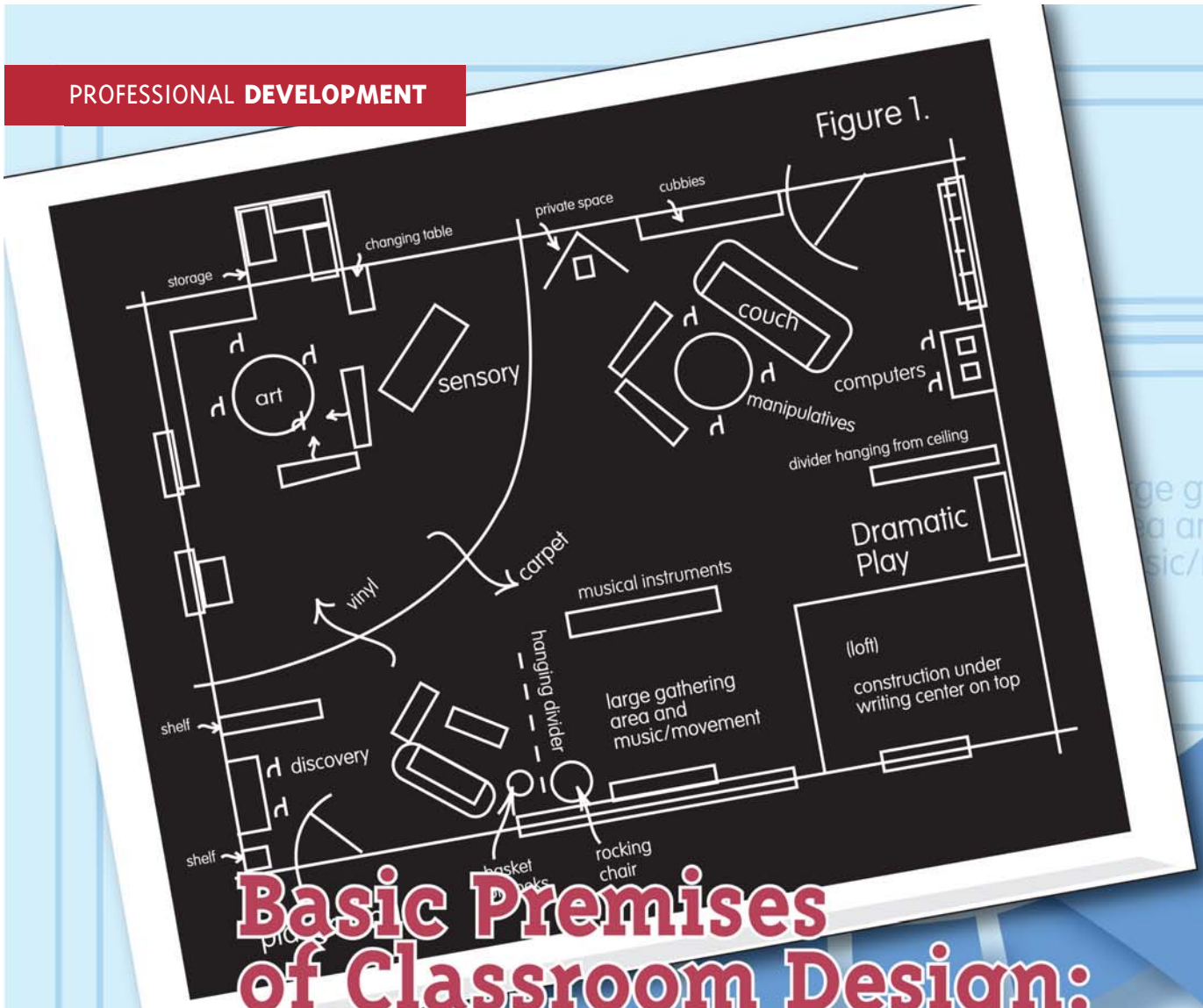

Basic Premises of Classroom Design:

the teacher's perspective

BY TERRI JO SWIM, PH.D.

