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## **Environment: Improving Access and Participation**

Tricia A. Catalino

*Touro University Nevada*, [tricia.catalino@tun.touro.edu](mailto:tricia.catalino@tun.touro.edu)

Lori E. Meyer

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**ENVIRONMENT: Improving Access and Participation**

Tricia Catalino, P.T., D.Sc., P.C.S.  
Touro University Nevada  
College of Health and Human Services  
School of Physical Therapy  
874 American Pacific Drive  
Henderson, NV 89014  
Email: [tricia.catalino@tun.touro.edu](mailto:tricia.catalino@tun.touro.edu)

Lori E. Meyer, Ph.D.  
University of Vermont  
College of Education and Social Services  
Department of Education  
Living and Learning Suite C-154  
633 Main Street  
Burlington, VT, 05405  
Email: [lori.meyer@uvm.edu](mailto:lori.meyer@uvm.edu)

### **ENVIRONMENT: Improving Access and Participation**

Environment influences the health and development of all children, especially young children who have or are at risk for developmental delays or disabilities. For more than 30 years, Bronfenbrenner's (1979) ecological theory of human development has guided our understanding of the role environments have in children's development. Early childhood intervention researchers have applied this theory to advance our understanding of environmental influence on the development of young children. For those who have or are at risk for developmental delays or disabilities and their families, Bronfenbrenner's ecological theory has addressed many pressing issues in early childhood intervention. These include the implementation of inclusive education (Odom, 2002), family-centered services (Bruder, 2000), and natural learning opportunities (Dunst et al., 2001), to name just a few.

In this introduction to the Division for Early Childhood (DEC) Recommended Practices, we will briefly explain what we mean by the environment and what it means for young children with disabilities and their families. This will provide a framework for conceptualizing the inter-relatedness of environmental settings and features. We will also define types of environments in which children develop and grow and outline key ideas to consider when implementing the Environment recommended practices. This chapter will use vignettes to illustrate important themes and show examples of how practitioners can best use the Environment recommended practices.

While exploring the nuances of Bronfenbrenner's ecological theory may be beyond the scope of this chapter, we believe it fitting to introduce the new topic area of the Environment recommended practices with a nod to the theory that has given our field a lens for understanding the complex world of supporting positive outcomes for young children with disabilities and their

families. We also believe it is important to celebrate the work of the Environment workgroup members who wrote and advised on practices for this topic area. Our deep appreciation and gratitude goes to Kaitlin Bargreen, Bill Brown, Deborah Cassidy, Robyn Ridgely, Eleni Soukakou, and their leader, Rena Hallam.

### **Evolution of Environment Recommended Practices from 2005 to 2014**

The Environment recommended practices is a new and important topic area in the most recent update of the recommended practices (Division for Early Childhood, 2014); however, this was not the first time it was considered. Environment was proposed and investigated as a strand in 1998, and while not a standalone strand at that time, the 2005 DEC Recommended Practices (Sandall, Hemmeter, Smith & McLean, 2005) did note their presence. More specifically, a number of child-focused practices addressed the learning environment's role in early childhood intervention practices.

The Recommended Practices Commission, charged by the DEC Executive Board to make sure the newly revised practices reflect contemporary thinking, decided to bolster the prominence of the environment in the new recommended practices by creating a separate topic area to match the attention environmental quality has had in our field over the last decade (Campbell & Milbourne, 2014). With this line of thinking, the commission asked the Environment workgroup to identify specific practices that enhanced aspects of the physical space, materials, routines, and activities that provide context for children's learning and social interactions with adults and peers. Additionally, as is true for the other recommended practices, the goal was to create practices that extended the National Association for the Education of Young Children's (NAEYC) Developmentally Appropriate Practices (DAPs) across the age span from birth to age 8.

### **Building Upon Developmentally Appropriate Environment Practices**

Research-based evidence and experiential wisdom has helped explain how DAPs influence young children's development with consideration of their age and social/cultural contexts (Copple & Bredekamp, 2009). To determine how to expand on DAPs for the Environment recommended practices, the guiding question was "What should practitioners do when environments do not support the access and participation of young children with disabilities?" The joint position statement on inclusion, collaboratively written by DEC and NAEYC (2009), helped formulate this question. Additionally, we sought to have Environment practices that would promote access and participation of all children, especially young children with or at risk for developmental delays or disabilities, and would consider Environment as an intervention strategy. Together, the Environment recommended practices guide practitioners to take action that may not be automatic or intuitive when creating developmentally appropriate early care and education settings. Because the Environment recommended practices build upon DAPs, they lead to the creation of environments that would be beneficial for all young children—and imperative for young children with disabilities. (See Table 1 for examples of how this can work for practitioners in the field.)

