

Universal Design and Outdoor Learning

Read how the use of “universal design” can be applied to young childrens’ outdoor play and learning.

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The Importance of Outdoor Play and Learning

Engagement in the natural environment provides authentic and concrete opportunities for children to enhance development in all domains (Bailie, 2010). As children play and explore in nature they build gross motor development moving through the outdoors. Searching for items, carefully picking up leaves, branches and insects provides opportunities to develop fine motor skills. Collaborative interactions such as caring for gardens, making maps or doing scavenger hunts encourage social and emotional skills. Regarding cognitive development, children ask questions about the outdoor world and seek the answers to these questions using hands on examination (Baile, 2010). Each subject area is addressed as children use math skills to count, find shapes and see patterns; science skills and methods to examine and care for living things; social studies as they learn the geography of their communities and language arts in learning the vocabulary of the outdoor world. Learning outside and in nature not only allows for learning across subject areas and developmental domains, but also creates opportunities to inspire children when discovering the treasures of the outdoors.

Outdoor play promotes hands-on learning across curriculum.

Children are interested in being outside. Accessibility to outdoor play and a variety of types of spaces includ-

ing private, personal and social is important to children (Clark, 2007). The outdoor environment allows for child initiated exploration of found objects or loose materials such as rocks, pinecones and leaves. Children already express an interest in these items and teachers can build on this interest to enhance learning and teacher child interaction (Waters & Maynard, 2010).

There are many benefits to outdoor play such as hands-on learning across curriculum areas including science, art and music. Children also learn problem solving skills and increase dexterity as they navigate materials that are not necessarily evenly spaced. Interactions in the outdoors can help children and adults to rediscover their sense of wonder (Rosenow, 2008). Getting children outside is only one step: the environments in which they are interacting must be of high quality. Safety is essential; however, when children only engage in the same sterile playground environments, they may not be motivated to attempt new skills or even have opportunities to challenge themselves (Little & Eager, 2010). Effective early childhood educators ought to be intentional in planning in all environments (NAEYC, 2009). Interesting outdoor environments with high quality developmentally appropriate experiences are beneficial to learning and growth and should be accessible to all children. In planning outdoor experiences, it may be helpful to consider Universal Design for Learning (UDL).

What is Universal Design for Learning (UDL)?

Universal Design for Learning (UDL) is a framework that helps educators to remove barriers and provide supports while also challenging students. It is about flexibility in our practices including expectations, strategies, evaluations and materials to accommodate

variability in students (CAST, 2011a). Universal Design for Learning does not mean one size fits all. It refers to the development of environments that children can access regardless of linguistic differences, culture or disability. Instead of making changes as an afterthought, children are afforded a range of ways to learn and to express themselves (CAST, 2011b; Lieber, Horn, Palmer & Fleming, 2008). The three main principles of UDL are:

- multiple means of engagement
- multiple means of representation, and
- multiple means of expression (CAST, 2011b).

Multiple means of engagement or the “why” of learning is how we as educators motivate students and provoke interests (CAST, 2011b).

Multiple means of representation refers to instruction and how materials are presented. It is the “what” of learning or the way information is presented.

Multiple means of expression is the “how” of learning and refers to the ways students can demonstrate knowledge.

Universal Design removes barriers and increases accessibility.

Universal Design for Learning (UDL) is not exclusive to any one teaching strategy, but can be applied to any learning environment with careful intentional and flexible planning and implementation of curriculum. It can therefore certainly be applied to outdoor learning.

Principles of Universal Design for Learning (UDL) are consistent with the project approach (Harte, 2010). Teachers can facilitate children in engagement with the project approach in both indoor and outdoor settings. Interests that may serve as a catalyst for projects often come from outdoor explorations and observations such as noticing a bird’s nest and exploring more about birds. Use of the project approach also includes meaningful opportunities for parent engagement (Harte, 2010). As educators plan to incorporate outdoor learning experiences, careful consideration must be given for inclusion of and access for families.

Examples of Outdoor Learning and Multiple Means of Engagement

To provide for multiple means of engagement, teachers can spark children’s interest by use of novelty and providing a reason to be interested. Engagement means there is a purpose and children care about what they are going to learn. It is relevant. In using the outdoor environment, teachers can expose children to new and interesting natural items.

1. *Bring natural materials into the classroom.* Include familiar and unfamiliar items. Provide opportunities to look at things in different ways such as cutting something like a tree pod in half.
2. *Use outdoor experiences as a catalyst for project work.* Go on a nature hike or walk around the school grounds. Listen to students and follow their lead.
3. *Ask questions to extend thinking.* When introducing natural materials ask children what they think the items purpose



Raised gardening beds allow children who may have special needs to participate in the gardening activity. A child in a wheelchair can plant, water and harvest.

Photo courtesy of BB International Preschool & Kindergarten, Pompano Beach, FL

is. Encourage children to make predictions about what would happen to the natural items in various circumstances, such as being wet. Ask children what they already know and what they want to know. Find out about previous experiences with the materials.

4. *Provide opportunities for novel outdoor experiences beyond commercial play sets.* Recess or gross motor time is typically in the same outdoor area, blacktop or playground. Try to go to a park or nature center.
5. *Partner with environmental educators.* Bailie (2000) describes a continuum of early childhood programming with nature centers that may range from a brief one time field trip to seasonal field trips to a nature-based preschool operated by a nature center. One key component to success at any point along the continuum is the opportunity for teachers and environmental educators to learn from one another. Support from environmental educators can help provide an important resource in making various topics relevant to

students as well as engaging in authentic experiences.