"The issue is not having space but how it is used."
(V. Vecchi quoted in Gandini, 1998, p. 165)

It's that time of year – Fall. You and the children have settled into the daily routine. The curriculum is in full swing and learning is occurring all around the room. But is it optimal learning? What aspects of your work would you need to consider in addressing this question? Is it about the curricular experiences you have planned? Or is it about the physical layout of the classroom? Or could it be the types of materials you have provided the children? Or, still, could it be about the relationships you have developed with the children and their families?

Given the importance of the physical environment, this article will consider how the physical environment influences the children's learning and development. More specifically, the focus of this article is on answering the question: How do teachers create meaningful learning environments for themselves and the children? This article outlines some basic premises of designing classroom environments from the teacher's perspective and it is divided into several sections, each addressing a specific question. You should

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begin to answer each of these questions by reflecting on the age of the children in your classroom, your program's philosophy, licensing and accreditation standards, and guidelines for developmentally appropriate practice.

Within each section, you will be introduced to the concept of a "balance of opposites." This notion involves thinking about environmental factors that are in opposition to each other, such as messy/dry or pathways/boundaries. But first, a brief discussion about why teachers need to consider the physical environment will be presented.

The Importance of the Physical Environment

Taking the time to reflect on the physical environment is imperative as it is considered the "third" teacher in the classroom (Gandini, 1998). In other words, the environment provides guidance to the children and adults about appropriate behavior. Consider for a moment how your behavior is influenced differently by being in a place of worship, a library, a shopping mall, or a family-dining restaurant. All of these environments send messages about appropriate behavior. Take, for example, the library with its special sections designated for quiet reading, small groups to gather and enjoy stories, computer work, and playing with puppets. The way the space and materials are arranged provides clues as to appropriate behavior. The adults responsible for managing the space seldom have to remind others of their expectations; the environment does it for them. Like the designer of the library environment, your careful planning can assist children with meeting your expectations for the use of the space.

Sketch of Room

Before we investigate how to prepare environments, you need to sketch the basic layout of your classroom including all attached spaces that you will use throughout the day such as a child bathroom or covered patio area. Also, indicate on your sketch the location of electrical outlets, partitions, and other permanent structures or furniture that cannot be moved (e.g., classroom sink with surrounding cabinets) as well as the type of floor covering. As you read this article, you will be prompted to add to your sketch. An example of one classroom design for preschool children can be found on page 34.

Learning Centers

Given the importance of learning centers, it is assumed in this article that your classroom will be organized into them (Bredekamp & Copple, 1997; Isbell & Exelby, 2001). When planning your learning environment, you will need to consider "how many and what learning centers you should have in your classroom?"

The number and type of learning centers available depends heavily on the size of the classroom and the age of the children. In general, to maximize choice and minimize conflict over possessions, a rule of thumb to follow is having one-third more work spaces than the number of children in your classroom (Marion, 2003). To illustrate, if you have 24 school-age children, you will need (24 x ⅓) + 24 or 32 spaces for working. This might mean including three spaces at the sensory table, two at the easel, four at the art table, four at the writing/homework center, six in blocks/construction, four in dramatic play, four at the discovery center, three in the listening/library area, and two private spots.

Real Objects Versus Open-ended Materials

Children need a balance of novel and famil-

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The Child Development Associates (CDA) competencies that can be used for this article are:

- To establish and maintain a safe, healthy learning environment.
- To ensure a well-run, purposeful program responsive to participant needs.

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This article helps meet the following Certified Childcare Professionals (CCP) professional ability areas:

- The ability to establish and maintain a safe, healthy, and nurturing learning environment.
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iar materials in the classroom to attract and maintain their attention (see next section for a more in-depth discussion). When children are engaged with materials and ideas, they have less opportunity to create mischief or misbehave; thus, altering teacher supervision from guidance of behavior to guidance of learning.

