Learning Plan for conference attendance and prior course approvals. Paper copies of prior course approval forms and conference attendance forms will be eliminated and no longer be accepted after September 2007.



Collaboration

"The **benefits** of experience appear to level off after about **five years**, especially in non-collegial settings."
(Rosenholtz, 1986)

Encouraging Collaboration and the Sharing of Best Practices

Professional development in the [redacted] Central School District will advance the image of professional development from a training only model to a problem-solving model that includes training.

Our mission is to support teachers across the continuum of experience and knowledge to develop, hone and share their expertise.

Professional development will:

Be data-driven and research-based

A year-long professional development plan, authored by the school leadership team and the newly created professional development team, will describe the professional learning activities that will occur on a monthly basis. The plan will be reviewed, approved and monitored by the central administration.

Move away from a training-only focus

The new plan will place less emphasis on training and more emphasis on problem-solving, inquiry, experimentation, collaboration, and reflection.

Alter the focus of teacher learning

Professional development will permeate and alter the organizational culture of the district so that teacher learning becomes as important as student learning.

Create professional "learning communities"

Professional learning communities that focus on building the capacity of the entire organization to adjust and adapt to changes, not just individual teachers, will be established.

Become an integral part of teachers' daily lives

On-going, continuous, professional development will become embedded in the daily lives of professionals.

Support knowledge of all kinds

Professional development will support knowledge about learners, subject matter knowledge, and knowledge about how to teach and interact with learners.

Provide a variety of different learning opportunities

In an effort to address, understand, and find solutions to specific problems embedded in practice, varied opportunities for learning will be incorporated which include modeling, coaching, and studying together.

ALWAYS be viewed as critical to the success of all teachers and ultimately all of our students

Professional development is an inherent value of any learning organization. Therefore, the significant increase in support for professional development is a reflection of this value in [redacted].

"Collaboration is essential for personal learning."
(Fullan & Hargreaves, 1991)

Appendix C

Danielson's Framework, Domain 2: The Classroom Environment

FIGURE 4.11

DOMAIN 2: THE CLASSROOM ENVIRONMENT

Component 2e: Organizing Physical Space

Elements: Safety and accessibility • Arrangement of furniture and use of physical resources

	LEVEL OF PERFORMANCE			
ELEMENT	UNSATISFACTORY	BASIC	PROFICIENT	DISTINGUISHED
Safety and accessibility	The classroom is unsafe, or learning is not accessible to some students.	The classroom is safe, and at least essential learning is accessible to most students.	The classroom is safe, and learning is equally accessible to all students.	The classroom is safe, and students themselves ensure that all learning is equally accessible to all students.
Arrangement of furniture and use of physical resources	The furniture arrangement hinders the learning activities, or the teacher makes poor use of physical resources.	Teacher uses physical resources adequately. The furniture may be adjusted for a lesson, but with limited effectiveness.	Teacher uses physical resources skillfully, and the furniture arrangement is a resource for learning activities.	Both teacher and students use physical resources easily and skillfully, and students adjust the furniture to advance their learning.

Appendix D

Information Letter, Informed Consent Documents

Information Concerning Participation in a Research Study

University of Missouri

(How does the physical classroom environment affect literacy outcomes)

Description of the research and your participation

You are invited to participate in a research study conducted by Ellen Fisher, a graduate student at the University of Missouri. The purpose of this research is to understand how teachers and students use their classroom for teaching and learning reading, writing, and oral presentation skills, and how the students' parents view the classroom. In particular, the study is focused on 3rd grade classrooms, because of the emphasis of language arts in the 3rd grade curriculum.

Your participation will involve a short, informal interview with Ellen Fisher.

The amount of time required for your participation will be 15-30 minutes.

Risks and discomforts

There are no known risks associated with this research. The interview will take place at your child's school, during the period just before or after your scheduled Parent-Teacher conference.

Potential benefits

This research may help us to understand how the design of the classroom affects the teaching and learning of reading, writing, and other literacy skills. It will be of use to teachers, interior designers, and architects, and will benefit children and educators.

Protection of confidentiality

We will do everything we can to protect your privacy. Your identity will not be revealed in any publication that might result from this study.)

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Ellen Fisher of the University of Missouri, at 555-555-5555. If you have any questions or concerns about your rights as a research participant, please contact the University of Missouri Office of Research at 573-882-9500.

Informed Consent for an Adult Participant

Title of Study: How does the physical classroom environment affect literacy outcomes?

Description of the research your participation

You have been invited to participate in a research study conducted by Ellen Fisher, a graduate student at the University of Missouri. The purpose of this research is to gain a better understanding of how teachers and students use the physical classroom to teach and learn how to read, write, and make oral presentations.

Your participation will involve one or two short interviews with Ellen Fisher, which will last approximately 20-30 minutes. There is the possibility that you will be asked to participate in a third interview.

Risks and discomforts

There are no known risks associated with this research.

Potential benefits

The benefit to you personally will be that you will have contributed to knowledge about how people learn. This research may help us to better understand how adults and children think about the places in which they learn to read and write.

Protection of confidentiality

Your will not be revealed in any publication that might result from this study.

Voluntary participation

Participation in this research study is voluntary. You may refuse to participate or withdraw from the study at any time. You will not be penalized in any way should you decide not to participate or withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please Ellen Fisher at 555-555-5555. You may also contact the principal of your school. If you have any questions or concerns about your rights as a research participant, please contact the University of Missouri Office of Research.

Consent

I have read this Informed Consent form and have been given the opportunity to ask questions. I give agree to participate in this study.

Signature: _____ Date: _____

Name: _____

A copy of this consent form should be given to you.

Parental Permission Form for Participation of a Child in a Research Study

Title of Study: **How do teachers and children use their physical classroom for balanced literacy?**

Description of the research and your child's participation

Your child has been invited to participate in a research study conducted by Ellen Fisher, a doctoral student at the University of Missouri. The purpose of this research is to gain a better understanding of how teachers and students use the physical classroom to teach and learn how to read and write. It has been approved by the CSD.

Your child's participation will involve being part of a short group interview with Ellen Fisher and some New Town classmates, which will last approximately 15-20 minutes, in which they will talk about their classroom.

Risks and discomforts

There are no known risks associated with this research.

Potential benefits

This research will help designers and teachers to better understand how adults and children think about the places in which they learn to read and write.

Protection of confidentiality

Your child's identity will be kept completely anonymous. The Central School District has carefully reviewed this study, and has approved it.

Voluntary participation

Participation in this research study is voluntary. You may refuse to allow your child to participate or withdraw your child form the study at any time. Your child will not be penalized in any way should you decide not to allow your child to participate or withdraw your child from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please Ellen Fisher at 555-555-5555. You may also contact the principal of your child's school, Mrs. D or the classroom teacher. If you have any questions or concerns about your child's rights as a research participant, please contact the University of Missouri Office of Research.

Consent: I have read this parental permission form and have been given the opportunity to ask questions. I give my permission for my child to participate in this study.

Parent's signature: _____ Date: _____

Child's Name: _____

A copy of this parental permission form should be given to you.

Appendix E

Semi-structured Interview Sheets

Interview questions for Students 3.08

1. Show me/tell me about the places in your classroom where reading-writing-speaking happen.

2. Has your teacher made some place special in the room for teaching kids how to read/write/present? What makes it special?

3. Which is your favorite place in the classroom? Why do you like it?

4. What would a good classroom for learning reading/writing/speaking look like? How would *you* design it? Please draw a picture of the classroom you'd design, and tell me about it.

5. Which place in the classroom do you think your teacher likes best?

6. If you could learn reading and writing anywhere in any kind of place in the whole world, what kind of place would that be? Indoors or outdoors? etc

Interview Questions for Teachers: 3.09

1. Did you have any training in setting up your classroom, either in your education courses or from classroom experience? Please describe.

2. What does a good classroom for literacy look like? What does it contain? How is it organized?

3. Where does literacy (reading-writing-oral presentation) occur in your classroom?

4. Which area do you think is the most important in teaching literacy? Which area(s) do you use the most?

5. In what ways does this classroom support instruction?
   Do you use it like a tool?

   Is it a setting?

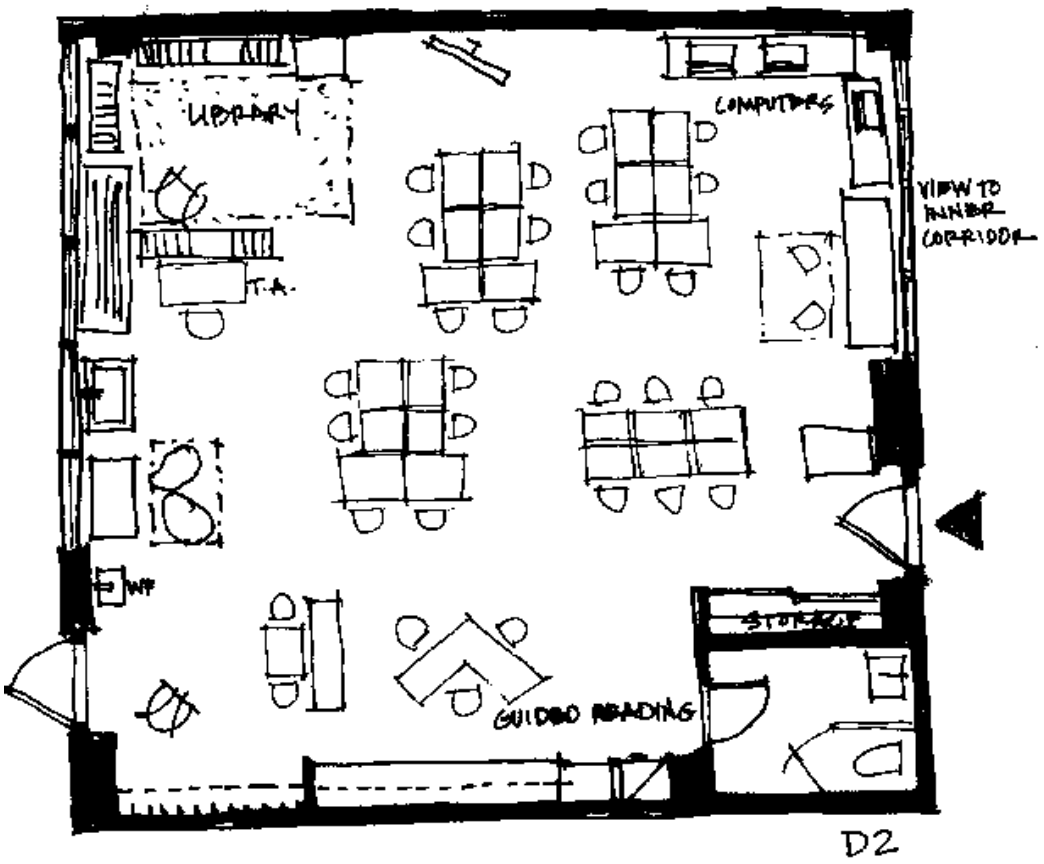
6. Which is your favorite place in the classroom? Why do you like it?

