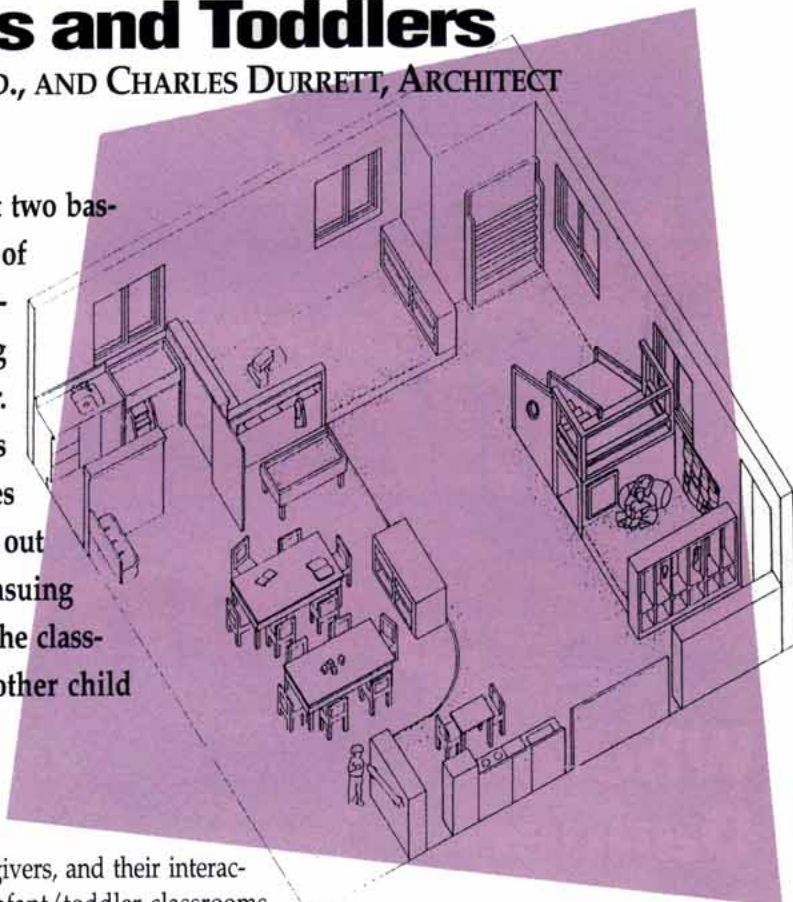


Landscape for Learning:

The Impact of Classroom Design on Infants and Toddlers

BY LOUIS TORELLI, M.S.ED., AND CHARLES DURRETT, ARCHITECT

Jan, a teacher in a toddler classroom, takes out two baskets of blocks and brings them to the middle of the room. The children love to build, and within seconds there are eight toddlers surrounding Jan and the blocks—all shoulder to shoulder. After only a minute or so, one child grabs another's blocks. While the teacher encourages this pair to "be gentle," a similar battle breaks out between two other children. Adding to the ensuing chaos, a toddler who has been racing around the classroom suddenly crashes into the tower of another child who has been deeply involved in play.



The physical environment in a group care setting powerfully affects chil-

dren, caregivers, and their interactions. In infant/toddler classrooms without a design specifically aimed at supporting children's development, young children spend much of their time either aimlessly wandering about the room or engaged in teacher-directed activities. In poorly designed classrooms, children's engagement in self-directed exploration and focused play is impaired. When children are not appropriately engaged, aggressive behavior increases. The caregiver finds herself saying "no" to the children far too often. In such an environment, she needs to act as police officer and custodian, managing behavior instead of facilitating individual and group needs.

Exploring their physical environment

comprises a great deal of the "curriculum" for mobile infants and toddlers. We must, therefore, consider the impact of environment on children and caregivers, and learn to design spaces that contribute appropriately to children's development. Many classrooms are simply not designed to meet the developmental needs of infants and toddlers in group care, nor do they support teachers in their role as facilitators of children's learning and self-directed play. By contrast, a well-designed environment can have enormous positive impact on the well-being of both children and teachers.



The Child Development Associates (CDA) competency that can be used for this article is:

- To establish and maintain a safe, healthy learning environment.

For more information on the CDA competency requirements, contact the Council for Early Childhood Professional Recognition at (800) 424-4310.