Throughout the early childhood period, young children are learning to use objects as tools for representing their thoughts and theories about how the world works. Therefore, providing a balance of real and open-ended materials promotes cognitive development. Making available real objects such as glass tumblers for drinks during meals, child-size shovels for digging in the garden, or Navajo pottery for storing paintbrushes, serves two purposes: 1) it demonstrates respect in the children's ability to care for objects, and 2) it connects home and school environments. The real objects, when in response to the children's expressed interests, can facilitate thinking about a particular topic or concept.

Open-ended materials, on the other hand, can be used by the children to expand their understanding of concepts and demonstrate creative uses of materials (Curtis & Carter, 2003). Open-ended materials include collected items such as fabric, cardboard, plastics, pebbles, shells, or egg cartons and commercially produced objects such as wooden blocks, animal and people figurines, or connecting manipulatives. Open-ended materials can spark, support, and enhance learning and development in any learning center of the classroom. Neatly arranging them in baskets or other containers and displaying them on a shelf at the children's height will make them easily accessible to the children (Curtis & Carter, 2003; Isbell & Exelby, 2001).

> the environment is often considered the third teacher in a classroom

Independence Versus Dependence

A primary goal for adults is that children become independent, self-regulated learners. In order for this to occur, teachers must carefully plan the physical environment with this in mind (Marion, 2003). As mentioned above, arranging open-ended materials neatly in baskets and displaying them on child-size shelves promotes cognitive development. This practice also promotes social and emotional development because the children can independently select the materials they need for their work and they can more easily clean up before they leave the learning area. Moreover, modifying the bathroom so that all necessary hand washing supplies can be reached independently facilitates the children's use of them.

Reflection Question: What learning centers are you considering or have you already selected for your particular group of children? How will you explain your choices to the children, families, and your colleagues? Make a list of the titles or labels for the centers on the back of your sketch.

Use of Space

An important question to begin your work is "how do I want the children to use this space?" Teachers create environments to promote learning in all of the content areas (e.g., mathematics, sciences, and social studies) and all areas of development. Therefore, a basic understanding of child development and learning theories will guide your thinking about how to use your classroom space (Herr & Swim, 2002; Swim, 2004).

Messy Versus Dry

Designing space for daily opportunities of exploring messy materials is a must (Bredekamp & Copple, 1997). These experiences are particularly significant for

young children because they build cognitive structures or schemas (i.e., tightly organized set of ideas about a specific object or situation) through sensorimotor and hands-on, minds-on experiences. Some typical messy centers include water and/or sensory tables, painting easel, and art. Water play, for example, provides opportunities for learning about quantity, building vocabulary, and negotiating the sharing of materials.

What does a teacher need to consider when managing messy experiences in a classroom setting? First, placing messy experiences over vinyl or linoleum flooring allows for ease of clean up when spills occur. Second, placing these experiences near a water source can permit ease of clean up as well as aid in refilling or adding a new element to an experience. For example, if a sensory table is filled with dry sand, children can transfer water from the source using pitchers thus transforming the properties of the sand. Third, if a material such as dirt is placed in the sensory table, placing a hand broom and dustpan nearby prompts children to maintain a safe environment.

If you do not have floor covering that is conducive to messy activities, you will need to be creative in order to provide such valuable learning experiences. Placing newspaper, towels, or a shower curtain under a sensory table or easel can resolve this issue. Another way to address this challenge is to plan daily experiences outside with messy materials.

Noisy Versus Quiet

Some classroom experiences seem to naturally be noisier than others. Cooperating and negotiating requires children to interact with one another and, sometimes, interactions can become heated. However, a teacher's goal should be to facilitate such interactions so that the children gain necessary perspective-taking and problem-solving skills, not to stop the interactions or prevent them in the first place (Marion, 2003).