7. Which place in the classroom do you think your children like best?

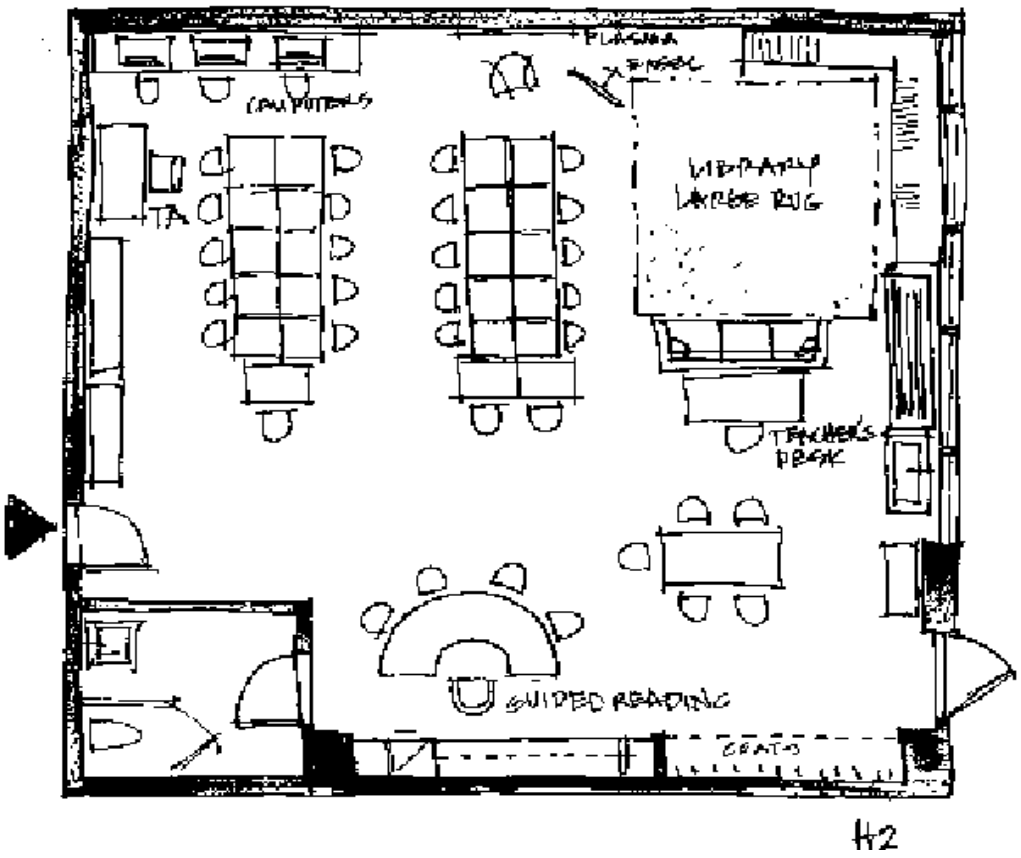
8. If you could teach the activities of literacy in any kind of environment, anywhere in the world, what would that be like?

Appendix F

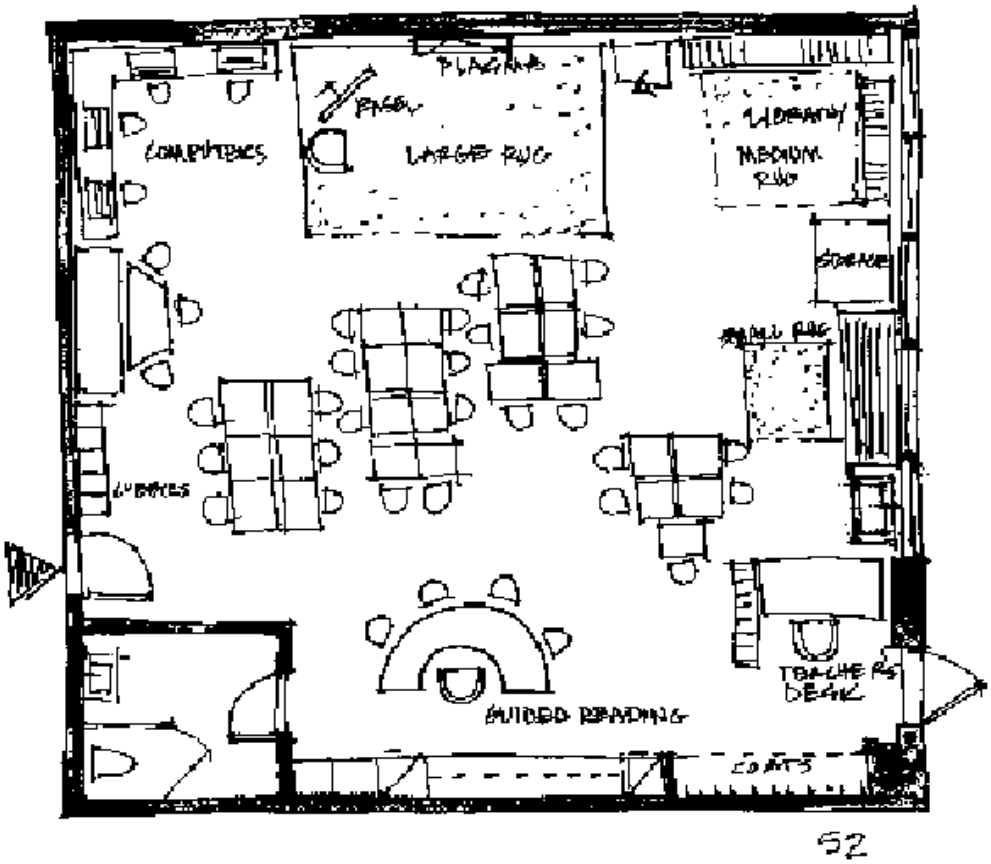
Typical Classroom Plans from Case Study School



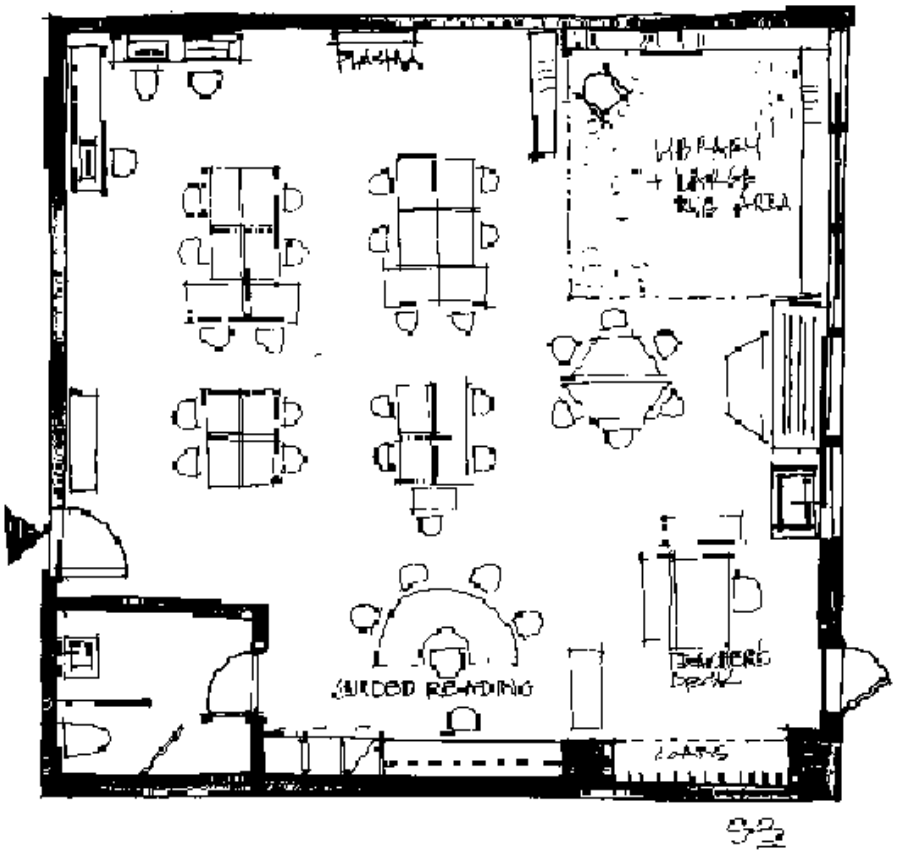
2nd Grade Classroom (D2).



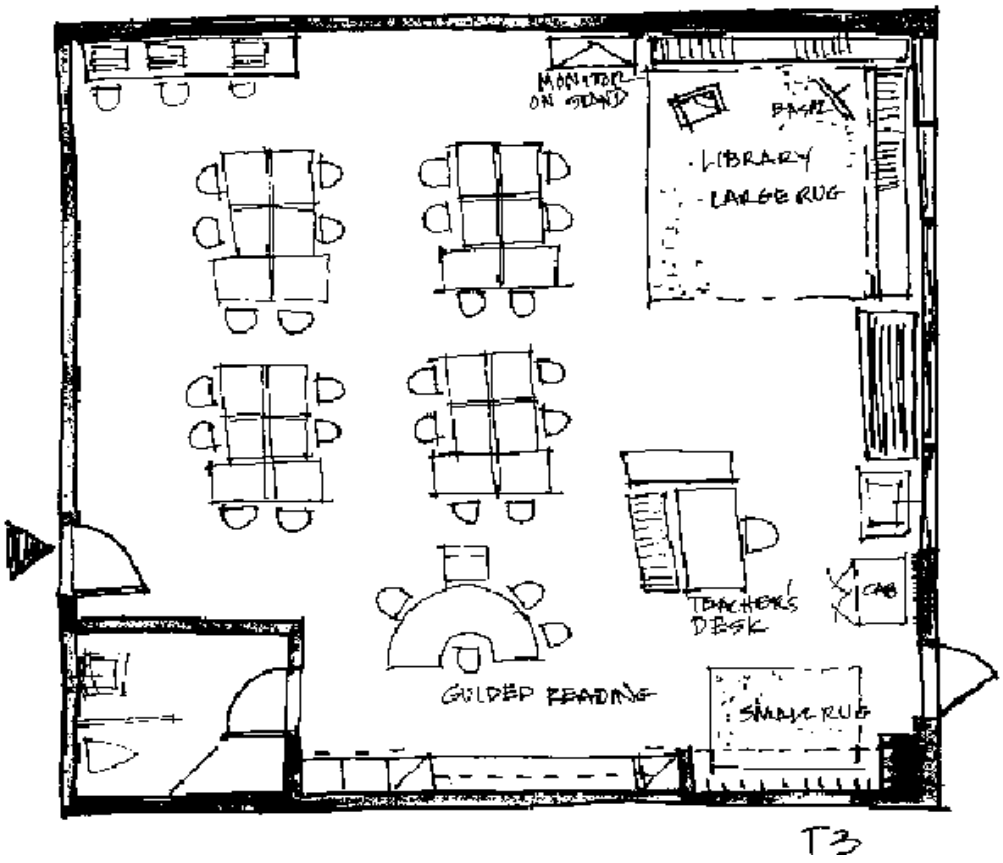
2nd Grade Classroom (H2).