### **Conceptualizing Environments in the DEC Recommended Practices**

It cannot be understated that inherent to all of the recommended practices, including those under Environment, is the prominence of natural and inclusive environments (Division for Early Childhood, 2014). Environments, as described in this chapter and in the DEC Recommended Practices, refers to both environmental settings (e.g., inclusive and natural) and environmental features (e.g., physical, social, and temporal). Conceptualizing environments in this way highlights how environmental settings and features are inseparably linked to young children's

development, growth, and functioning. Furthermore, it calls attention to the role environments have in supporting positive outcomes for young children who have or are at risk for developmental delays and disabilities.

To further illustrate the relationship between the different environments embedded in the Environment recommended practices, we propose a conceptual framework (Figure 1) that builds on previous work by Kolobe, Arevalo, and Catalino (2012) to show the relationship of proximal (home/family) and distal (neighborhood, community, school) environmental factors that influence child outcomes and participation. The Environment recommended practices are integrated in the framework in areas where practitioners can most likely use their knowledge and skills to help increase access to and participation in learning opportunities for children. For example, recommended practice E1 aligns with both intrinsic family factors and child-rearing practices/daily routines because the practitioner provides services in natural and inclusive environments during daily routines and activities. Family and classroom resources align with all of the Environment practices, and the neighborhood, community, and school align with E2 and E6, where the physical environment can either facilitate or inhibit opportunities for access to public space and activities. Please refer to DEC Recommended Practices (2014) for a complete list of the Environment recommended practices (E1-E6).

### **Interconnection of Environmental Features**

Because of the multiplicity of environmental features, practitioners must be prepared to implement modifications and adaptations that support children and families in natural and inclusive environments while optimizing children's function and participation. It is important to remember that no one environmental feature stands alone. This means that modifying or adapting any feature from one type of environment to support children's learning and development may

influence another environment and/or other related learning goals. Examples of this interconnection are provided in the following two vignettes:

*Erin is a physical therapist who works with a family and their infant son, Kyle, who has Down syndrome. Kyle's mother, Cindy, would like to have "tummy time" with him because she used this practice with both his siblings when they were young. Yet, Cindy is worried that Kyle's siblings might be too rough around him if she places him on the floor. Erin was sensitive to Cindy's concerns and worked with her to create a safe space in the living room for Kyle's tummy time.*

*Daniel is a speech/language pathologist in an early childhood special education classroom, where he supports Gabriella, a 4-year-old with cerebral palsy. He noticed that Gabriella is very motivated by her classmates, but during meal time she has difficulty managing the cup and utensils, so often she does not finish her food. Daniel works closely with the teacher and an occupational therapist to modify utensils and a straw cup to help Gabriella eat and drink more easily alongside her classmates.*

These two examples address the physical environment; however, such modifications are likely to influence the social and temporal environments as well. In the tummy time example, the physical therapist also will have to consider the infant's schedule (temporal environment) and the family's beliefs, culture, and values around child-rearing to make tummy time an engaging and productive activity for both the infant *and* the family (social environment). Likewise, in the meal-time example, the therapists and teacher must consider the classroom schedule and time

required to eat (temporal environment) while promoting socialization with peers at the table (social environment). In this case, participation is not just about independence with eating and drinking but also is about being a full member of the group.

### **The Spirit of the Environment Recommended Practices**

As in other formal documents, the DEC Recommended Practices can be interpreted both literally and from the perspectives of those who meticulously wrote and revised them. This latter interpretation is sometimes implicit, passed on by word of mouth and substantiated as practitioners and researchers use the practices in the field and share their experiences. It is our intention to put forth three key ideas to aid users of the Environment recommended practices to understand the spirit in which they were established and to supplement information already available in the DEC Recommended Practices.

**(1) Environmental practices are interwoven within all DEC RP areas.** As mentioned, different types of environments are inseparably linked. To build on this idea, the different types of environments also are woven through the six other topic areas in the recommended practices. It is impossible to separate the environment from a child's daily experiences, and thus we encourage practitioners to envision the Environment recommended practices and other topic areas supporting and complementing each other. For example, it is difficult to discuss interaction, instruction, and family practices without also considering the social environment. Likewise, the physical environment plays a role whenever we consider instruction or transitional practices. Further, the Leadership recommended practices make clear that resources such as space, time, and materials should be available and used by practitioners in their work with children and families. These examples are by no means comprehensive of the multitude of ways the recommended practices intersect with each other, but hopefully they illustrate the rationale



behind designating environmental practices as both unique and complementary to all recommended practices.