6. *Provide choices.* Remember that there is no one thing will interest all students (CAST, 2011). There may be a choice in materials to explore or if collecting natural materials outside, children may have a choice of tools to use.
7. *Provide opportunities for collaboration.* Working with others may not only help with supports but may also help to sustain engagement (CAST, 2011a).
8. *Creating a safe space is extremely important.* Children who are afraid or distracted are not engaged (CAST, 2011a). Know the children in your class and consider what might be upsetting to them, therefore serving as a barrier. For example, a student who dislikes loud noises might wear ear muffs or headphones or have some other buffer for noise. Some children might need extra time or breaks.



Photo courtesy of Dora L. Lewis Family & Child Development Center, Richmond, VA

Thoughtful and planned design of the outdoor classroom includes all children.

Examples of Outdoor Learning and Multiple Means of Representation

To allow for multiple means of representation, keep in mind that the way we take things in as learners and the way we understand things as learners varies. Whatever materials, experiences or information is being presented, it has to be done in a way that different learners can access it. Think about ways to remove barriers and present materials in a variety of ways.

1. *Consider additional supports for children with low muscle tone.* Generally think about how

supports in the classroom could be used outside. Partner with occupational therapists, physical therapists and parents.

2. *Consider access for children with walkers, wheelchairs or small stature.* Include stepstools, ramps and pathways and trails free of debris.
3. *Provide another way to access auditory components of outdoor learning.* Ex: Picture cues, sign language, touching items, feeling vibrations
4. *Provide another way to access visual components of the outdoors.* Allow children to listen for sounds or provide verbal descriptions.
5. *Work with families to learn and represent things that may be explored outdoors in the home languages of children in your class.*
6. *Pre-teach any vocabulary or symbols that may be needed.* For example, if you will be using a map or following signs on a trail, you would review key words and

images in advance of going for a nature walk.

7. *Use technology.* Using portable devices such as an iPad, video cameras or even cell phones, sights and sounds at different levels can be recorded and either immediately projected to other devices or later shared and displayed using smart boards or projectors and screens.

Examples of Outdoor Learning and Multiple Means of Expression

In order to provide multiple means of expression, teachers must consider that we all as learners show what we know in different ways. Students should have many options for being able to express themselves. There should be opportunities to communicate and create in a variety of ways.

1. *Children can create a story about their interests or what they have learned using paper and drawing materials or digital storytelling.*



Photo courtesy of the author

As children experience nature, they develop motor skills, work collaboratively together and are engaged in learning.

2. *Children can share orally, using sign language, drawing pictures, modeling with clay, building with blocks, using video or photographs, writing or using augmentative communication devices.*

Using principles of Universal Design for Learning (UDL), early care and education providers can create settings that allow a range of children to be successful (Lieber, Horn, Palmer & Fleming, 2008). Just like indoor environments, outdoor areas should be guided by developmentally appropriate practices with opportunities for free exploration, intentional teaching and quality interactions in quality environments. Also like indoor settings, engagement outdoors should be accessible to all children. Children should be able to access materials in a variety of ways, show what they know in a range of ways and have many ways be motivated and engaged. Some of the same strategies used indoors can be used outside such as children expressing knowledge orally, using sign, drawing pictures, writing and using augmentative communication devices. Accessibility to areas can be built in using ramps, careful atten-

tive supervision, use of picture cues and bringing aspects of the natural world indoors.

The key idea is to plan in advance to address the widest range of needs

and interests to the advantage of both students with and without disabilities, allowing for all children to be successful and engaged. See Table 1 for an overview of the connection between Universal Design for Learning and Outdoor Learning.

Conclusion

Outdoor learning is an important way to engage young children. There are many benefits including helping children to be more connected to the outdoors and learning across content areas. When planning outdoor education, universal design for learning or planning in advance to address diverse needs can help all children to successfully participate. Teachers engaging in developmentally appropriate practice in the classroom can use many of the same strategies

Table 1. Applying UDL to Outdoor Learning

Components of Universal Design for Learning (UDL)	Outdoor Learning
<p>Multiple means of engagement – It is important to make learning relevant to students and help them to be motivated to learn (CAST, 2011a).</p>	<p>Children are interested in being outside and the natural environment provides many opportunities to capture children’s interests while adults follow their lead, responding to those interests and facilitating learning (Waters & Maynard, 2010).</p>
<p>Multiple means of representation – Information needs to be presented in a way that it can be recognized and so that children can truly grasp it (CAST, 2011a).</p>	<p>The natural environment provides visual, auditory and tactile materials. Teachers can build on this, including additional supports such as picture cues and audio descriptions, home languages and use of technology.</p>
<p>Multiple means of expression – The way children can successfully express themselves varies from one child to another and multiple options need to be provided (CAST, 2011a).</p>	<p>Outdoor learning provides opportunities to use a range of approaches. Using the outdoor environment as a catalyst, teachers can engage in projects. The project approach allows children to express themselves in a variety of ways and is consistent with UDL (Harte, 2010).</p>

outside as well as bring the outdoors into the classroom. In planning for outdoor learning, consideration of UDL by removing barriers and providing supports can lead to not only providing access for all students, but also to engaged learners. Universal Design for Learning allows early care and education providers to consider a range of ways to present materials, motivate learners and provide opportunities for students to express themselves. Learning outdoors affords all of these same opportunities and is consistent with Universal Design for Learning. Early care and education providers can and should plan using the principles of UDL in outdoor settings.

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Children need time for free exploration and water play is a wonderful opportunity to engage children in the outdoor environment.

Photo courtesy of Westlake United Methodist Preschool, Austin, TX

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