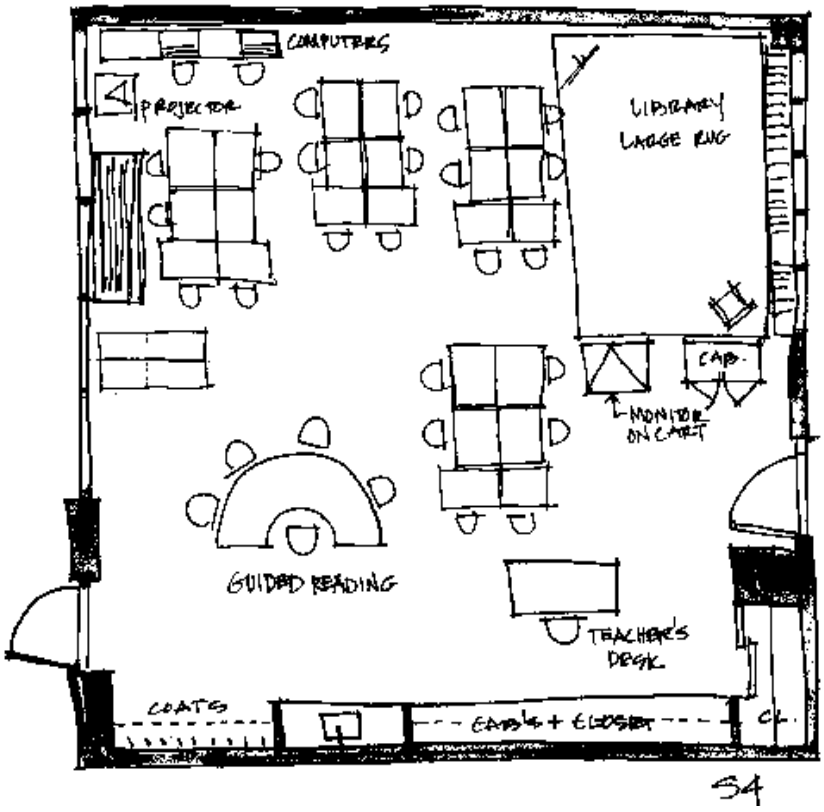
2nd Grade Classroom (S2).



3rd Grade Classroom (S3).



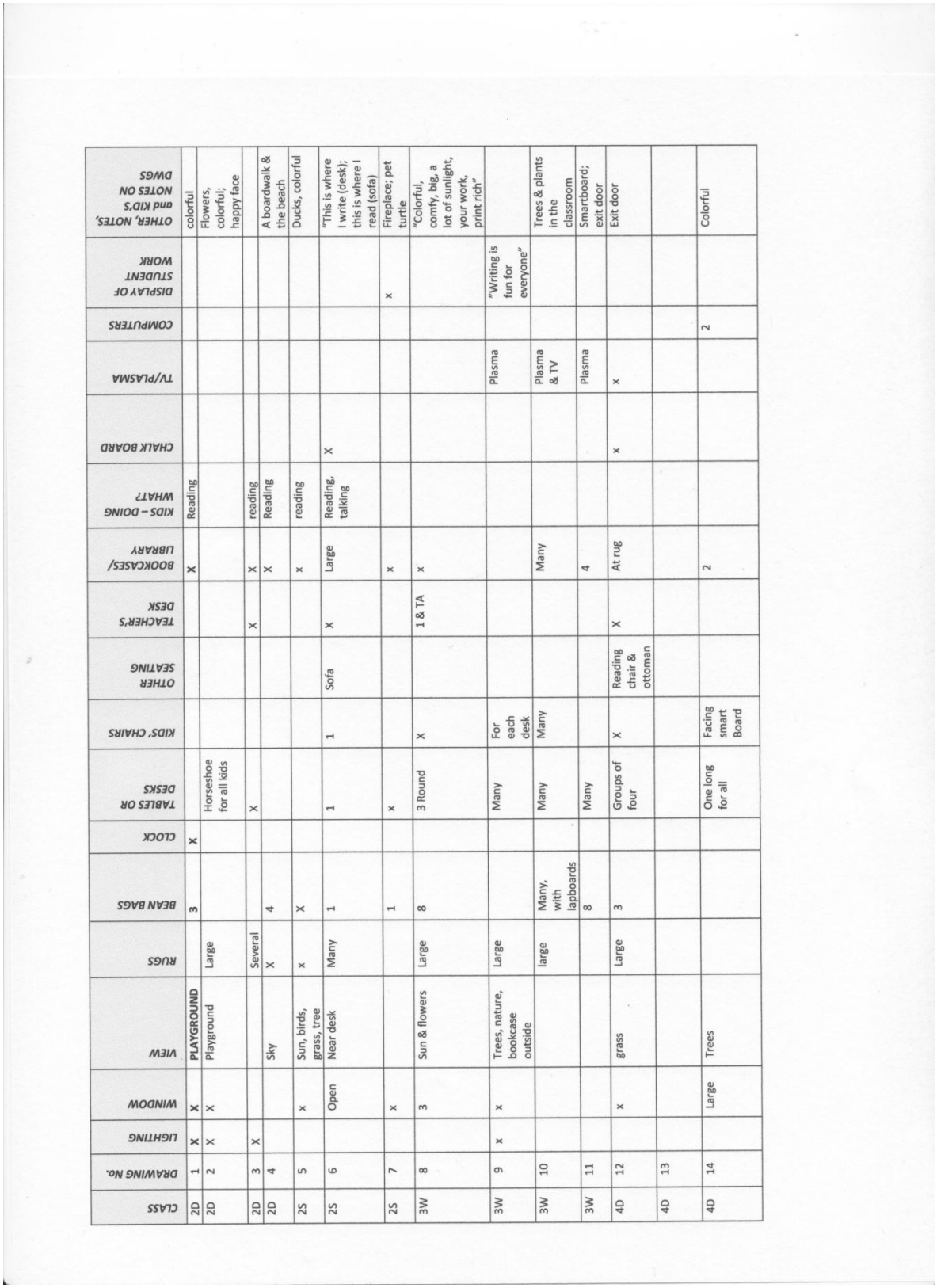
3rd Grade Classroom (T3).



4th Grade Classroom (S4).

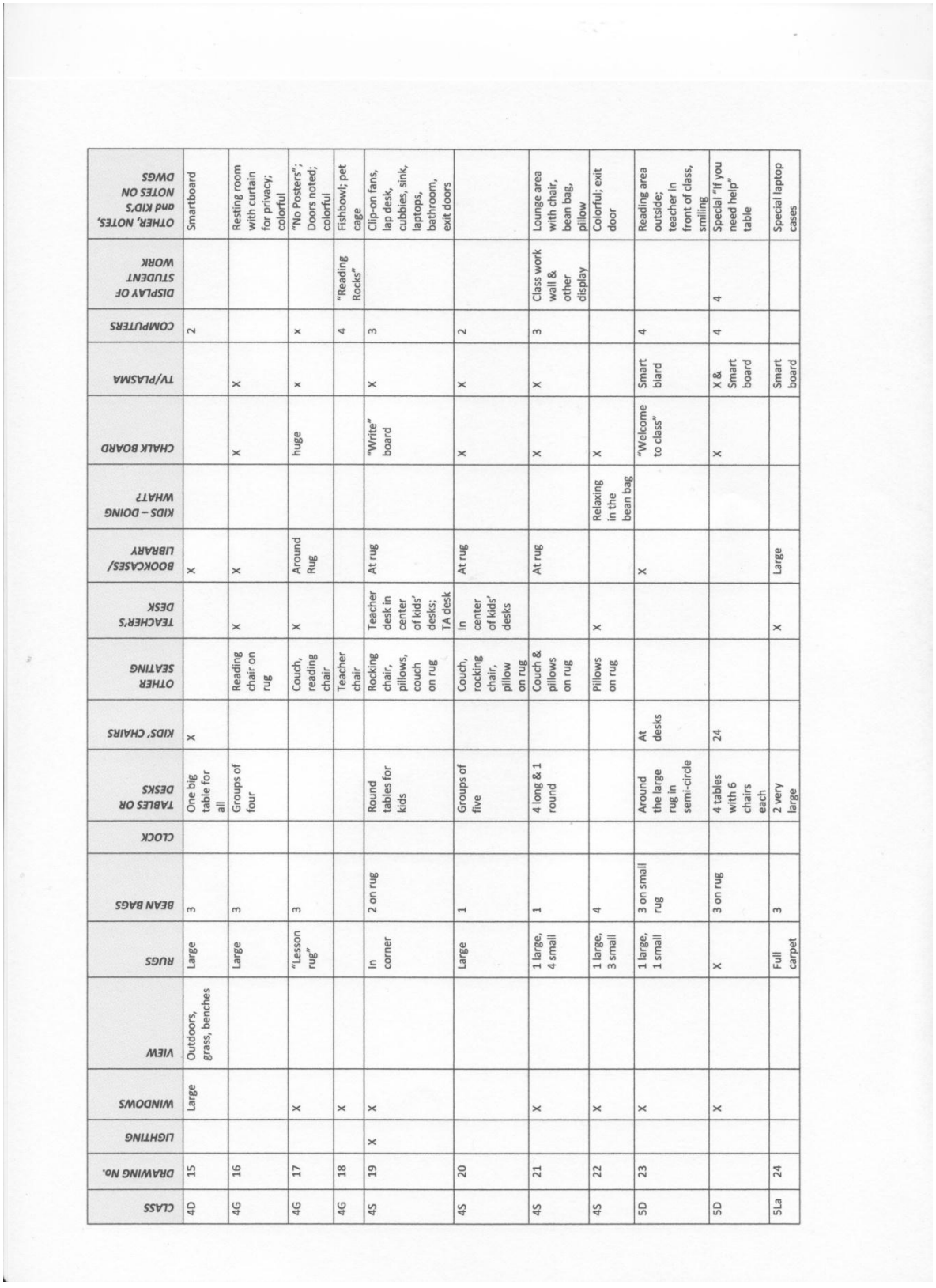
Appendix G

Children's Drawings



CLASS	DRAWING No.	LIGHTING	WINDOW	VIEW	RUGS	BEAN BAGS	CLOCK	TABLES OR DESKS	KIDS' CHAIRS	OTHER SEATING	TEACHER'S DESK	BOOKCASES/ LIBRARY	KIDS – DOING WHAT?	CHALK BOARD	TV/PLASMA	COMPUTERS	DISPLAY OF STUDENT WORK	OTHER, NOTES, and KID'S NOTES ON DWGS
2D	1	X	X	PLAYGROUND		3	X					X	Reading					colorful
2D	2	X	X	Playground	Large			Horseshoe for all kids										Flowers, colorful; happy face
2D	3	X			Several			X			X	X	reading					A boardwalk & the beach
2D	4			Sky	X	4						X	Reading					Ducks, colorful
2S	5		x	Sun, birds, grass, tree	x	X						x	reading					"This is where I write (desk); this is where I read (sofa)
2S	6		Open	Near desk	Many	1		1	1	Sofa	X	Large	Reading, talking	X				Fireplace; pet turtle
2S	7		x			1		x				x					x	"Colorful, comfy, big, a lot of sunlight, your work, print rich"
3W	8		3	Sun & flowers	Large	8		3 Round	X		1 & TA	x						
3W	9	x	x	Trees, nature, bookcase outside	Large			Many	For each desk						Plasma		"Writing is fun for everyone"	
3W	10				large	Many, with lapboards		Many	Many			Many			Plasma & TV			Trees & plants in the classroom
3W	11					8		Many				4			Plasma			Smartboard; exit door
4D	12		x	grass	Large	3		Groups of four	X	Reading chair & ottoman	X	At rug		x	x			Exit door
4D	13																	
4D	14		Large	Trees				One long for all	Facing smart Board			2				2		Colorful

Chart showing the physical classroom elements appearing in the children's drawings (p. 1 of 3).