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

- The ability to provide effective and nurturing learning environments in response to the individual needs of each child.

For more information on CCP certification, contact the National Child Care Association at (800) 543-7161.

The Well-Designed Classroom

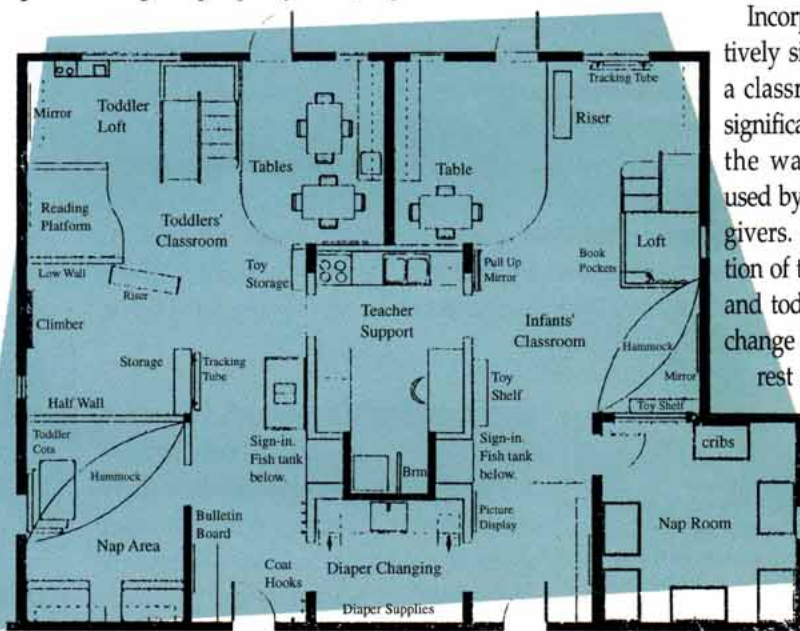
A well-designed environment is, of course, safe for infants and toddlers but, more than that, it supports their emotional well-being, stimulates their senses, and challenges their motor skills. A quality design aims to create a classroom that is highly functional, aesthetically attractive, age-appropriate, child-directed, and teacher-supported. A well-designed group care environment promotes children's individual and social development. The setting, layout, and equipment all give infants many opportunities to challenge themselves through seeing, touching, feeling, and moving. In surroundings that are safe to explore freely, infants learn to map their environment cognitively, to manipulate it, and to master it. We call such an appropriate and challenging environment a Landscape for Learning.

A Landscape for Learning can be built into the design or renovation of any classroom. Through the use of platforms, lofts, recessed areas, low walls, and canopies, all placed along the periphery of the classroom, the room can be sculpted to provide a variety of age-appropriate activity areas. The walls frame the activity areas, while the center of the classroom remains fairly open, allowing for the circulation of children and adults, as well as providing flexible space that can change depending on the teachers' observations of the children's interests. Children play under natural sunlight next to the windows and can look outside, maintaining a visual connection with the outdoor environment while indoors.

The Planning Process

When undertaking a major remodel or designing a new child care facility, you have the opportunity to create classroom and building layouts that will add to, rather than detract from, a developmentally designed program. Visiting existing child care centers can be an important part of the design process; however, creating a formal and deliberate written program for the space provides assurance that the goals for the center will be addressed and incorporated into the design. A well-thought-out program provides a set of criteria—pertaining to age groups, group size, ratios, child and adult activity areas, room sizes, and other specifics—on which the design is based and by which it is later evaluated. It allows for the clarification of objectives and the definition of expectations about the child development program, addressing questions and concerns before construction takes place.

Incorporating some relatively simple features into a classroom can result in significant improvement in the way the spaces are used by children and caregivers. Careful consideration of the needs of infants and toddlers—to move, to change activities at will, to rest and observe—suggests additions and changes that can strongly influence the atmosphere of the classroom.



Private Spaces

Sculpting the classroom into defined multilevel activity areas encourages individual and small-group play without herding all the children from one activity to the next. While easily supervised by the caregiver, these semi-enclosed activity areas provide for private and semiprivate environments which are critical to the development of the young child's self-concept and personal identity. Much of

the aggression and breakdowns that children experience in group care can be traced to the stress of being in a large group for upwards of ten hours a day, five days a week. Creating spaces where children can retreat in privacy can help to alleviate this stress.

