Building a Cohesive Multimodal Environment for Diverse Learners

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Ms. Manfredini, who teaches children ages 3 to 5 in an extended school year early childhood special education program, contemplates the curriculum she is expected to use this summer. It includes a six-week unit on camping that begins with the story *A Day at Summer Camp*, by Jen Voight (2014). The children in her class have never been camping, but the curriculum assumes they have relevant background knowledge; words like *campfire* and *trail mix* are used without explanations.

The children come from a number of different cultural backgrounds, and a variety of languages can be heard in the classroom. Many children speak Spanish at home—which Ms. Manfredini is able to use to a limited extent—but a few speak languages unfamiliar to Ms. Manfredini. The children also have a range of abilities. There is a child with autism, one with Down syndrome, one with selective mutism, and a few children with developmental delays.

Ms. Manfredini knows the children have many assets and experiences she can build on to connect to the curriculum. She also knows it will be up to her to build bridges from what they know to what they need to learn in order to meaningfully engage with the content. To give all of the children opportunities

to learn, Ms. Manfredini creates activities in which children can participate through multiple languages and multiple modes of communication, such as speaking, writing, drawing, gesturing, demonstrating, and using visuals like photographs and videos.

Children bring a wealth of cultural experiences and knowledge to the classroom, but sometimes what they know and what they can do is quite different from what is expected in the curriculum. Children's success often depends on teachers finding ways to build new sociocultural knowledge by drawing on the children's prior experiences (Gonzalez 2009). Ms. Manfredini seeks to understand the children's backgrounds and draw on their experiences; she also supports children in using several different communication modes to make and express meaning (Kress 2010).

Considering the learners

As early childhood education becomes more accessible to all families, teachers welcome children with wider ranges of abilities and of cultural and linguistic backgrounds. Some districts use the term *diverse learners* to refer to students with disabilities, emphasizing that teachers can teach to the abilities and needs of all their students. Taking this idea further, some districts have extended the notion of diverse learners to include not only students with disabilities but also students who are gifted and multilingual. Of course, there is overlap among these groups: a child could have a disability, be gifted, and also be a dual language learner.

Multimodal instruction supports all children, but it is crucial for children with disabilities and children who are learning English. Since children use multiple material and bodily resources (drawing, pointing) to express meaning (Flewitt 2006), it can be very

