by Laura McFarland and Meena Adhikary

Bringing multiple intelligences outdoors

Typically, outdoor play is a time when young children can use their large-motor skills in ways that they are unable to inside a classroom (Rivkin 1995). Children often have a higher activity level when they are outdoors and are able to use playground equipment to express their energy. It is essential to make sure that children have the opportunity to run, jump, and climb, and use their large-motor skills outside in order to stay physically fit (Sutterby and Frost 2002; Frost 1992).

However, it's also beneficial to make sure that children have other options for outside activities. In fact, taking typically indoor activities to the outdoors can add richness and variety to the playground and enhance the multiple intelligences each child brings to play. The playground doesn't simply have to be a place where children "get their energy out" and the teachers "take a break" from teaching. Instead, you can make it the place where every child's learning experiences are enriched and broadened.

What is meant by multiple intelligences?

Not all children learn in the same way. Whether typically developing or having a disabling condition, every child is unique. Just as all children have individual personalities—some are shy, some outgoing—they also have different interests, strengths, and skills.

Dr. Howard Gardner, a professor of education at Harvard University, developed a theory of multiple intelligences. His theory challenges the traditional idea that intelligence is measured only by tests of language and mathematical skills (Gardner 1999). Instead, he holds that true intelligence is defined by one's ability to solve problems and offer creative response to one's cultural needs.

Gardner proposes that there are at least eight different types of intelligence present in greater or lesser degree in each individual. These intelligences are:

- **Bodily-kinesthetic intelligence:** Knowing about how to move or use the body to solve problems. Children who are strong in this type of intelligence may need to use their body to learn more effectively. They typically have outstanding physical coordination and would prefer to participate than observe. They are tactile learners—and find it difficult to resist touching.
- **Linguistic intelligence:** Using words and language to accomplish goals. Children who are strong in this type of intelligence learn best when they are able to talk about what they are doing and converse with other children and adults. Typically, linguistic intelligence is rewarded in school; linguistic learners usually excel in traditional education.
- **Logical-mathematical intelligence:** Having the ability to recognize patterns and to approach

problems logically. Children with strong logical-mathematical intelligence like to explore numbers and math functions and tend to analyze tasks and projects. They are precise and methodical and typically demonstrate skills in counting, adding, subtracting, and sequencing.

- **Spatial intelligence:** Knowing about how objects and patterns fit into space. Children with strong spatial intelligence can often form mental models and manipulate objects to fit the model. They are able to visualize objects and create representative drawings. They think in pictures and images.
- **Musical intelligence:** Being sensitive to nonverbal sounds, patterns, and noises in the environment. Children with strong musical intelligence can recognize musical tones, pitches, and rhythms, and frequently excel in performing, composing, and appreciating musical patterns. They are likely to remember songs and melodies and often turn sounds and words into music.

NOT ALL CHILDREN LEARN
IN THE SAME WAY.

- **Naturalist intelligence:** Knowing about nature and the environment. Children who are strong in this type of intelligence are typically fascinated by nature, including plants, insects, animals, or weather. They are often able to classify species and show understanding of natural phenomena.
- **Interpersonal intelligence:** Knowing about how to relate to people and understanding the motivations, intentions, and desires of other people. Children who are strong in interpersonal intelligence enjoy interacting with peers and adults. They frequently have well-developed social skills and are able to take leadership roles with peers.
- **Intrapersonal intelligence:** Knowing about the self and appreciating one's own fears, motivations, and feelings. Children who have strong intrapersonal intelligence are easily able to recognize, understand, and express their emotions and desires. They are frequently loners and sometimes have imaginary companions.

All children can have different types of intelligences that can be enhanced through the early childhood classroom. These intelligences often overlap and change as the child grows. A particular child can also be strong in more than one type of intelligence (Gardner 1999).

As an early childhood educator, be aware of individual children's varying learning styles and plan activities accordingly. You can probably think of some children you work with who are not particularly physical on the playground, while other children eagerly engage in loud and active play. Certainly it's appropriate to encourage all children to engage in large-motor activities. But keeping in mind children's varying learning styles, you can offer a variety of activities to children outdoors, just as you do indoors. You can bring some activities you would normally think of as inside activities outside to create a richer and more developmentally appropriate environment for individual children.