Private spaces can also be achieved by incorporating into the classroom a tunnel; a carpeted, built-in cabinet with the doors

removed; a cozy loft space; or a few risers enclosing a small corner of the room. Instead of experiencing the stress of being in a large group all day, the infant can withdraw to a private space to rest, observe, and recharge emotionally. With access to these small-group activity areas, two toddlers who are just beginning to develop a relationship can go off together.

Lofts

An appropriately designed loft can be a wonderful addition to an infant/toddler classroom. Along with supporting motor exploration, it provides a "get-away" place for a child, where he can watch the rest of the group yet be by himself. It is also a place where an infant can snuggle with a caregiver. As well as creating the feeling of more space in the classroom, an appropriately placed loft can help define two additional activity areas.



Defined Space

The construction of low walls (24"-30" high) and carpeted platform areas (5" high) along the edge of the room creates several different environments. Low partitions allow children to feel that they are in a discrete space. This layout also allows the child care provider to supervise children easily. Children can engage in extended individual and small-group play, while the child care provider supervises two or three of these activity areas simultaneously.

Activities that work best when contained within a defined space, such as blocks, books, or small manipulatives, benefit from the incorporation of a platform into the classroom. If a child is playing with blocks on a raised platform, the strong definition of the space naturally confines the block building to its own area instead of letting it spill into the adjacent activity area or circulation space where it might be trampled on and knocked over.

Space for Movement

Movement is essential to a child's physical and emotional development. Once an infant can crawl and pull herself up, moving becomes a major focus of her day. Even if there is nothing safe in the classroom to climb on, she will find a way to climb—onto tables and shelves, rocking chairs, and high chairs. Because these activities are unsafe, the teacher will redirect the child off the piece of equipment. The message the child receives is that what she is interested in doing is not okay. Self-initiated exploration, a primary focus for healthy development, is prevented instead of promoted.

Creating a classroom that supports

appropriate movement is a fundamental component in designing a developmentally appropriate environment. Motor competence and emotional competence are closely linked in infants and toddlers. Feeding oneself, crawling to a desired toy and picking it up, climbing to the top of a loft, and going down a slide are all activities that help the infant develop a sense of self, a feeling that he is capable, that he can achieve, that he can master.

The indoor environment must support a child's need to crawl, climb, run, and jump. Most (though not all!) four-year-olds can accept a teacher's saying to them, "We're going outside in 20 minutes and then you can run. Until then, you can play at the water table, paint, build with blocks, or read a book." A 16-month-old cannot grasp such limitations. She needs to crawl now; she needs to climb now; she needs to move now. Her environ-

This article, and the one on page 21, have been selected by the University of Wisconsin-Stout as a part of the Early Childhood Professional Development Certification program. This program is designed specifically to enhance your knowledge and understanding of early childhood principles.

Here's how it works:

1. See the attached card on page 10 to register for the program, or call 1-800-523-4625 for a free brochure.
2. Register for the Continuing Education Unit Program which includes a subscription to *Early Childhood News*.
3. Read 4-6 designated articles in two consecutive issues of *Early Childhood News*.
4. Complete the evaluation that appears in this issue of *Early Childhood News* and forward it to the University of Wisconsin-Stout.
5. You will receive a certificate of completion for one Continuing Education Unit from the University of Wisconsin-Stout (provided you obtain 80% accuracy on the evaluation).
6. You will earn a Professional Development Certificate after earning three Continuing Education Units within a 12-month period.

Other Equipment

Additional equipment and materials can include pillows (attractive and washable), hanging plants, fish, natural wood toy shelves (24" high, secured to wall), photographs of children and family members (covered with clear contact paper, laminated, or Plexiglas framed), wide full-length Plexiglas mirrors, and hammocks for rocking infants. (Hammocks are preferable to rocking chairs because they allow the caregiver to rock more than one infant at a time if necessary. Rocking chairs can seriously hurt an infant who crawls behind one in motion; they also take up floor space, while hammocks can be taken off their hooks and stored when not in use.)



Risers

Carpeted risers are an indispensable piece of equipment. They can be used to create "safe spaces" for young infants while older infants are crawling and moving about. They can also be used to define activity and circulation areas, or as a toy shelf, a safe balance beam, or a jumping platform. A 12"-high riser provides a comfortable seating area for caregivers, allowing them to observe and interact at eye level with the children, without having to spend their whole day sitting on the floor.