Multimodal Instruction versus the Learning Styles Approach

It's important to note that multimodal instruction—like the instruction Ms. Manfredini provides—is different from instruction based on learning styles. The learning styles approach claims that each child has a particular mode (such as visual, auditory, or kinesthetic) for engaging with content that is especially effective—but research does not support this claim. Children often do have preferred styles or modes of learning, but they do not tend to learn more by using their preferred styles. Multimodal instruction, in contrast, does not try to match a child to a mode. It offers content to all children in many modes, and carefully considers which modes will best convey the content. For example, to learn about a flower, all of the children would see, smell, and touch the flower (and then its parts), in addition to listening to read-alouds about the flower's habitat, watching a video of its life cycle, and other activities to deepen their understanding. (To learn more about this critical distinction, see www.danielwillingham.com/learning-styles-faq.html.)
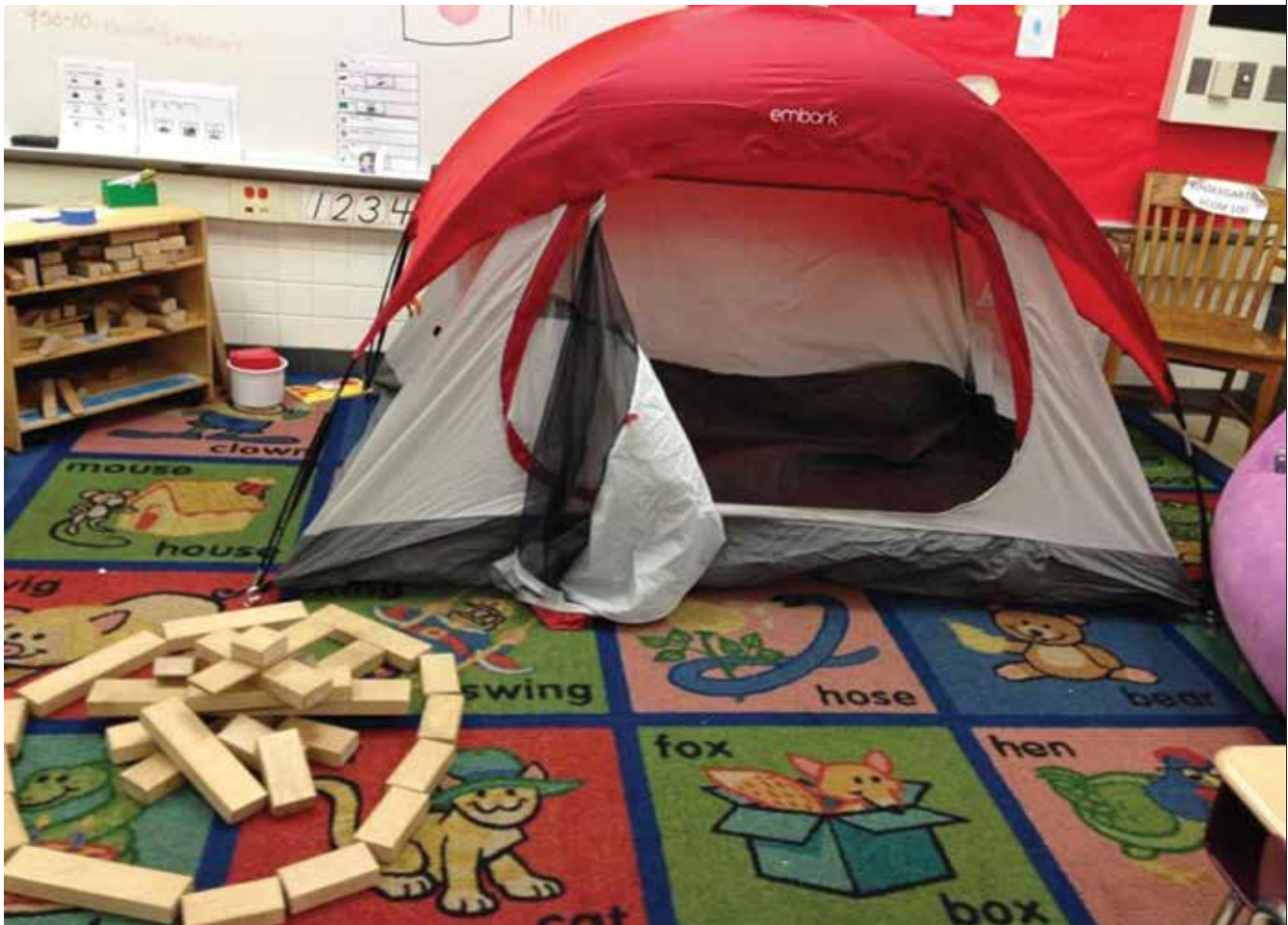
helpful for teachers to attend to the multiple ways in which their students interact with the world. Creating an environment where children are invited to communicate and to learn through multiple modes provides different avenues of access for students—much greater access than instructional practices that are primarily language focused.

Similarly, exploring different materials in the classroom allows children to experience the world in different ways (Curtis et al. 2013). While visuals, songs, music, tactile activities, and whole-body activities are used throughout early childhood education, coordinating these forms of communication to coherently present a topic or an idea can help orient all students to the same learning objectives (Barowy & Smith 2008).

Building a cohesive multimodal environment

Let's take a closer look at the many different ways Ms. Manfredini helps the children in her classroom understand camping. She begins by bringing a tent into the classroom. She then conducts all camping-related reading activities with the children in or around the tent. Ms. Manfredini also includes experiences such as making s'mores, sitting around a pretend campfire, mixing trail mix, and playing a fishing game. Each of these experiences were talked about in the stories she read aloud; rather than simply presenting the experiences orally and pointing to the pictures in the books, Ms. Manfredini uses multiple modes. Through her creative yet coherent mix of modes, she gives the children many opportunities to deepen their understanding and hear and use new vocabulary.