**(2) Environments are fundamental sources of access and participation.** Access and participation are the focus of several Environment recommended practices. Access means providing a wide range of activities and opportunities for every child by removing physical barriers, making adaptations, and offering multiple ways to promote engagement for learning and development (DEC/NAEYC, 2009). It can include creating physical space that allows a child who uses a mobility device to move freely or materials to help a child identify pictures as a way to communicate. Access is also embedded in inclusive environments, where attitudes and beliefs about how and what children with disabilities might be capable of positively influence their access to learning opportunities.

The International Classification of Functioning and Health model (ICF) by the World Health Organization (WHO) is a framework that describes how individuals with disabilities, including young children, function (World Health Organization, 2001). The ICF defines participation as being involved in life situations and activities. For children this means being part of regular activities and routines in natural environments, that is, any setting where children spend time. According to the ICF, environment is a contextual factor essential to understanding what a child “does do” (their performance) during naturally occurring routines and activities compared with what the same child “can do” (their capacity) under optimal environmental conditions. Enhancing the capacity of an environment therefore influences the capacity of the child so that participation (“does do”) improves and ensures the child is an integral member of a group engaged in certain activities or routines.

**(3) Changes to the environment are done in collaboration with the team, including the family, and start from a strengths-based perspective.** The Environment recommended practices are purposely broad so that modifications and adaptations to the environment are both universal, so that all children have access, and individualized, so that practitioners consider unique contextual factors for any individual child or family. As practitioners, it can be tempting to identify nonoptimal factors of a specific environment as we decide how, when, and where to suggest changes. However, if our goal is to build the capacity of the environment as a means to increase children's participation, we must seek buy-in from the team and family by embodying characteristics of effective coaching (Rush & Shelden, 2011). For example, in the following vignette the practitioner creates an opportunity for dialogue to learn more about a family's strengths, perspectives, and ideas before making suggestions or changes to the environment.

*Liz, a developmental therapist, has been visiting Ayesha and her family for about two months. Ayesha and her family, refugees from Sudan, live in a small apartment that is part of a resettlement community for refugees from all over the world. During her visits, Liz has observed many caring interactions between Ayesha and her mother, Samar. However, Liz says she feels that there is a lack of toys or materials in the apartment for Ayesha to engage with to increase her social and communication skills. Before taking action to modify Ayesha's home environment to increase her access to toys and materials, Liz asks Samar questions to learn more about the family and try to understand why there may be an absence of toys/materials before proceeding further.*

### **Questions About the Environment Recommended Practices**

In the process of identifying guidelines for the recommended practices revisions, the Recommended Practices Commission decided how the practices would be organized. Given the interconnected nature of the Environment recommended practices, certain practices yielded much discussion about which topic areas they should be placed in (e.g., E4, E5, and E6). Given this discussion, we offer answers to two of the most commonly asked questions during presentations of the revised recommended practices.

### **Why is assistive technology part of the Environment Recommended Practices?**

Assistive technology (AT) is a broad term describing “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability” (Individuals with Disabilities Improvement Act, 2004). As such, AT is considered part of the child’s physical environment and therefore included under the Environment recommended practices.

Practitioners, along with the family and other adults, must identify when a child might benefit from AT and consider other environmental factors, such as the physical space where the AT will be used, the beliefs and values of the family, and how and when AT will be used. Environmental factors across settings, schedules, and caregivers can help or hinder a child’s participation, so the practitioner must take all information into consideration before recommending AT and include the family and other adults throughout the assessment and training process.

### **Why is fitness and wellness included in the Environment Recommended Practices?**

Regular physical activity is essential for health and development of all children and was intentionally included as an Environment recommended practice because children with or at risk for disabilities and their families face more barriers than those without disabilities for inclusion in formal and informal health and wellness activities (Rimmer & Rowland, 2008). Barriers range

from lack of accessible space to cultural beliefs that prohibit children with disabilities from engaging in daily bursts of active play at intensities needed to build strong bodies. The Centers for Disease Control and Prevention (2015) recommends 60 minutes per day of physical activity for children older than age 5. There are no specific recommendations for activity duration for children younger than age 5; however, young children should engage in daily activity during age-appropriate play. Young children with disabilities are not excluded from these recommendations but may have special health care needs requiring medical clearance and supervision. An area that requires more investigation is developing strategies for young children with physical impairments to engage in enough physical activity to improve their overall health and fitness. Practitioners are encouraged to gather information and support families as they discover strategies for safe and regular play that incorporates movement and exploration for children with disabilities – as described in the following vignette