Classroom Design Guidelines

The following guidelines provide a starting point for the design or renovation of a child care environment:

Group Size. The number of children cared for in one classroom affects infants' health and well being, as does the adult:child ratio. Large group size means that children get sick more often, and general noise and activity levels increase. Infants should be cared for in groups of no more than six to eight children; toddlers, in groups of no more than eight to 12 children (APHA & AAP, 1992; Lally et al., 1995; Ruopp et al., 1979).

ment must support and encourage this fundamental need.

Appropriate equipment is essential in order to meet the developmental needs of infants and toddlers in group care. Equipment that is ideal for individual development may cause conflict in a group care setting. For instance, a step/slide unit which only one child at a time can use leads to conflict, whereas a step/slide wide enough for at least two children allows toddlers to be more actively involved in motor exploration, and gives them an opportunity for positive peer interaction. Rather than controlling and redirecting, the caregiver spends her time observing and facilitating children's extended prosocial

Nancy, a teacher in a toddler classroom, has a wooden step-and-slide unit in her classroom. Toddlers love to climb and slide, so this is a popular and well-used item. Unfortunately, the steps and the slide are only wide enough to allow one child at a time to use them. Since toddlers find it difficult to wait their turn, the children in back inevitably try to push their way around the child in front—with predictable results.

play, supporting a child-directed learning experience.



Room Size. Children in group care environments require adequate space in order to move, grow, and learn. In classrooms that are too small, children behave more aggressively and have a higher incidence of illness. They are less focused, engage in more aimless wandering, and interact less with others (Ruopp et al., 1979). For a group size of six or fewer, the classroom should incorporate a minimum of 350 square feet of usable space (Zero to Three, 1992). For more than six children, 50 feet of usable space per child should be provided (APHA & AAP, 1992). Usable space does not include cribs, nap rooms, kitchens, bathrooms, diapering areas, adult storage, or other space that is not accessible to children.

Flooring. Infants and toddlers spend much of their time on the floor. For safety and comfort, the majority of the classroom should be carpeted, with the exception of the entrance, diapering and bathroom areas, and eating and messy play (water play/painting) areas. Use low-pile, neutral-colored, anti-microbial carpeting (to prevent the growth of fungus and mold).

Ventilation. A well-designed child care facility provides appropriate natural and mechanical ventilation, such as windows

A developmentally designed environment supports the caregiver-child relationship. It minimizes management and custodial activities, allowing caregivers more time for interaction, observation, and facilitation of children's development.

that open, ceiling fans to circulate the air, operable skylights, and central air that uses mostly fresh, rather than recirculated, air. Because children love to observe, each classroom should have several child-height windows, allowing children to feel visually connected with the outside, and engaging them throughout the day.

Lighting. Poor lighting can negatively affect the general atmosphere of the classroom. Lighting that is either too bright or too dim can strain the eyes. Incandescent lighting is preferable to fluorescent, which can make a classroom feel like a hospital or office instead of a place to play.

Incandescent lighting helps the classroom look and feel more like a home.

Pools of light for specific activity areas can be created using pendant lights and track lights. Add indirect lighting using recessed lights or wall sconces. Dimmer switches allow the lighting to be adjusted according to the brightness needed at different times of day and in support of varying activities.

Sinks. Hand washing is essential to reduce the spread of illness among children. Separate sinks should be provided for food preparation and diapering. Toddlers should have their own child-height sinks in the classroom. Trough sinks, which have two or three faucets, are especially useful to minimize waiting as well as to encourage prosocial interaction and to model appropriate behavior.