How can I support multiple intelligences outdoors?

You may be surprised at how easy it is to develop a responsive outdoor environment that supports diverse learning styles (McGinnis 2002). Here are some traditionally indoor centers you can bring outside:

- **Art:** Fingerpainting, large murals with chalk, markers, or crayons, footprint or handprint painting, or sidewalk chalk will support bodily-kinesthetic, spatial, logical-mathematical, intrapersonal, and interpersonal intelligences. Encourage children to move their bodies in different ways to manipulate the art materials—doing mirror art, painting while lying on the back, and creating sculptures. Consider adding fine-motor activities like origami, building three-dimensional objects, constructing models, and sewing or knitting.
- **Music:** Outside music activities support musical intelligence and offer a perfect setting for loud instruments and music-making like drums, cymbals, tambourines, or even instruments the children make themselves. Encourage children to explore rhythm, pitch, and tone of the instruments. Form a marching band and add a bodily-kinesthetic dimension to the activity. Help reinforce lyric memory by encouraging children to dance and move as they sing a song. Set up a CD or cassette player outside so the children can have some music to listen to while they play.
- **Large construction:** Size constraints inside classrooms can often limit spatial, interpersonal,

logical-mathematical, and bodily-kinesthetic learning. Support learning by setting out large stacking blocks, giant tinker toys, or even big cardboard boxes for children to build with. Children will be able to stack blocks as high as they want and spread out their structures as far as they wish, supporting their play ideas to the fullest. Challenge logical-mathematical thinking with questions about numbers, classification, and sequence. Construction projects often offer children with strong interpersonal skills a leadership role in resolving conflict, fostering cooperation, and suggesting solutions.

- **Dramatic play:** Children often engage in pretend play while they are outside. Why not enhance the play by providing some extra props to support bodily-kinesthetic, interpersonal and intrapersonal, logical-mathematical, spatial, musical, naturalist, and linguistic intelligences? Offer firefighter or construction hats, shopping carts, cooking props, dolls, and dress-up clothes. Consider large dramatic play activities such as a repair shop, construction, or grocery store. Pick dramatic play themes that seem to fit the children's interests.
- **Science:** When you think about it, your playground is really a great big outdoor laboratory, often filled with insects and other items from nature, and a perfect place for building naturalist intelligence. Start a small garden with the children; let them plant and water the seeds. Give children magnifying glasses to examine rocks, sticks, leaves, and insects. Go on a hunt for nature items and make a collage. Provide materials that help children list and classify. Ask open-ended questions as you point out natural phenomena like insects and plants. Base your ideas on what is naturally available on your particular playground.
- **Books:** Even the most active children may need a few minutes to take a break and have some quiet time outside. Use the time to help support linguistic intelligence. Spread out a soft blanket on the ground and offer a collection of new and familiar books. Sit with the children and engage them in word play—jokes, puns, tongue twisters, and rhymes. Ask open-ended questions. Offer new vocabulary and explore synonyms (words that mean the same), antonyms (words that mean the opposite), and rhyming words. Play a book on tape. Tell stories—and encourage conversation.
- **Sensory:** Sensory activities appeal to—and support—all intelligences. Set up a water table, sand table, goop (cornstarch and water), mud, or anything else children can sink their hands into (Jensen and Bullard 2002). Have the children wear smocks or old clothing and let them explore, discover, create and build, discuss, and daydream.

Precautions when bringing indoor materials outside

Avoid sand and dirt damage. Be careful about which materials you bring outside. Be aware that materials can get dirty, scratched, and otherwise damaged when exposed to the elements outdoors. It may be a good idea to keep a duplicate set of materials that can be used outdoors. For example, use cloth dolls that can be washed, board books that can easily be wiped down, and cooking props that are already a bit worn. Do not bring out materials that are valuable or scarce. Ask parents to donate gently used props from home.

Keep track of small pieces. Before taking anything outside, make sure you know how many of everything you have so you can find everything at the end of the day. It's best to talk with children ahead of time about how to take care of materials outside and establish boundaries for where certain activities can be done—puzzles stay on the picnic table, paintbrushes at the easel, and hammers at the woodworking table.