*Tammie, an early childhood special education teacher, has always incorporated daily physical activity into her classroom schedule but is feeling concerned about how to do this with her student Benny because of his congenital heart condition. Benny is 5 years old and has had several heart surgeries, the most recent just one month ago. His parents are supportive but understandably are worried that he could over-exert himself at school. Tammie wants to include Benny in all the classroom activities, but she needs more information to know if and when Benny might need a break. Tammie consults with Benny's parents, the school nurse, and his therapists to gather information and develop a plan so he is included in the regular physical activities but also is monitored for his health and safety. Tammie finds out that children with Benny's condition are usually good at gauging their abilities but that he should not play outside when it*

*is too hot or humid. The nurse writes up some signs to watch out for, and the therapists arranged their schedules so that one of them will be in the classroom or on the playground to help when the children engage in rigorous physical activity.*

According to the Healthy People 2020 (U.S. Department of Health and Human Services, n.d.), social and physical environments are determinants of health and can especially contribute to poor health outcomes for people with disabilities. For children with or at risk for disabilities, the cumulative effects of inactivity over a lifetime have long-term consequences. Obesity, hypertension, and diabetes are just a few examples of secondary conditions seen in children with disabilities at higher rates than children without disabilities (Child and Adolescent Health Measurement Initiative, n.d.). Further, adults with disabilities that began in early childhood are at greater risk for myriad other conditions such as osteoporosis, cardiovascular disease, bed sores, and various musculoskeletal injuries, to name a few (Centers for Disease Control and Prevention, 2014).

Finally, infants born with impairments that limit early movement and exploration may miss out on the natural early learning opportunities generally afforded to infants without mobility impairments. Self-initiated movement is linked to cognition, communication, spatial awareness, discrimination of emotion and fear, postural control, perceptual-motor development, visual-motor integration, and problem-solving (Bertenthal & Campos, 1984; Bertenthal & Campos, 1987; Bertenthal, Campos, & Kermoian, 1994; Bushnell & Boudreau, 1993; Herbert, Gross, & Hayne, 2007; Kermoian & Campos, 1988; McEwan, Dihoff, & Brosvic, 1991). Self-initiated movement is a powerful motivator. Infants who can influence their environment are more likely

to participate and engage in activities and routines, further developing skills beyond just movement.

### **Conclusion**

Practitioners of early childhood intervention have a responsibility to work alongside families and other adults to provide services in natural and inclusive environments while also influencing features of the environments in ways that will improve child and family outcomes. Overall, the Environment recommended practices promote the access and participation of young children with or at risk for developmental delays or disabilities in everyday learning experiences and naturally occurring routines. We hope that by dedicating Environment as a distinct and essential topic area, practitioners, families, and other stakeholders will work together to enhance the capacity of all environments, thus giving young children with or at risk for developmental delays or disabilities the best chance to participate in the activities they choose and need to grow and develop into healthy, happy, and productive members of their communities and society as a whole.

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Table 1  
Examples of How Environment DEC Recommended Practices Build Upon DAPs

<b>Developmentally Appropriate Practice</b>	<b>Environment DEC RP</b>	<b>What should practitioners do when environments do not support the access and participation of young children with disabilities?</b>
Caregivers carefully arrange the visual environment with things that are interesting to look at from an infant's perspective.	E3	<p>For an infant with a visual impairment ...</p> <ul style="list-style-type: none"> <li>• It may be necessary to modify the physical environment by displaying a few, bright, shiny materials/toys on a neutral colored shelf.</li> </ul>
Caregivers provide toddlers with utensils that they can easily use.	E5	<p>For a toddler with fine-motor delays ...</p> <ul style="list-style-type: none"> <li>• It may be necessary to use utensils with different-shaped handles that allow the toddler to participate in meals and snacks as independently as possible.</li> </ul>
Teachers encourage preschoolers' healthy habits in exercise.	E6	<p>For a preschooler with gross-motor delays ...</p> <ul style="list-style-type: none"> <li>• It may be necessary to provide incentives for movement such as having the preschooler identify classroom friends to play with during a favorite movement game outside (e.g., red light, green light)</li> </ul>

*Note: Developmentally appropriate practice examples are adapted from Copple and Bredekamp (2009).*