To manage the environment and facilitate learning, teachers can place noisy areas close together (Bergen, Reid, & Torelli, 2001). Some noisy centers include

blocks and construction, dramatic play, music and movement, and project work space. Placing these centers adjacent to one another serves two purposes. First, the higher noise levels will be concentrated in a particular section of the room. This allows children to concentrate better in the quiet areas because there are fewer distractions close by. Second, placing areas together that need more teacher supervision and support (e.g., assisting children with problem solving) permits the adult to engage in these interactions without constantly being pulled between noisy centers that were placed in different parts of the room.

Quiet centers consist of the library and listening centers, and private spaces. For your and the children's mental health, you must provide areas for children to be alone. These private spaces allow the children to regroup, "charge their batteries," and gather their thoughts before rejoining others (Honig, 2002, p. 37). Play in other centers, such as manipulatives or science/discovery, fluctuate between quiet and noisy depending on the type of materials provided and the children's levels of engagement, thus, making them more difficult to classify. These areas can be used to transition between the noisy and quiet centers.

When deciding where to place learning centers, teachers also need to consider the needs of the different types of centers. To illustrate, the music and movement center needs an electrical outlet for a tape or CD player, shelves for musical instruments, baskets for scarves or strips of fabric, mirrors for observing motions, and space for creative movement and dance. Due to limited resources, teachers often need to maximize the use of equipment and materials that they do have (Isbell & Exelby, 2001). Locating the music and movement center near the dramatic play area is one way to do this because these centers can share the mirror and basket of fabric.

Reflection Question: How did you or will you arrange the learning centers you selected for your classroom? Write the names of the centers on your sketch in the location where you are placing them.

Calm, Safe Learning Environment

Another question that you will encounter in your work is "How can I create a calm, safe environment that provides stimulating learning experiences?" In this section, we will focus attention on the last part of this question: "stimulating learning experiences."

Novel Versus Familiar

Teachers and children deserve to be surrounded by beautiful objects and materials that are displayed in an aesthetically pleasing fashion. Some of these objects should be part of the environment on a regular basis while others can be included to spark interest (Curtis & Carter, 2003). For example, hanging a framed print of Monet's sunflowers on the wall near the easel will create a beautiful environment for preschool children. However, surprising the children with a display of Pueblo Indian pottery will spark different interest in the easel.

Classroom space should be varied so that children have the opportunity to explore different perspectives (Bergen, Reid, & Torelli, 2001; Curtis & Carter, 2003; Herr & Swim, 2002). To illustrate, having the ability to change one's physical location by climbing up the stairs to a loft and looking down on a teacher provides a child with a new view of their world. Another way that teachers can vary the space and provoke thinking is through providing a new display or object to explore and discuss. When the flooring of the room has two or more variations, this provides a natural occurrence of hard versus soft and warm versus cold. Sitting an infant on the vinyl or linoleum flooring on hot summer day will feel cool to the touch, thus providing them an opportunity to experience their environment in a new or different manner.

Another way to conceptualize the familiar is to create spaces that parallel those found in home environments. Placing a couch, rocking chair, and end table with a light, for example, in the entryway mimics a living room in a home. Doing this not only adds warmth and comfort to the learning environment but it also helps to create a sense of security at school: our home away from home (Honig, 2002; Bergen, Reid, & Torelli, 2001).

Pathways Versus Boundaries

As you are planning your classroom layout, you need to consider how you will designate your learning centers. Having visible boundaries for learning centers provides children with a clear message for the use of materials in a particular area. For ease of supervision, use a variety of dividers such as short shelving units, bookcases, transparent fabrics, and sheets of decorated acrylic.

