THE CLASSROOM ENVIRONMENT

First, Last, and Always

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Join us! Our first column discusses a topic of major concern at the beginning of school everywhere—the classroom environment. Paraphrasing Loris Malaguzzi, founder of Reggio Emilia, it all starts with the environment—the entrance, the space, the walls (Edwards, Gandini, & Forman, 1998). It is the environment that informs and documents the social interactions that will go on there, the encounters, friendships, and learning that will occur. It shapes how teachers and students will feel, think, and behave, and its qualities can have a lasting effect on our lives. The classroom environment can work for us or against us, which is why it is first, last, and always among pedagogical concerns.

Much has been said, argued, written, and recommended about what constitutes a "good" classroom environment (Bransford, Brown, & Cocking, 2000). Nary a reading methods college textbook fails to devote a chapter to this topic. Yet creating an orderly, functional, thoughtful, enjoyable, and literate classroom environment is an ever-present challenge for teachers.

There are real constraints, such as the amount of space, the existing infrastructure (e.g., availability of electrical outlets), and access to resources; there are complex social pathways to be mapped, explored, and negotiated in establishing routines and creating a community of learners. At one point or another (and at every turn), teachers confront *what is* and *is not* possible in the classroom environment they inhabit with their students. In design terms, this is the learning space.

Designing (as opposed to decorating) the classroom environment is both an art and a science. It

involves configuring the best spaces for promoting student learning. The long reach of history is still evident in classrooms today. The rows of stone benches and bare walls found in the ancient Sumerian classroom around 2000 B.C.E. have replicated across the ages, replaced only in kind by wooden desks screwed to the floor in A.D. hence. Not until the 20th century was the design concept of flexibility introduced into the classroom environment with moveable desks and tables, usable wall surfaces, and smaller spaces for learning activity apart from the teacher (University of Melbourne, 2009).

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According to the International Reading Association's Standards for Reading Professionals (2010), the teacher of reading today is expected to "create a literate environment that fosters reading and writing" (Standard 5, p. 40). This is easier said than done in a changing world. To create a literate classroom environment where students learn together about the real world and possible worlds; where they discover the uses of their minds, imagination, materials, and new technologies; where they feel well, productive, energized, and safe requires design knowledge (not merely superficial environmental tips).

Unfortunately, a well-formulated body of design knowledge for creating literate environments in classrooms (old and new) is lacking. That is to say, there is no codified set of best practices that teachers should know and be able to use (e.g., the role of signage in negotiating the learning environment). Here are a few *first* principles for consideration and some specifics to go with them (Neuman & Roskos, 2007; Roskos, 2008).

Physical Space Aligned With Instructional Goals

A fundamental of design is to link environment to purpose. The reason is well documented empirically: the amount, arrangement, and organization of physical space influences human behavior (Fisher, 2000; Gump, 1978; Weinstein, 1979). As ecologists have notably observed, "what people do is markedly influenced by where they are" (Kounin & Sherman, 1979, p. 145).

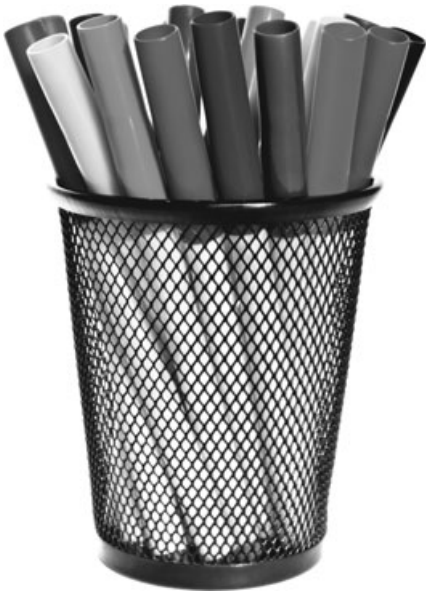
Applying this principle toward the worthy goal of improving students' literacy knowledge and skills for school and life, the effective teacher of reading allocates and arranges the physical space for active, thoughtful literacy engagement. At a minimum, the space should accommodate multiple configurations for large and small groups, for triads, pairs, and individuals to talk, listen, write, read, play, and learn.

Given the constraints of classroom size and shape, not to mention cookie cutter classroom physical design, there is really only one viable approach to accommodating multiple configurations in tight spaces to support learning goals: flexibility! Students need to be able to move easily from listening to the teacher to working/playing in groups to working independently (accessing digital and print resources).