BE CAREFUL ABOUT WHICH MATERIALS
YOU BRING OUTSIDE.

Balance quiet and noisy activities. To provide for the multiple intelligence needs of all children, vary active and quiet activities. Even the most boisterous and active children in the class may need a quiet activity to turn to when they get overstimulated. Most children will enjoy moving between active and quiet activities outdoors.

Avoid overwhelming children with too many materials. As you begin to address multiple intelligences in outdoor play, start simple. Plan one extra activity, and then work up to more, deciding how much will work for your particular group and staffing pattern. For example, set out a few musical instruments. When the children seem to lose interest,

offer an art activity, maybe a chalk mural. The next day, provide new dramatic play props. Rotate activities every few days and plan changes that reflect the children's needs and interests.

Create a storage system for outdoor materials. Storage can be a serious problem for many early education centers. Where do you put all those materials you want to bring outside? The simple thing to do is gather the materials you are willing to use outside and put them in large bins or containers that can be covered. If you have an outside storage shed, the bins can go in there, but you can also keep them inside, labeled "outdoor materials."

Taking a closer look: The dramatic play center

This section will give detailed advice for setting up a dramatic play center that responds to multiple intelligences. Much of the information can be applied to other centers and activities as well.

Age-specific supervision: Keep in mind the children's ages and abilities. For toddlers, offer simple, realistic, and safe materials for explorations that cross all intelligences. Examples include dishes for use in the sand, trucks and shovels, pretend animals, dress-up clothes and hats, and sunglasses. Older preschoolers can benefit from more elaborate props that extend cooperative play. Some ideas include setting up a tent and camping supplies, a fire station, or a grocery store with shopping carts and boxed food. Because older children will play more cooperatively in larger groups than toddlers, be sure the dramatic play center will accommodate several children at once.

Teacher interactions: Set up outdoor centers in a way that allows preschool children to use the materials on their own. This will provide the child with a sense of mastery and competence. Step back from the center as much as possible and observe how the children play with the materials. Avoid directing the play and instead watch how the children's play develops and make notes about how to expand or change the center based on the play. With toddlers, however, you can be more interactive, following the child's lead.

Gender and cultural considerations: The outdoor dramatic play center, as well as any other activities you plan, should be available for children regardless of their ethnicity and gender. Find out about the cultural background of the children in your class so you can plan activities that reflect their cultures. For example, provide a variety of cooking props that the particular families in your class might cook with at home. Also, be sure any dolls or pictures you use represent a variety of ethnicities. For gender considerations, provide a variety of stereotypical boy (vehicles, construction) and girl (dolls, home center) dramatic play props so that all children can find something they are interested in. All materials should be available for all children. For example, the boys should be able to wear the dress-up clothes, including the skirts, if they choose.

Safety concerns: Children's safety is the most important consideration when setting up any learning center. Avoid materials that will create hazards on a playground, such as necklaces and other jewelry, and clothing with drawstrings or large buttons, which have the potential of catching on playground equipment. Talk with children about the safety rules before introducing them to new materials outside.

ALL MATERIALS SHOULD BE AVAILABLE
FOR ALL CHILDREN.

Material setup and storage: Store materials in a large bin either in an outdoor shed or in the classroom close to the playground exit. Make sure you can set up the center up easily and quickly. Prepare activities, such as the "trike repair shop" or "camp site" before the children arrive so they can get full use of the center once they're on the playground.

Cleanup: Encourage children to take care of the materials and clean up when they are finished playing. The dramatic play materials you use outside will get dirty, so it's fine to use slightly worn materials such as old dishes and dress-up clothes. Materials will need to be washed weekly, particularly clothing. Rotate the outdoor dramatic play materials weekly. Add or take away materials based on the children's interests.

Bring it out

Adding variety to the outdoor environment by re-creating indoor centers can be simple. Providing activities that support and develop all intelligences, balancing active and quiet play, and engaging children according to their needs offers countless opportunities to support children with unique interests and learning styles.

Multiple intelligences

The following are characteristics and examples of the intelligences described by Howard Gardner. Note that the characteristics are typical, not absolute.