Transparency, or the ability to see between centers in the classroom, facilitates children's play because they can make connections between materials in different centers around the room. Thus, even though we are designing clear learning centers, we should be flexible in

allowing the children to move materials that they need from one center to another. When planning the boundaries for a learning center, you must carefully consider how much space to devote to this area. The noisier areas described above often require more space than quieter areas (also described above). This is due to the fact that these areas tend to elicit more associate and cooperative play, which require two or more children at a time. A teacher also needs to consider how to utilize open space. Because we need gathering spaces that can easily accommodate all of the children and adults in the room at one time, we often set aside this space. However, when the entire group is not using the space, it can be perceived by children as a place for "rough and tumble" play (Marion, 2003). Sharing this location with the music and movement area is logical given the space needs of each center.

Pathways into and out of the room as well as between centers need to be carefully considered. When children arrive for the day, they should be able to gradually enter the classroom and transition from home to school. Having to walk to the opposite side of the classroom to store their belongings in their cubby can be stressful, especially if they must pass by noisy centers. When considering movement between centers, walking through one center to get to another can cause children to be distracted. Do you, for example, want the children to walk through the block/construction area to get to the music center? It would quickly become evident from the children's behavior that such an arrangement does not work.

"How do I plan the environment to meet the basic needs of the children?"

Reflection Question: Add to your sketch boundaries for your learning centers. What types of structures will you use or are you using to physically divide the space? Mark also the pathways of how the children might move between them.

Basic Needs

As you are considering the educational needs of the children, you must also dedicate space for meeting the children's basic needs. The question becomes, "How do I plan the environment to meet the basic needs of the children?"

Eating Versus Toileting

Some infant and toddler classrooms separate the changing table and food preparation counter with a small sink. Although this may optimize the use of counter space on built-in cabinets, it could jeopardize both the adults' and the children's health. For hygienic purposes, then, it is imperative that the eating and toileting areas are separated. Although this is relatively simple in a preschool, kindergarten, or school-age classroom, it may be more difficult for an infant and toddler classroom because the typical restroom just does not have enough space for toilets, sinks, and a changing table.

The need to continually supervise the children is an issue facing infant and toddler teachers (Bergen, Reid, & Torelli, 2001). Diapering requires a significant amount of teacher time during a day. Thus, for ease of supervision, changing tables are often placed in the classroom. Where in the class should they be located? Placing the changing table next to a water source promotes good hand washing practices. You should also position it away from a wall so that your back is not to the rest of the children when you are changing a diaper.

The food area can require a number of small appliances such as a mini-refrigerator or microwave (per licensing regulations); therefore, cabinet space near electrical outlets is very important. For toddlers and older children, space for eating can be shared with other areas of the classroom. For example, the tables that are used for art can be cleaned and sanitized when it is snack or mealtime. For teachers of infants, other issues must be addressed when planning the environment. Depending upon your state regulations, you may or may not need a separate high chair for each infant. Moreover, finding storage space when it is not meal times must be given careful consideration.

Sleep and Comfort Versus Play

Children and adults need locations to store

special items and belongings from home (Curtis & Carter, 2003). This not only reaffirms the importance of both environments but it also facilitates learning to respect your and others' belongings. Switching between environments can be stressful for people of all ages. Therefore, plan for comfortable places for children to make the transition from home to school, snuggle, relax, and enjoy reunions with family members (Curtis & Carter, 2003; Honig, 2002). Couches and rocking chairs, for example, located in a variety of classroom areas provide an excellent avenue for this.

All children need time throughout the day to rest and rejuvenate. The environment should be managed to create a calm relaxing environment during nap or rest time. Closing blinds on the windows, plugging in a night light, playing soft instrumental music, and providing comfort items for each child (e.g., blankets, favorite stuffed animals) might assist with shifting from play to sleep. You should also organize the environment to address the needs of children who require less sleep during the day. For example, creating baskets with books, paper and pencils, or other quiet toys that can be used by a child lying on a cot or sitting at a table can meet these children's need.

Reflection Question: How have I included on my sketch ample space for meeting the basic needs of the children? Where will I store necessary equipment (e.g., cots or high chairs) when they are not in use?