Drawing from Jen Voight's story, Ms. Manfredini creates a large diagram, taped to the classroom floor, that depicts a pathway winding through activities that the characters (Omar and Lexi) from the story experience during a day of summer camp. Ms. Manfredini has cut out and laminated pages and enlarged images from the book to tell the story and represent the various camp activities in the order in which they take place. In this way, the diagram uses multiple modes to make a cohesive learning space for the children.
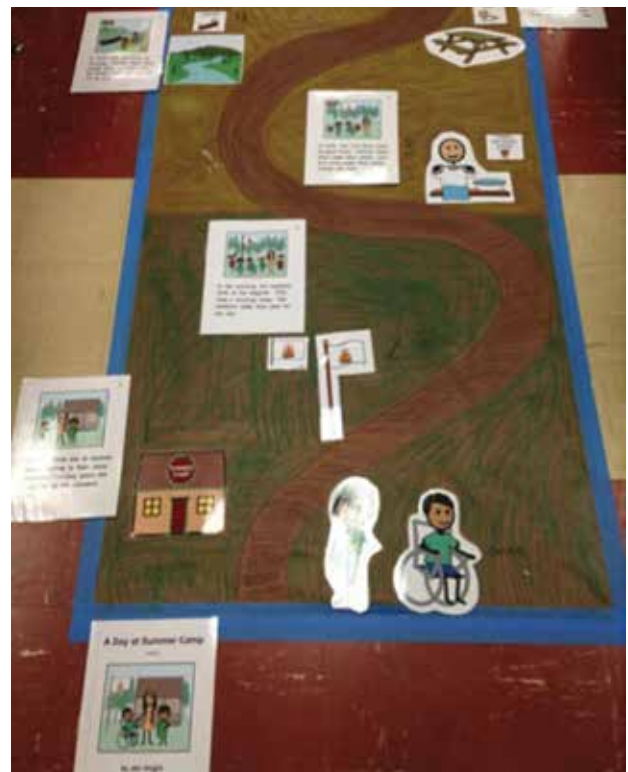
The multiple modes intentionally used in Ms. Manfredini's diagram are colors selected to communicate meaning, images such as flags and picnic tables, the large path, printed text, and spatial and temporal representations.

Looking at the diagram, children have many opportunities to make meaning and build on the read-aloud about camping. First, the laminated pages of the book spread along the path reinforce the sequence of events, helping children recognize the beginning, middle, and end of the story. The images and colors help children make connections to the story by enabling them to point at and touch the objects and build their vocabularies. The path itself provides space for children to have a whole-body experience as they walk through the pages of the story. This multimodal approach allows Ms. Manfredini to prompt children to retell the story by asking questions like, "What's next?" and "What did Lexi and Omar do after they canoed?"

Different modes provide scaffolds for learners to access topics—particularly meaningful for children who are nonverbal and for children who are just beginning to learn the language of instruction (especially when home language support is not available in the classroom). For example, when Ms. Manfredini asks students to recall events from the story, she generally gives a short narrative prompt with questions in both

Practices to Learn about Children's Needs	
Getting to know your students	**Ms. Manfredini's application in her classroom**
■ Attend to current developmental levels, prior knowledge and experiences, and interests ■ Read through observations as documented in students' IEPs and other available records ■ Create family surveys or questionnaires with questions geared to learning more about the specific experiences of each student ■ Note current abilities in language and literacy, which can be achieved through careful observations in the first weeks of school ■ Get to know the languages of students (even a handful of sentences helps form much stronger bonds with children) ■ Seek out information about students' cultural practices	■ Surveys are sent to each family to learn about them, along with cultural and linguistic resources ■ Basic activities, such as morning greetings, yes or no questions, and songs, are used to understand how children participate and engage in the classroom ■ Providing space for back-and-forth talk between teacher and child helps inform the teacher about the knowledge and skills children bring to the classroom and which children need added support through other modes ■ Attending to which modes different children find most supportive and which modes are best suited to the content they need to learn

Spanish and English, a picture, and an accompanying gesture. Combined, these linguistic and nonlinguistic cues allow for a broader range of interactions to involve students. In one activity, Ms. Serena, the speech and language pathologist, asks children whether they remember what happened in the camping story.

Ms. Serena holds up a picture of a river running through mountains and asks, "This one is kind of tricky. Does anyone remember what Lexi did here?" When the children respond "Yes," she asks, "What did she do?" The children give a one-word response, "Boat." Ms. Serena repeats the response but provides the more accurate term *canoe* and then encourages the children to pretend to paddle a canoe—another way to enhance comprehension. "She goes in a boat, in a canoe. Show me how to canoe. Paddle your boat." The children eagerly act out paddling canoes. The use of pictures, linguistic narration, and gestures gives several students opportunities to interact that would not be possible through language alone.