CLASS	DRAWING No.	LIGHTING	WINDOWS	VIEW	RUGS	BEAN BAGS	CLOCK	TABLES OR DESKS	KIDS' CHAIRS	OTHER SEATING	TEACHER'S DESK	BOOKCASES/ LIBRARY	KIDS – DOING WHAT?	CHALK BOARD	TV/PLASMA	COMPUTERS	DISPLAY OF STUDENT WORK	OTHER, NOTES, and KID'S NOTES ON DWGS
4D	15		Large	Outdoors, grass, benches	Large	3		One big table for all	X			X				2		Smartboard
4G	16				Large	3		Groups of four		Reading chair on rug	X	X		X	X			Resting room with curtain for privacy; colorful
4G	17		X		"Lesson rug"	3				Couch, reading chair	X	Around Rug		huge	x	x		"No Posters"; Doors noted; colorful
4G	18		X							Teacher chair						4	"Reading Rocks"	Fishbowl; pet cage
4S	19	X	X		In corner	2 on rug		Round tables for kids		Rocking chair, pillows, couch on rug	Teacher desk in center of kids' desks; TA desk	At rug		"Write" board	X	3		Clip-on fans, lap desk, cubbies, sink, laptops, bathroom, exit doors
4S	20				Large	1		Groups of five		Couch, rocking chair, pillow on rug	In center of kids' desks	At rug		X	X	2		
4S	21		X		1 large, 4 small	1		4 long & 1 round		Couch & pillows on rug		At rug		X	X	3	Class work wall & other display	Lounge area with chair, bean bag, pillow
4S	22		X		1 large, 3 small	4				Pillows on rug	X		Relaxing in the bean bag	X				Colorful; exit door
5D	23		X		1 large, 1 small	3 on small rug		Around the large rug in semi-circle	At desks			X		"Welcome to class"	Smart biard	4		Reading area outside; teacher in front of class, smiling
5D			X		X	3 on rug		4 tables with 6 chairs each	24					X	X & Smart board	4	4	Special "if you need help" table
5La	24				Full carpet	3		2 very large			X	Large			Smart board			Special laptop cases

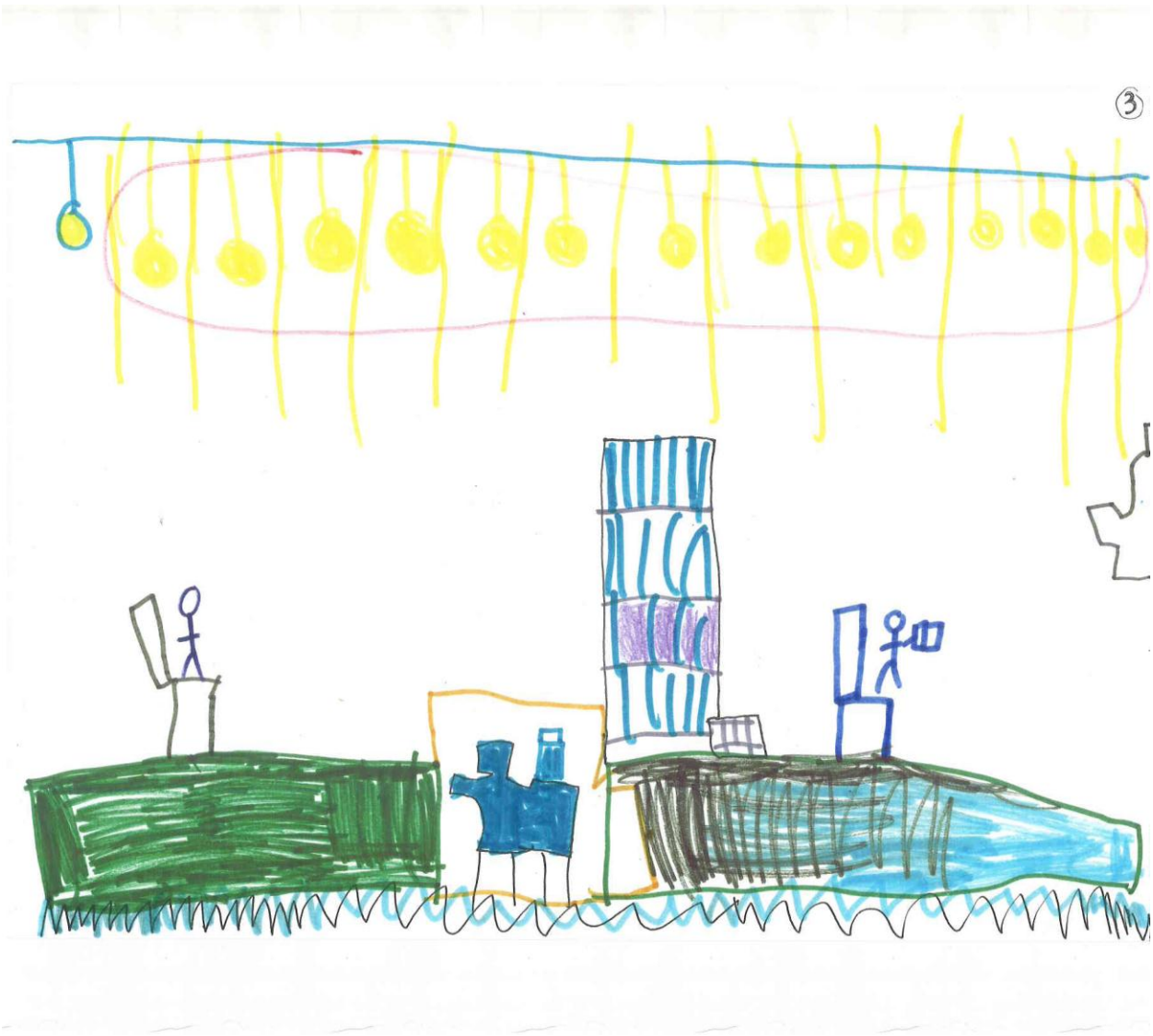
Chart showing the physical classroom elements appearing in the children's drawings (p. 2 of 3).

CLASS	DRAWING No.	LIGHTING	WINDOWS	VIEW	RUGS	BEAN BAGS	CLOCK	TABLES OR DESKS	KIDS' CHAIRS	OTHER SEATING	TEACHER'S DESK	BOOKCASES/ LIBRARY	KIDS – DOING WHAT?	CHALK BOARD	TV/PLASMA	COMPUTERS	DISPLAY OF STUDENT WORK	OTHER, NOTES, and KID'S NOTES ON DWGS
5La	25		X	"Windows that let the sun in"	X	X	X	With built-in laptops				X		X			Posters	Flowering plant; ceiling fan, wallpaper, American flag
5La	26				Large			With built-in DVD players			X	X					Posters	Snack table; shelves for binders and paper
5La	27		With shades			2		1 kidney shape, for 3 to work at				X						Cubbies
5Lo	28		With shades	sky	X	2		X	X	Bench								Door
5Lo	29					1		X							X			"Bigger desk"

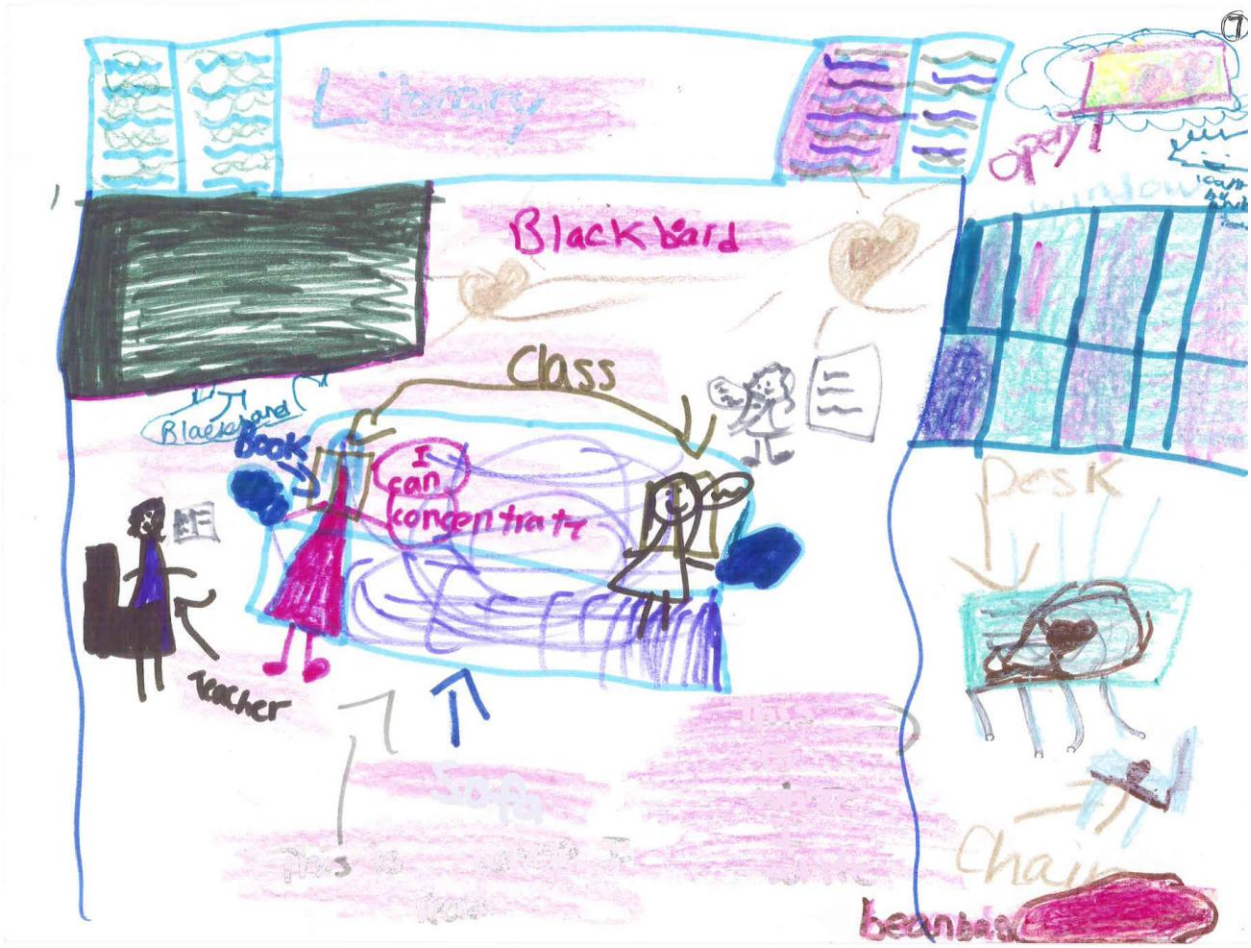
Figure ** Chart showing elements of student drawings

Chart showing the physical classroom elements appearing in the children's drawings (p. 3 of 3).