Intelligence	Characteristics	Example
Interpersonal	Enjoys cooperative games Seems to be a natural leader Joins organizations and clubs Has many close friends Prefers social rather than solitary activities Shows compassion and empathy Understands and identifies stereotypes and biases	Jimmy Carter—the former U.S. president who negotiated a peace agreement between Egypt and Israel
Spatial	Likes to draw and doodle Thinks in three-dimensional terms Investigates and studies maps and charts Recalls the visual details of objects Enjoys film, movies, and visual puzzles Is sensitive to color	Faith Ringgold—a contemporary quilter, painter, and children's book writer
Bodily-kinesthetic	Excels in sports Wiggles; hates being still Likes to take things apart and put them back together Has both fine and large motor skill Is eager to touch; a hands-on learner Is coordinated and agile, and has good body control	Twyla Tharp—a modern dancer, choreographer, and Broadway director
Naturalist	Likes to spend time in nature, observing and contemplating Enjoys pets, the zoo, and nature preserves Collects natural things and shares collections with others Prefers natural settings to cultural attractions Focuses on nature in hobbies and free time	John Muir—an early conservationist who founded the Sierra Club
Musical	Remembers tunes and melodies Makes up songs Moves to music; likes to dance Is sensitive to background and environmental sounds Recognizes off-key music Responds emotionally to music	Paul McCartney—a musician and songwriter
Linguistic	Enjoys word games, puns, jokes, and riddles Uses descriptive language Is a good storyteller Enjoys words, grammar, and syntax Spells well and memorizes easily	Maya Angelou—a poet, storyteller, and cultural historian
Logical-mathematical	Uses pictures and diagrams in place of words Notices and uses numbers, patterns, and shapes Easily moves from concrete to abstract Enjoys math, numbers, computer games Demonstrates curiosity about how things work Plays and enjoys strategy games and logic puzzles	Marie Curie—a pioneer in chemistry and radiology, and the only person to be awarded Nobel Prizes in two different fields—physics and chemistry.
Intrapersonal	Sets goals and pursues interests; is strong-willed Is insightful, intuitive, and reflective Identifies and labels feelings Recognizes and works with own strengths and weaknesses Prefers to work alone Marches to own beat	Maria Montessori—an educator who investigated and responded to the learning needs of children

Bringing multiple intelligences outside can provide children with more choice in their activities while enriching their learning experiences.

A sample activity

This outdoor activity is designed to support children's multiple intelligences. Use this example as you design and modify activities for the children in your care.

Birds in a nest

(ages 4 and older)

Here's what you need:

- collage materials
- chart tablet and marker
- bird's nest or pictures of nests

1. Gather children in a large circle. Introduce the activity by telling the children that they will build a giant bird nest.
2. Look at a nest or pictures. Talk about how the grasses, string, and twigs are laced together to form a solid structure.
3. Invite the children to sit in a large circle. Ask one child to be the builder.
4. Instruct the builder to move the arms and legs of the group so they intertwine.
5. Challenge the children to rock gently to make sure their nest is sturdy and safe for eggs even in a gentle breeze.
6. Review the construction with focus on each of the intelligences.

Bodily-kinesthetic: Invite children to fly into the center of the nest without bumping the edges. Ask children to pretend to be eggs hatching. Encourage all the children to fly away from the nest at the end of the activity.

Interpersonal: Have a conversation about how the bird would feel if it had to share its nest with another bird.

Linguistic: Ask children to dictate words that describe the nest. Transcribe the words on a chart.

Naturalist: Invite children to look for birds and nests on the playground. Provide identification books and other resource materials. Encourage children to make a list of the birds they have identified.

Spatial: Invite children to recreate a bird's nest—in sculpture, a pencil drawing, paint, or collage.

Musical: Repeat the nest building and ask children to make mouth noises to accompany the weaving, egg hatching, and flying activities.

Logical-mathematical: Explore the number patterns represented by two arms and two legs on each child. Investigate the size of the nest with a variety of measuring tools. Develop a graph that represents information about the nest.

Intrapersonal: Have a conversation about how a bird feels before, during, and after a nest is built.

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