On-going Reflection of Physical Environment

Figure 1 provides an example of a classroom that has been designed for preschool children. Although it would be easy to consider this example "finished" or "complete," it is not. How often do you consider the primary question of this article, "How do teachers create meaningful learning environments for themselves and the children?" If you cannot recall the last time you reflected on this question, then you may be thinking about your environment in a static or fixed manner. In other words, you may not be thinking about all the ways that physical environment impacts the children's learning and vice versa. Early childhood professionals should regularly revisit this question because the answer is constantly evolving.

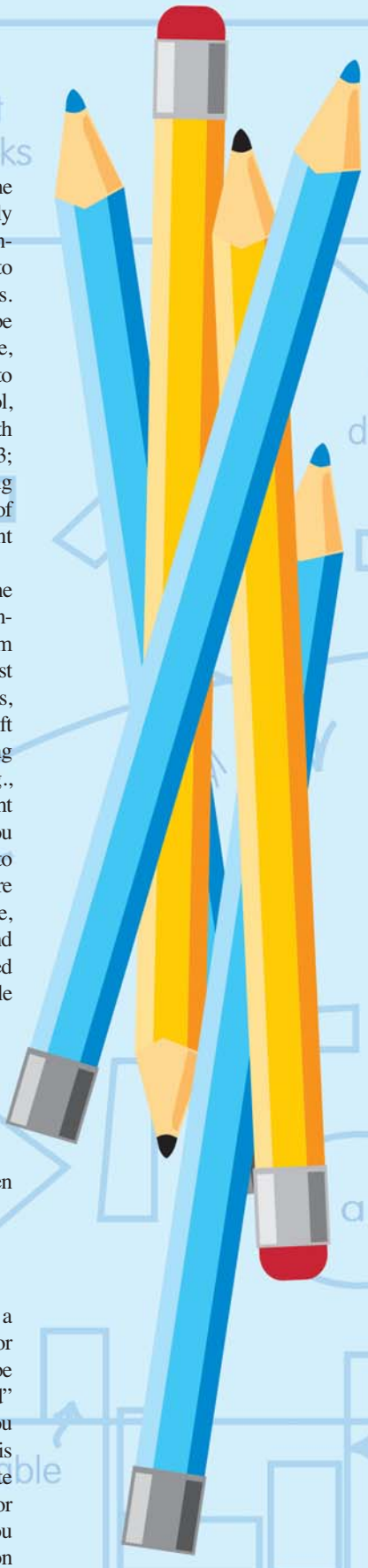

Figure 1.

Teachers must continually assess and respond to the changing developmental needs and interests of the young children (Gandini, 2001). For example, with a group of young infants, a teacher will provide safe areas for exploring toys and manipulatives. As the children acquire gross motor skills, areas and structures for creeping, crawling, and cruising should be made available. Moreover, when the preschool children are investigating railroads, centers and materials will reflect this interest. As this interest evolves into traveling, the number and types of centers available as well as the materials available in the classroom will need to be altered.

Conclusion

This article was designed to help you plan a classroom environment that meets the social, emotional, physical, and cognitive needs of developing children. If you are new to the profession, I hope that you have a deeper understanding of the impact physical environments have on behavior and learning. If you are a "seasoned pro," I hope that this article prompted you to reflect on your existing classroom environment. If you are considering making changes to your classroom for an already-established group of children, please think about how people typically respond to changes in the physical environment. Changes seem to be more tolerable for everyone when they are made a little at a time. Thus, as you reflect on your physical environment, you will want to ponder which changes to make first, second, and so on.

In conclusion, if you want the children to run across the room, then placing your centers around the perimeter of the

classroom leaving a large open space in the middle tells children that this is acceptable. If you prefer that children wander in and out of learning centers without becoming engaged, then provide undefined spaces for each learning center and/or unclear pathways between them. If, on the other hand, you desire the children to work cooperatively on block constructions, then offer a raised platform for building in a space that easily accommodates small groups of children.

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