In another example, Ms. Serena asks the children what they need for camp. The exchange takes place in both Spanish and English: "¿Y qué más en sus pies?" (And what else on your feet?), "What do you wear on your feet?" Students do not respond until Ms. Serena points to a student's shoe. David grabs it and says, "Shees." (See "Practices to Learn about Children's Needs" for suggestions on how to get to know children and their needs.)

In Ms. Manfredini's classroom, only two students respond in direct dialogue. David, for example, responds to some questions and follows some directions, but he does not engage in multiple turns of communication or make eye contact. Ms. Manfredini knows this from observing David's interactions in and out of the classroom. She provides many opportunities for David to respond by pointing to visuals so that he still engages in learning.

Facilitating multilingual and multimodal interactions

While some states require home language support, in special education classrooms with dual language learners, using language—any language—can be quite complex. As much as possible, Ms. Manfredini communicates with the children in English, such as "Sit right here, right by me," and in Spanish, "Aquí Marta, aquí Marta, aquí conmigo" ("Here, Marta, here, Marta, here with me").

During breakfast, both Ms. Manfredini and a paraprofessional attempt to facilitate conversations with children, using both languages. However, children's responses are usually one or two words used referentially, such as pointing and naming *leche* (milk). Ms. Manfredini and the paraprofessional, Ms. Isabel, persist because they know that languages children speak at home can often be a way to connect

Do I integrate modes that could be understood by	In my classroom, do I incorporate
☐ Children who are blind or have low vision?	☐ Sounds and music?
☐ Children who are deaf or hard of hearing?	☐ Simple images?
☐ Children who are learning multiple languages?	☐ Complex images or photographs?
☐ Children who are from other cultures?	☐ Gestures?
☐ Children who have not yet had an opportunity to learn concepts and vocabulary related to the topics in the curriculum?	☐ Signed languages?
	☐ Multiple oral languages?
☐ Children who have specific documentation in an individualized educational plan?	☐ Print?
	☐ Hands-on and tactile activities?
☐ Children who have emotional or social concerns?	☐ Easily distinguishable colors?
	☐ Environmental print?
	☐ Videos?

☐ **Do these modes work together to build cohesion?**

to the home and to facilitate children's involvement in the classroom. Integrating children's languages and dialects into the classroom can be a valuable way to encourage language awareness and to develop love and appreciation for language (Pandey 2012). Ms. Manfredini attempts to involve parents in the process by asking about their home languages. One child, for example, comes from an Arabic-speaking home. Though he only speaks English at school, his parents and grandparents talk to Ms. Manfredini about his receptive capabilities in each language.

Rather than simply explain content in one or more languages, Ms. Manfredini uses language to create cohesion—or meaningful connections—between multiple modes of communication. Spanish and English are used to help scaffold for children as they make meaning from pictures in a story. Ms. Serena holds up a picture of a watermelon from the camping story: "Let's see what else Lexi is going to eat [at camp]. This is my favorite!" Ms. Serena looks at Marta, getting ready to help her identify the watermelon. Marta is 3 years old. Her family speaks Spanish, but Marta does not yet speak in Spanish or English. However, Marta understands a great deal of Spanish. "¿Qué es, Marta?" (What is it, Marta?), Ms. Serena asks. After a brief pause, Ms. Serena answers, "Es una fruta, es sandía" (It's a fruit, it's watermelon.). In this example, we see Ms. Serena's intentional decision to use Spanish so Marta can connect with the story in English and

identify the picture of the watermelon, giving Marta multiple opportunities to learn.

Teaching in multiple modes facilitates communication, but it requires extensive planning and intentionality. For teachers, understanding the relationships between modes and how different content can best be conveyed through different modes can be critical to scaffolding meaning-making for children. As teachers examine the modes they use, they may find the "Checklist of Different Student Needs" helpful.

The teacher's role in coordinating multimodal resources

When planning for instruction, teachers might consider where each student stands in terms of listening, speaking, reading, and writing. Teachers should also expect instruction to take multiple forms of communication presented in a coordinated method in order for all children to access the curriculum. Tying the curriculum to children's interests and experiences—or creating those experiences, as Ms. Manfredini does with camping—eases the process of meaning making.

To end up with coherent multimodal learning experiences, teachers need to begin collecting and creating learning materials during curricular planning. The learning materials will later be embedded throughout the classroom environment and activities.