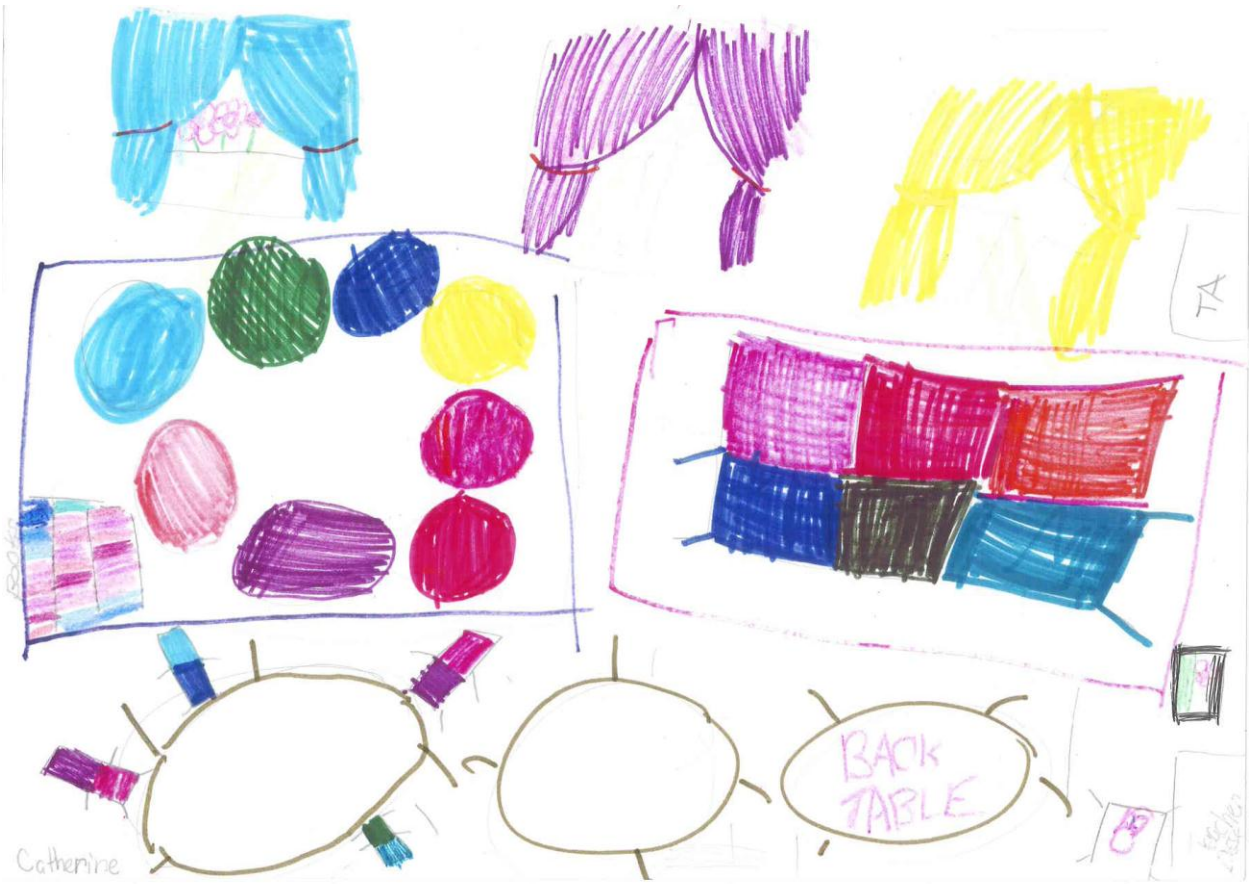

2


3

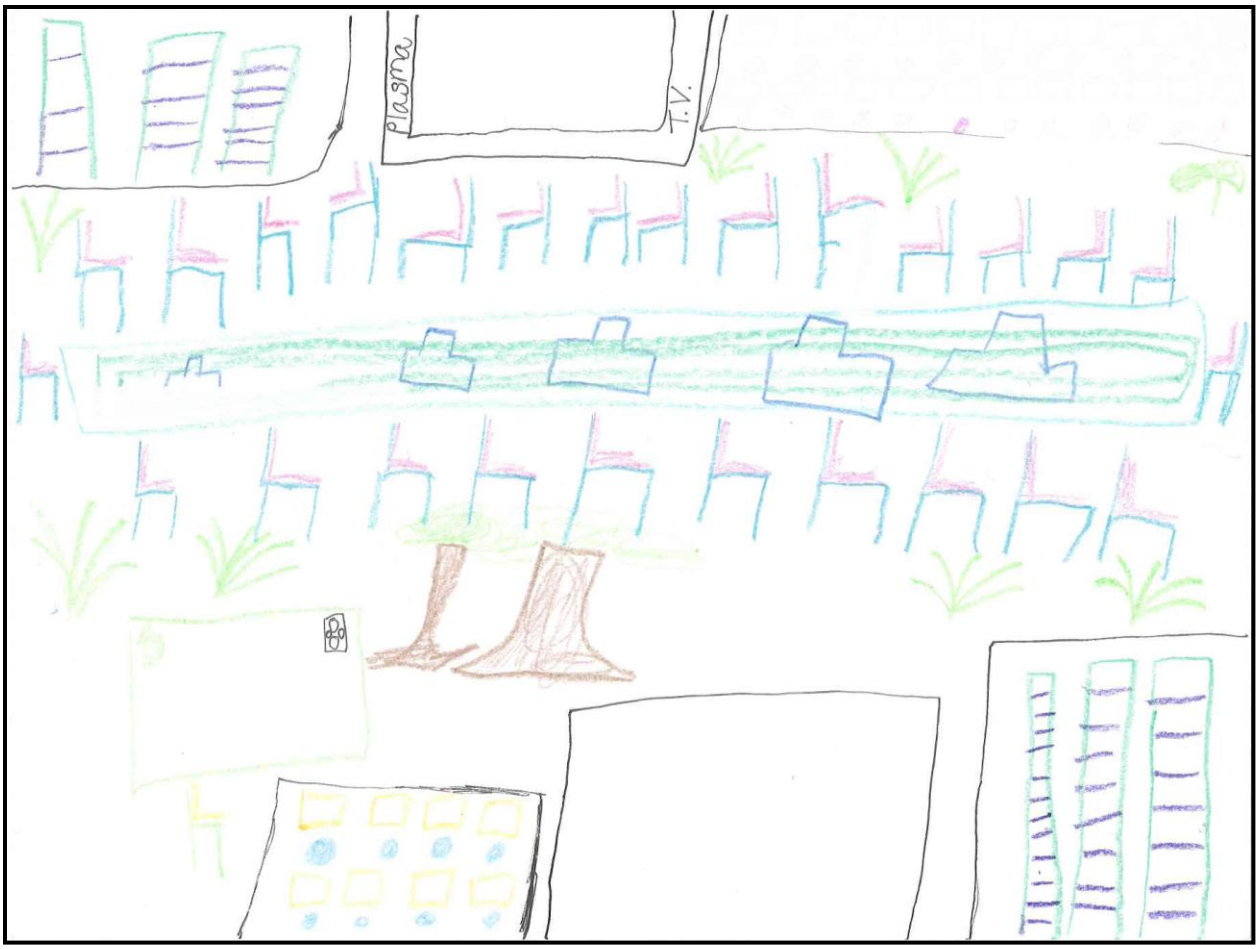

5
The bord
and the

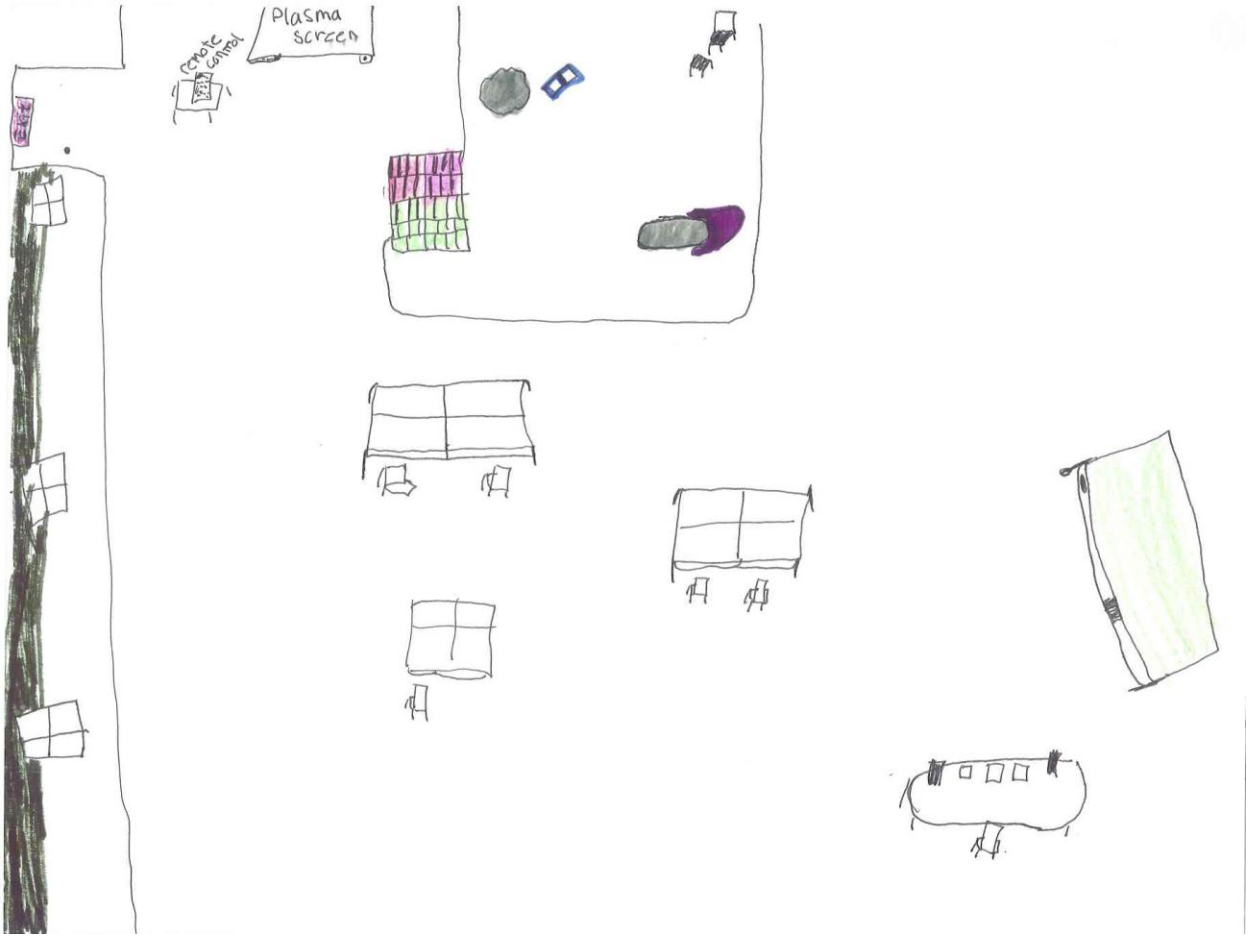

Library
Blackboard
Class
Book
I can concentrate
Teacher