Although specialized places can be set aside for different kinds of activity (e.g., the center), a better design approach is to create spaces capable of quick reconfiguration to support immediate learning goals. The ubiquitous whole-group rug space in early childhood classrooms, for example, can easily morph into a space for individual use of mobile devices; temporary project work can be "sandwiched" between tables; literacy nooks can be embedded in play areas (even outdoors). In short, learning spaces need to be seen as flexible, not fixed, and open to minor changes (e.g., moving furniture) that allow the pursuit of larger purposes.

Sufficient Materials Organized Well

Around the world, a literacy priority is the well-stocked learning environment that offers opportunities for plenty of literacy interactions with print and books. And for good reason: research shows the



powerful influences of the print environment on reading activity and learning to read (Mol & Bus, 2010; Neuman & Celano, 2001).

From a design perspective, the *materials* principle is made evident in two basic ways: (1) availability of materials and (2) access to materials. The classroom environment should contain a variety of literacy materials in sufficient amounts for teacher use (e.g., manuals, books, charts) and for student use (e.g., little books, word cards/letter tiles, practice books). It should contain enough books at appropriate levels for independent and recreational reading—five to eight books per student, according to Morrow (2002).

To be clear, the design goal (so far) is that sufficient materials are available

"To create a literate classroom environment where students learn together requires design knowledge."

in the environment. Matters of optimal amounts and quality, however, rely on the knowledgeable teacher of reading who makes professional judgments about what materials and how many are needed to support reading instruction in a specific classroom with a specific group of students. Design, in this instance, depends very much on what the designer knows.

Sufficiency is half of the materials principle; the other half is access. Materials need to be within students' reach both physically and conceptually. At its most basic level, this design concept involves placing materials at the eye and hand level of the students, although this has been somewhat of a revelation in early literacy. Fortunately, environmental rating scales in recent years, such as the Early Language and Literacy Classroom Observation Tool (e.g., Smith & Dickinson, 2002), emphasize placement of literacy materials in close proximity of young children's use.

Organizing materials well to inform and challenge students' involvement with print is more difficult. It requires the intentional arrangement of literacy materials and objects to capture students' attention and not only hold it, but also press it in new directions. How the materials are organized, in other words, represents a meaning network for them to discover and explore.

For example, a supply of columned paper and markers in an activity area encourages students to draw and label steps in how to make things; a communication system to send and receive messages helps them to explore print functions; an assortment of writing, drawing, and bookmaking supplies augmented by peer samples and photos stimulates the writing process. When materials are both artfully and intentionally arranged, they invite and motivate students to engage productively with books and print. Said another way (and more bluntly), the messy, cluttered, random organization of materials in the classroom environment does not.

Walls That Teach

No dimension of the classroom environment is probably less acknowledged, used, and understood than its walls. Walls are taken for granted (just like doors). And even though the message is loud and clear to post student work on walls (and we get it), the full comprehension of this design principle requires more than that. Architectural thought and physical environment research assert that wall color, white space, interface, and functional organization influence human learning (Ceppi & Zini, 1998; Lackney, 2003). Walls, in fact, matter and can contribute more or less to the learning environment.

To the point: the effective teacher of reading uses walls as *texts* that tell the story of what students know, what they are learning, and where they might go next. Walls that teach are the result of a few well-thought design elements: appeal, display, and interaction. Appeal is artful, but it also depends on several key strategies, such as creating clear uncluttered displays, providing proper signage (a consistent package of print font, size, and color scheme), and using graphics to enhance ideas.

Further, displays of information should be orderly yet varied (e.g., two-dimensional; three-dimensional) and also eye-catching to capture attention and interest (e.g., document panels, murals, digital wallpaper). Interaction is facilitated by effects such as the distribution of color that is chromatically "hospitable," tactile qualities that allow for touch, and light that is sufficient and differentiated.

Although the first order of business in the classroom environment is the functional use of wall space, the aforementioned design elements should be applied in entries, word walls, student work displays, message boards, and the like to improve overall environmental quality.