Using Video Revisiting to Encourage Students to Reflect

In addition to providing multiple modes for students to use to make meaning, building in time for review and reflection by children is an important aspect of learning and development. Reflection allows children to extend and value their thinking. Reflection has also been associated with developing language and learning to read (Harle & Trudeau 2006).

One tool Ms. Manfredini has found helpful is instant video revisiting (Forman 1999). The basic process includes videotaping interactions between children or between children and teachers and then asking the children to watch the video and talk about what is happening. This strategy is sometimes used to better understand what children are experiencing and feeling (Theobald 2012), but it has also been used to assist children in reflecting on their own actions to resolve conflicts and for instructional purposes (Hong & Broderick 2003). Instant video revisiting can be a form of documentation that enables children to further explore new ideas (Hong & Broderick 2003).

Ms. Manfredini and Mr. Joe, a researcher from a local university, use this strategy to give children the opportunity to review and recall what they are learning. David, for example, who does not engage in direct discussion, responds very well to visuals. Ms. Manfredini wants to create more ways to engage David in learning letters; she thinks reviewing a video of a letter activity would be a more effective mode for David than a discussion.

After using a tablet to record an activity in which students practiced drawing letters in shaving cream, Ms. Manfredini gives David the tablet to watch the video of himself. While he watches himself draw letters and shapes in the shaving cream, he traces his finger on the tablet, following what he is doing in the video. Not only does David have the opportunity to use tactile and visual senses to draw in the shaving cream, he also has the opportunity to visually revisit this experience. This shows that designing the classroom for the use of multiple modes of communication is not merely a way to work around verbal communication challenges; it can provide a variety of opportunities for language and literacy development.

Nico, a child with selective mutism, also makes progress by using videos (see Rumenapp, Whittingham, & Hoffman 2015). After reading a section of the camping story that featured the flag with a picture of a campfire on it, Ms. Manfredini asks the children to draw a flag. Mr. Joe videotapes as Nico draws a dinosaur on his flag. While Nico watches himself in the video, he states what will happen next. During the part of the video in which Nico draws his flag, Mr. Joe points to the tablet and asks, "Nico, what are you making in this picture?" As is typical, Nico responds with one word, "Flagpole." He does not verbalize connections to the camping story. After prompting about whether he recalls the text, Nico remains silent. When Mr. Joe brings over the book, however, Nico promptly points to the flagpole, which is represented on the video and in the book. "What's on the flagpole?" Mr. Joe asks, and Nico correctly refers to the campfire flag depicted in the book. With visual, tactile, and audio information, Nico is able to make meaning and demonstrate his understanding. "Steps for Conducting a Video Reflection Activity" offers some suggestions for organizing a reflection activity.

Steps for Conducting a Video Reflection Activity

- **Foster children's engagement in meaningful social activities:** Consider a read-aloud, dramatic play, a puzzle, or some other activity of interest.

- **Record the activity on a tablet:** Let children decide what they would like recorded, including recording each other.

- **Encourage children to review the video individually or in small groups:** Consider giving children a choice in which clips they want to watch.

- **Ask children meaningful reflection questions:** Consider asking yes-or-no questions as well as open-ended questions to encourage all children to respond. Additionally, consider asking them to point or make gestures.

- **Prompt further discussion by asking questions about thinking and knowing:** Consider asking children questions such as, "What were you thinking when you did that?," "How did you know?," "Do you remember doing that this morning?," and "What does that picture mean?," as well as other open-ended questions.

These materials can include laminated visuals with and without text labels, physical objects directly related to curricular concepts and vocabulary, and technologically related assistance such as apps, video clips, and educational games. Cohesion can be established by bringing individual children's knowledge together with curriculum and materials through structured group activities, individual activities, and learning centers.

Ms. Manfredini, over the course of a year, has learned that she can always determine individual needs by asking, "How does this child respond?" Any simple activity has the potential to offer important information about a child, as long as teachers know what to look for and why. Once teachers know how children receive and express information, they can design lessons and activities that combine the most effective modes for each child with the modes that are necessary to convey the ideas in the curriculum. Multiple languages can also be used to make meaningful connections between modes and to provide as many opportunities as possible to scaffold meaning-making and to create a more inclusive approach to education.

While it is tempting to rely heavily on verbal communication, teachers will find that all children's understanding, learning, and expression are enhanced when they are supported with multiple modes, including watching, listening, speaking, writing, drawing, touching, and gesturing.

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