Desk
Chair
beanbag

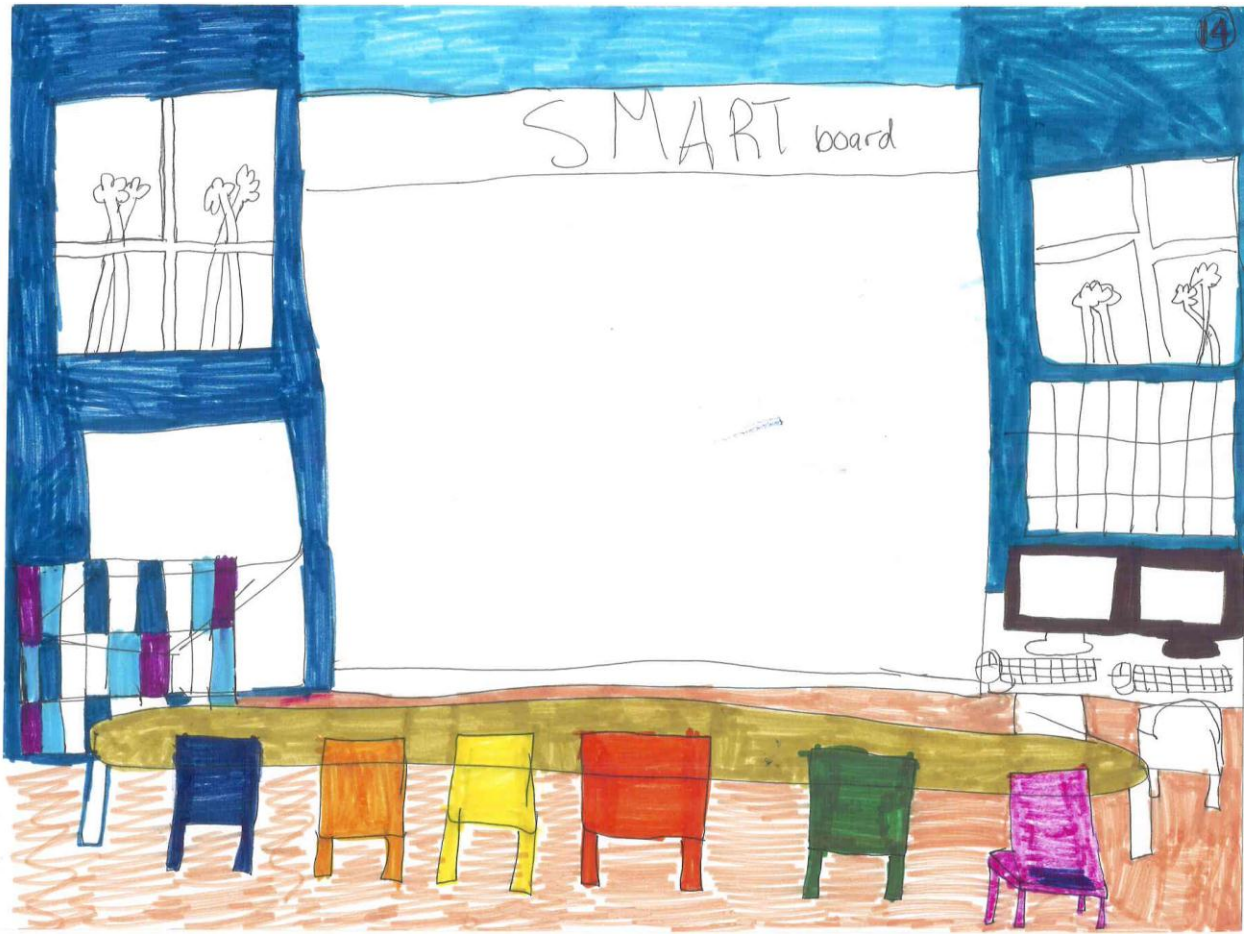

B
The lamb on cardboard


TA
BACK TABLE
Catherine


writing is fun
for everyone
Two big laptops

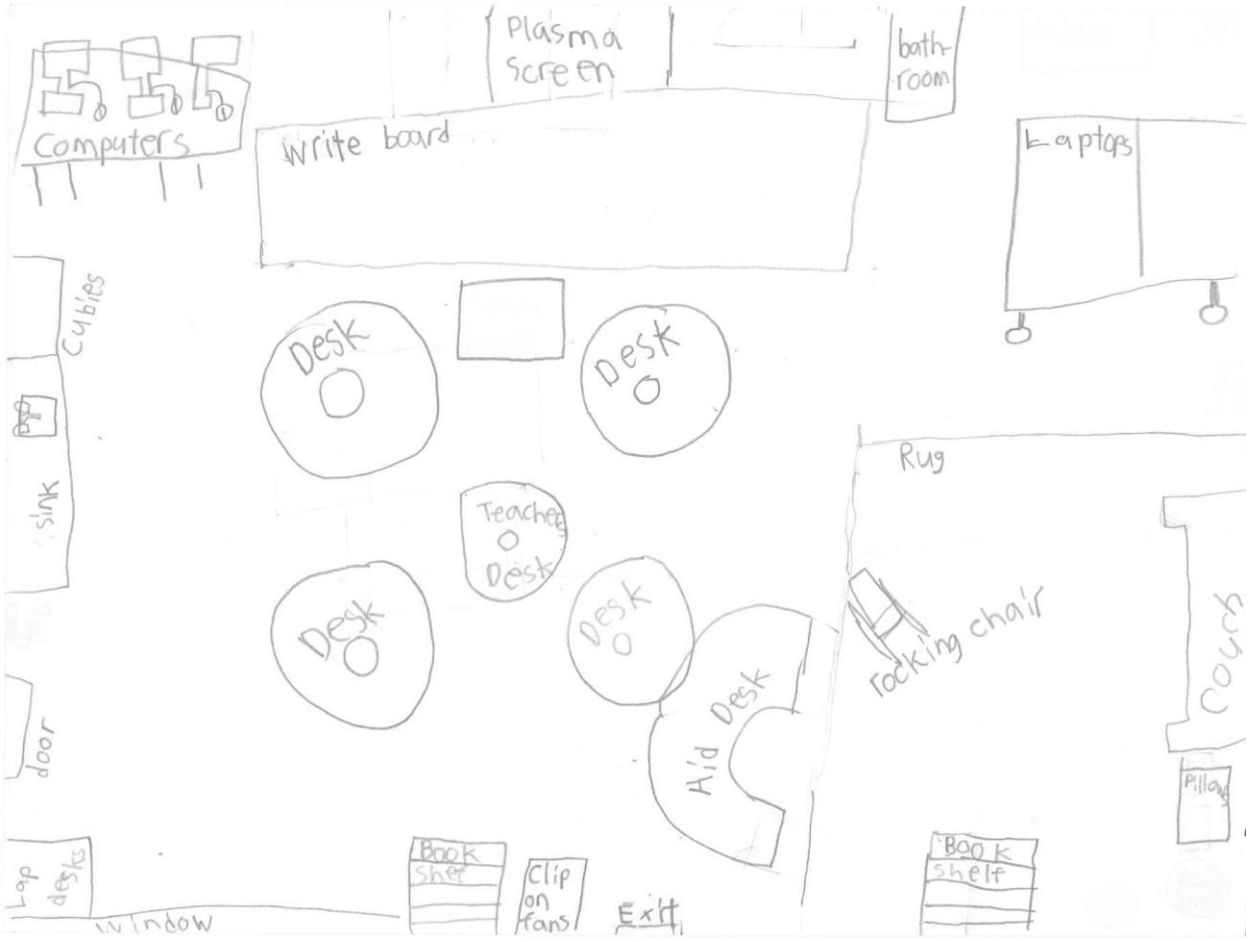

Plasma
T.V.