A Participatory Environment

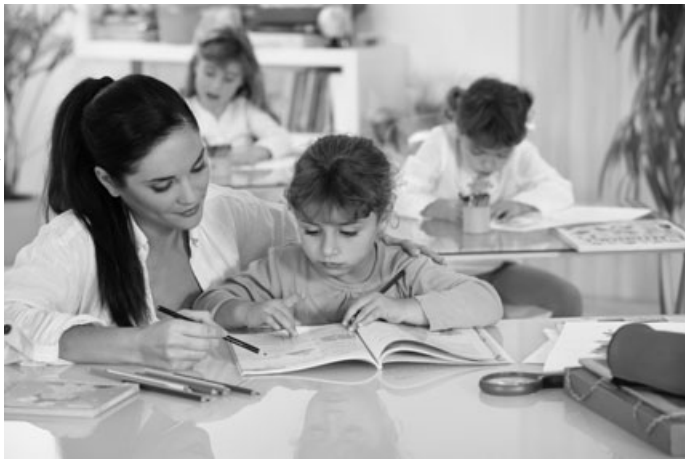
What brings the built environment of the classroom to life, of course, is the social environment. The research we have shows the powerful role of the social environment in shaping individual literacy experience—a sense of belonging, identity, ownership, and choice (Rogoff, 1990). Enabling a positive and intellectually engaging social environment where the student population is shifting and changing is no small feat.

What's involved? According to a recent report from the MacArthur Foundation (Jenkins, 2010), new social skills need to be enculturated into the literate classroom, including the capacity to problem solve, improvise, interact meaningfully with media tools, work with others toward a common goal, and negotiate diverse communities, respecting multiple perspectives and differences. Development of participatory skills needs to start early and to be continually nurtured across the elementary school years. The reading teacher can do this in the following ways:

- Helping students to create and share their print and digital creations with others
- Encouraging mentorship in which those who are more experienced share with those less experienced
- Fostering in students the belief that their contributions matter
- Introducing new creative forms of expression (e.g., student-authored e-books; zines, wiki pages, enhanced PowerPoint presentations)
- Forming partnerships and teams that work together to complete tasks and develop *working* knowledge
- Stretching the reach of individual skill to better serve the classroom community

Greening the Environment

Teachers and students spend a lot of their waking hours in classrooms, some of which are in terrible shape. It was Kozol (1991) who exposed the very poor environmental quality of many schools and classrooms, lamenting the human toll on students' motivation and inspiration to learn and teachers' zeal to instruct. Light, temperature, air quality, noise, crowding—all these elements affect the instructional process (Graetz & Goliber, 2003; Moore, 2001). Too much or not enough are culprits that can erode environmental quality in ways that lead to negative effects on learning.



Recent evidence shows that *greening* schools and classrooms improves environmental quality to the benefit of students and teachers (Loftness, Harkopf, & Gurtekin, 2002). The Leadership in Energy and Environmental Design (LEED) Green Building Rating System provides a "nutritional label" for healthy schools and classrooms, promoting more natural lighting, less toxic cleaning agents, improved ventilation and acoustics, better artificial lighting, and improved air quality. Considering this, it's healthy to teach and learn in a LEED-certified school, which may motivate you to *read the label* on your school.

Teachers of reading can control some of these ambient factors to some degree at the classroom level. They can *green* the classroom environment. Three strategies are helpful. First, they can maximize any exposure to the natural light available in the classroom; they can use mixed artificial lighting (direct and indirect) to distribute and diffuse light. Second, they can use sound-absorbing materials to lower the general acoustic level (e.g., curtains, panels, screens, plants) and limit background noise; they can provide small places or nooks for silence and concentration in the classroom space. Third, they can attempt to vary temperature and air movement according to students' activities (e.g., warmer for quieter activities, cooler for more physically active tasks).

Problem of Practice

Ever present, surrounding the day-to-day of classroom life, we placed the classroom environment front and center in this column. It is a BIG topic! We offered some first principles to heed in designing a literate classroom environment. (For additional inspiration, check out one of the resources listed in the Table.) We realize, though, that applying principles

Table Inspiring Books on Classroom Environment Design

- Canizares, A., & Fajardo, J. (Eds.). (2007). *Kindergartens, schools and playgrounds*. Barcelona, Spain: LOFT.
- Ceppi, G., & Zini, M. (1998). *Children, spaces, relations: Metaproject for an environment for young children*. Milan, Italy: Domus Academy Research Center.
- Curtis, D., & Carter, M. (2003). *Designs for living and learning: Transforming early childhood environments*. St. Paul, MN: Redleaf.
- Greenman, J. (1988). *Caring spaces, learning places: Children's environments that work*. Redmond, WA: Exchange.
- Olds, A. (2000). *Child care design guide*. New York: McGraw-Hill.

Note. The books listed here are illustrated with many photos.

to local situations takes a lot of problem solving. Consider the often-met problem of insufficient space. Offer your solutions in the Discussions area of IRA's Facebook page. It's easy. Just go to www.reading.org and click on the "f" Facebook icon at the bottom of the page. Share your thoughts and ideas, not only to inform the problem, but also to widen our view of classroom environments around the world. All observations, hints, and professional gems of advice are welcome.

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