Color. The choice of classroom colors plays an important role in creating a rich and home-like environment. Bright primary color schemes can create an environment which feels over-stimulating to the children as well as to adults. A neutral-colored background, such as ivory/eggshell-colored walls, and furniture made out of natural wood will provide a calming atmosphere in the classroom. Colorful toys, materials, and pictures on the wall stand out on a warm, neutral background, helping children to focus

ADDITIONAL READING

- Anderson, G.L. (1993). *Removing Barriers to Child Care Facilities Development*. California State University, Northridge & University of California, Berkeley.
- Gonzalez-Mena, J., & Eyer, D. W. (1989). *Infants, Toddlers, and Caregivers*. Mountain View, CA: Mayfield.
- Greenman, J. (1988) *Caring Spaces, Learning Places: Children's Environments that Work*. Redmond, WA: Exchange Press, Inc.
- Lally, J.R. & Stewart, J. (1990). *Infant/toddler Caregiving: A Guide to Setting up Environments*. Sacramento, CA: California State Department of Education.
- Leavitt, R.L. & Eheart, B.K. (1985). *Toddler Daycare: A Guide to Responsive Caregiving*. Lexington, MA: D.C. Heath and Co.
- Torelli, L. (1989). *The Developmentally Designed Group Care Setting: A Supportive Environment for Infants, Toddlers, and Caregivers*. Zero To Three, 10, (2).
- Torelli, L. & Durrett, C. (In press). *Landscapes for Learning: Designing Group Care Environments for Infants, Toddlers, and Two-Year-Olds*. Berkeley, CA: Torelli/Durrett Infant & Toddler Child Care Furniture.

and visually to discriminate the object from the background.

Storage. A developmentally designed environment depends on adequate, easily accessible storage located within the classroom. Wall storage adjacent to every activity area allows caregivers to change play materials without leaving the classroom under-supervised. Storage located on the walls does not take up valuable, usable play space.

Ease of Supervision. A well-designed environment allows teachers to supervise children from anywhere in the classroom. Place activity areas along the walls, leaving the center of the room open, with diapering and food-prep areas separated from the classroom by half-height walls. Separate nap rooms can incorporate low windows (30"-34" high) to allow teachers easy visual access.

Conclusion

A developmentally designed environment supports children's individual and social development. It encourages exploration, focused play, and cooperation. It provides choices for children and supports self-directed learning. A developmentally designed environment also supports the caregiver-child relationship. It minimizes management and custodial activities, allowing caregivers more time for interaction, observation, and facilitation of children's development.

Louis Torelli, M.S.Ed., and Charles Durrett, architect, are principals in the child care facility design firm Spaces for Children (510-549-9980), and Torelli/ Durrett (800-895-3121), a catalogue company designing and selling infant and toddler child care furniture.

References

American Public Health Association (APHA) & The American Academy of Pediatrics (AAP) (1992). *Caring for our children: National standards, guidelines for health and safety in out-of-home child care.*

Arlington, VA, National Center for Education in Maternal and Child Health.

Lally J.R., Griffin, A., Fenichel, E., Segal, M., Szanton, E., & Weissbourd, B. (1995). *Caring for Infants and Toddlers in Groups: Developmentally Appropriate Practice.* Arlington, VA, Zero to Three.

Ruopp, R., J. Travers, F. Glantz, & C. Coelen (1979). *Children at the Center. Final Report of the National Day Care Study. Vol. 1.* Cambridge, MA: Abt Associates.

Zero to Three (1992). *Heart Start: The emotional foundations of school readiness.* Arlington, VA, Zero to Three.

Leading Early Childhood Educators on Louis Torelli and Charles Durrett

"Torelli/Durrett brings aesthetics into early childhood by their combined knowledge of child development and design. Their equipment provides a calming experience for infants and toddlers in group care and gives a message about what good early childhood education is about."

Janet Gonzalez-Mena
Author, *Infants, Toddlers, and Caregivers*
Professor, Napa College

"The equipment designed by Torelli/Durrett demonstrates an expertise in infant and toddler development as well as a familiarity with the unique environmental needs of childcare providers. They know how to help caregivers make childcare settings safe, interesting, comfortable, and convenient. I love their designs."

Dr. J. Ronald Lally
Director, Center for Child and Family Studies
Far West Laboratory, San Francisco

"This equipment provides flexibility that helps to meet the challenges of caring for rapidly growing and changing infants and toddlers. The attention to beauty provides a pleasant environment for staff, parents, and children."

Dr. Nancy Balaban
Director, Graduate Program in Infant and Parent Development
Bank Street College of Education, New York

"Torelli/Durrett's furniture and room layout were responsible for transforming an impersonal office building into a safe, supportive, and enriching childcare environment."

Kathryn M. Tama
Former Manager, Work/Family Program
Pacific Gas & Electric Company, San Francisco