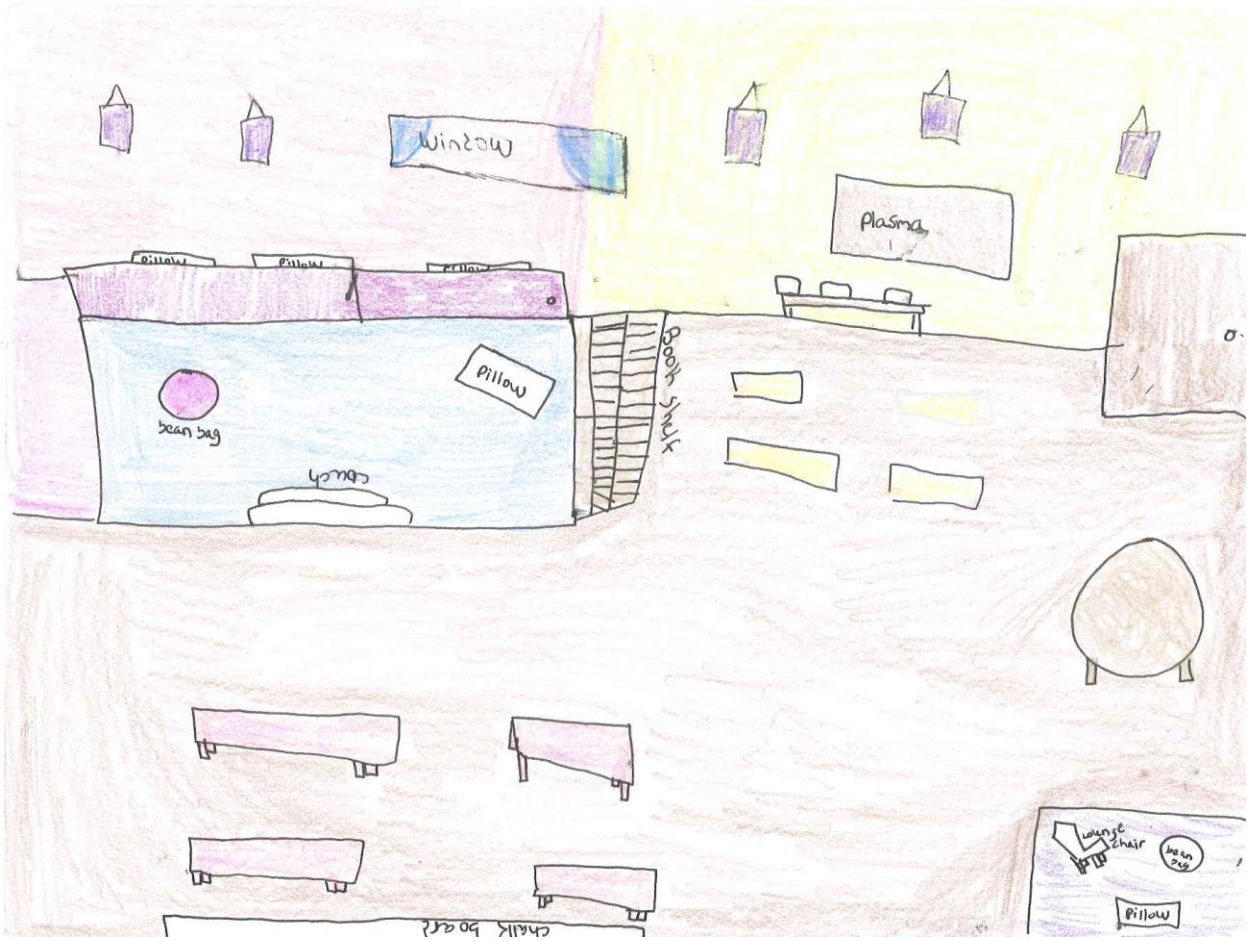

Plasma screen
remote control

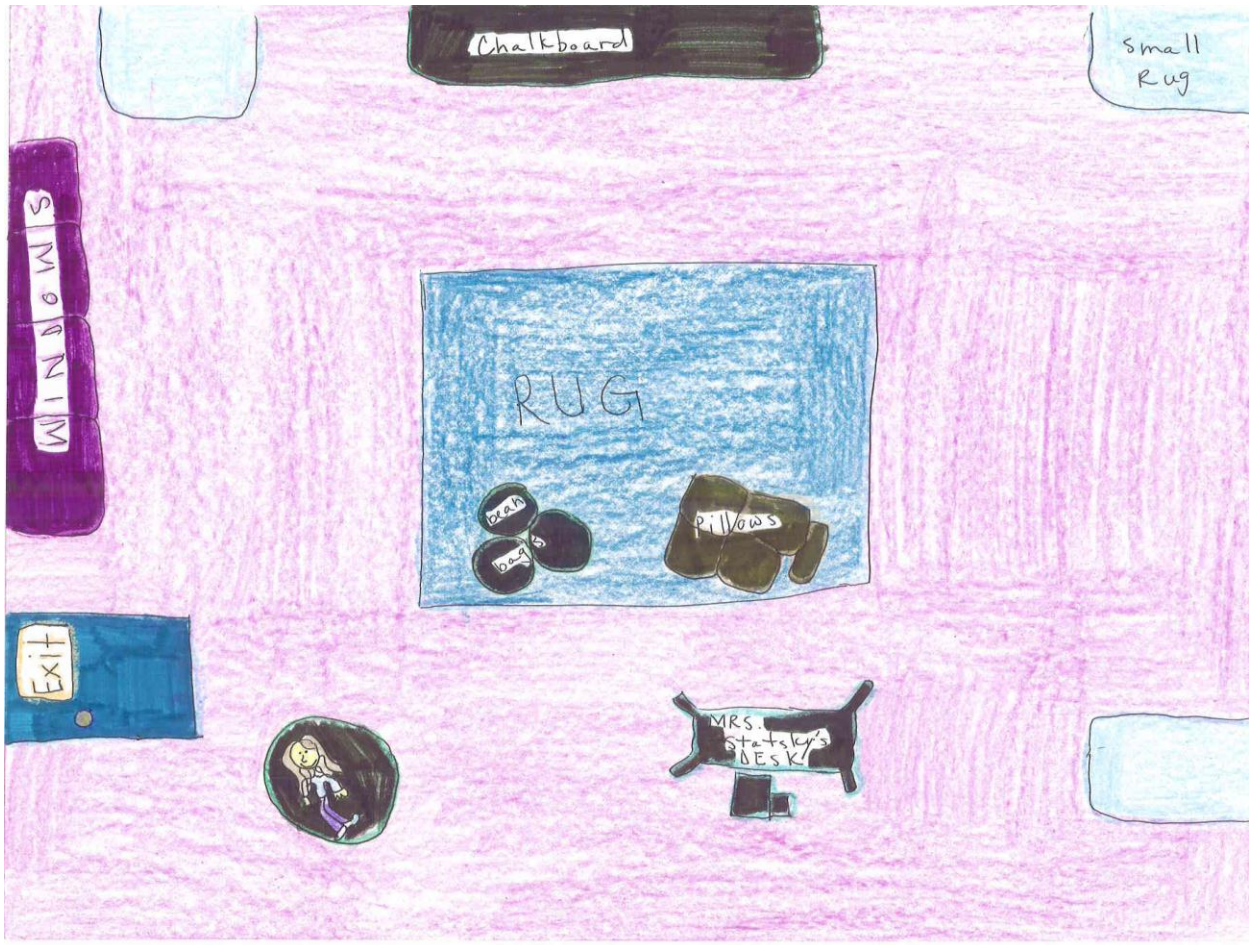

14
SMART board

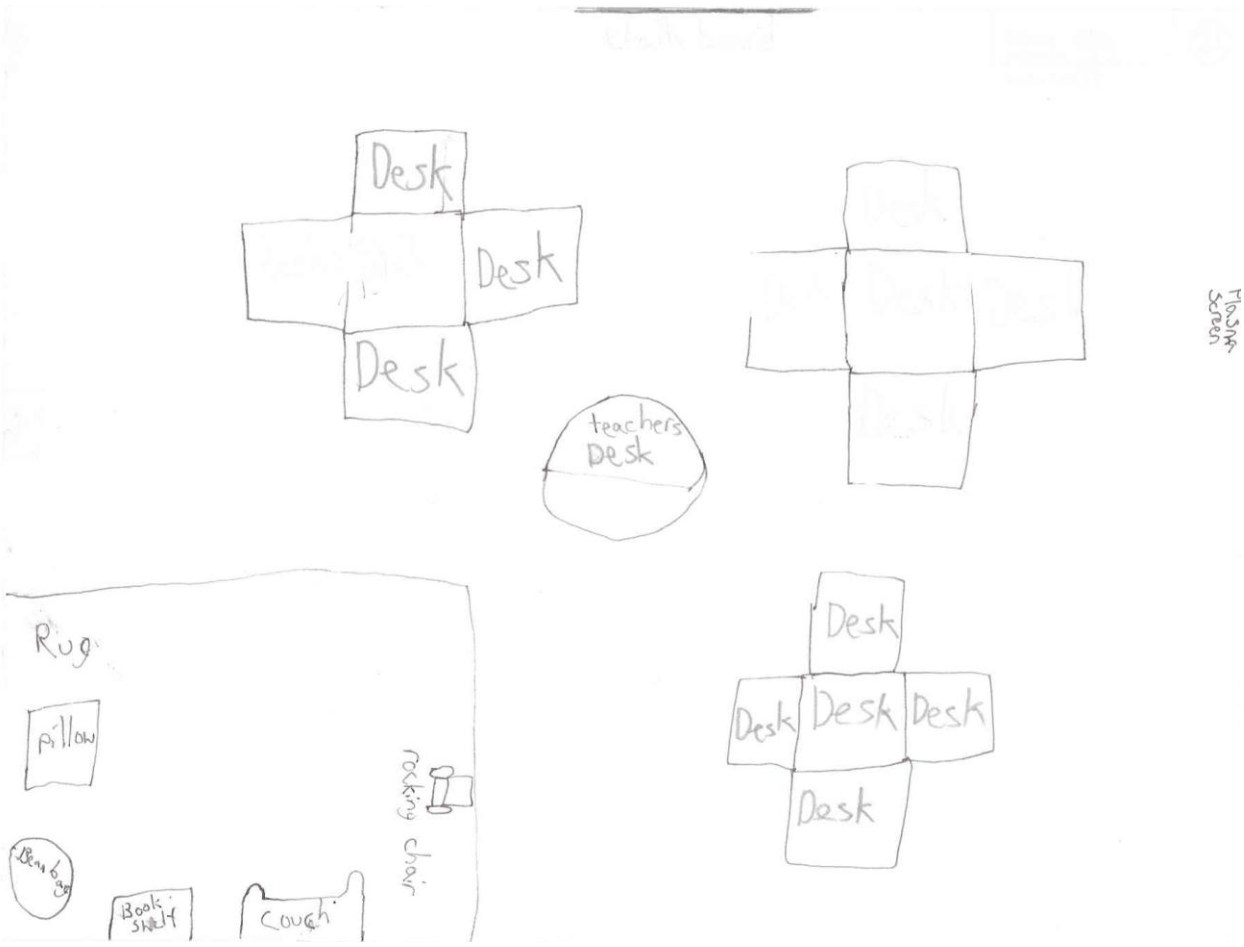

15
door
window
beanbag
carpet
big tube
computers
Bench


resting room
Black Board
Labtops
plasma
curtian
Back Door
teachers Desk
teachers chair
Desks
Rug
bench
Bean bags
bookself
Door
Back table


Plasma screen
bath-room
Computers
write board
Laptops
Cubbies
Desk
Desk
sink
Rug
Teacher Desk
Desk
Desk
rocking chair
Aid Desk
door
Book shelf
Clip on fans
Exit
Book shelf
Lap desks
window

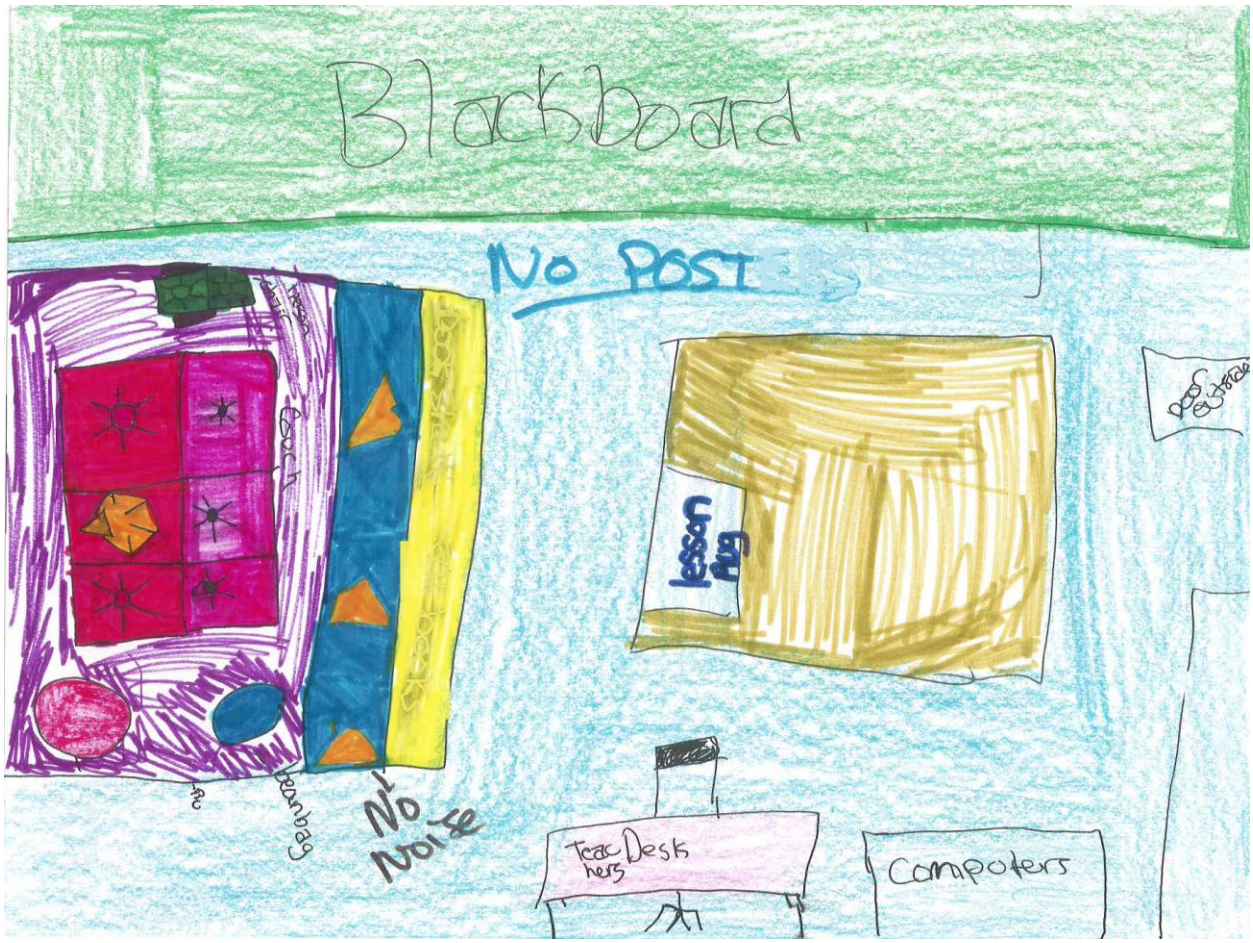

Window
Plasma
Pillow
Pillow
Pillow
bean bag
couch
Book rack
lounge chair
bean bag
Pillow


Chalkboard
Small Rug
WINDOWS
RUG
Bean bags
Pillows
Exit
MRS. Stotsky's DESK


Desk
Desk
Desk
teachers Desk
Rug
pillow
Bean bag
Book shelf
Couch
rocking chair
Desk
Desk
Desk
Desk
Desk


CLASS
Window
Window
window
Computer
Computer
Fish Bowl
Bean Bags
Bean Bags
Bean Bags
Pet cage

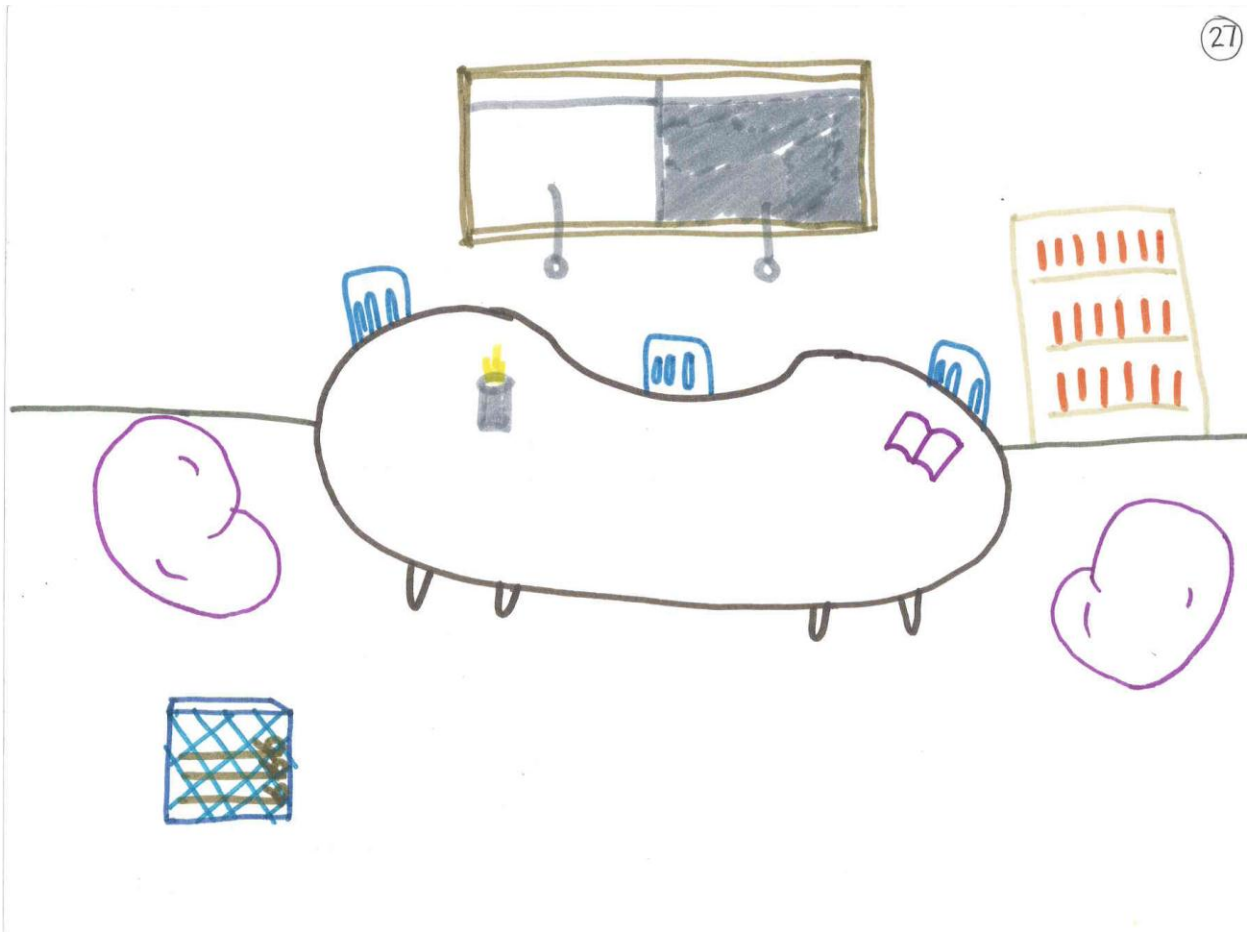

if you need help table
23
door
table with 6 chairs
Plasma screen
wall
chairs
Smart board
Rug
beanbags
beanbags
beanbags
computer
computer
computer
computer

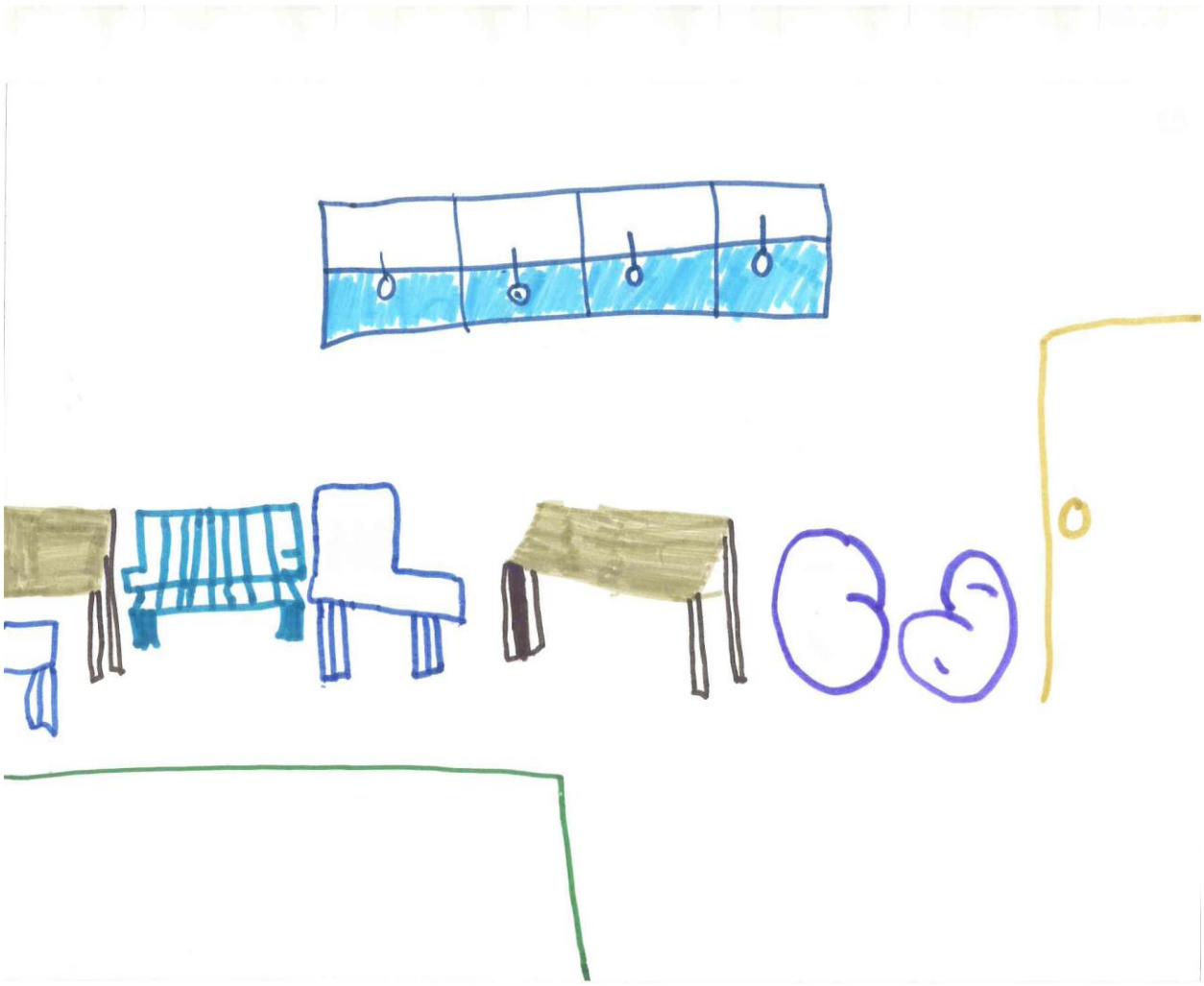

Blackboard
No Post
Lesson Plan
Teachers Desk
Computers
No Noise

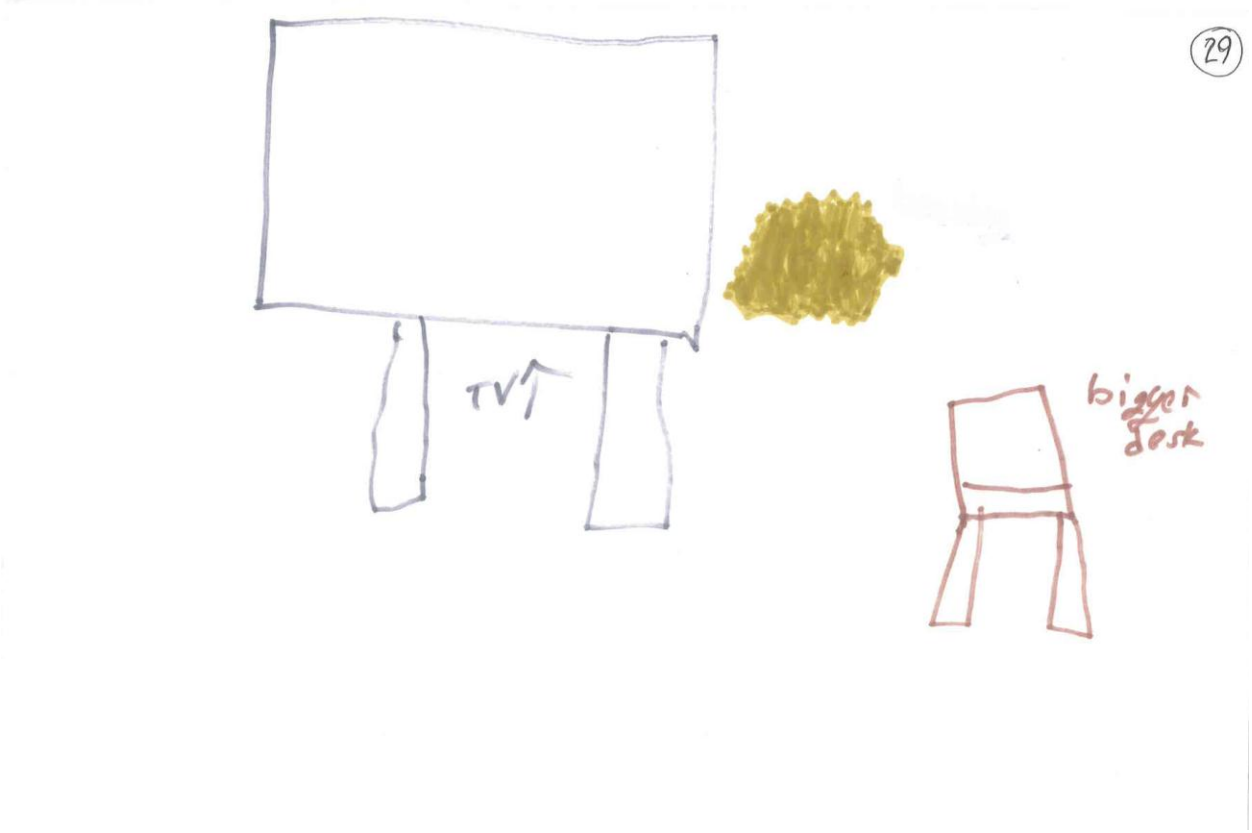

Smart board
Table
Table
laptop cases


Poster
26
DVD
DVD
DVD
Books


fan
Posters
CHALK BOARD
book shelf
Laptop


27




29
TV
bigger desk

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VITA

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