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Are Your Students Really

Taking students beyond interaction to full participation can help them get the

Students 8 and younger have access to screens everywhere—on smartphones, tablets, handheld games, and laptops, to name just a few places. But how do you know if students are using these tools effectively? Are your students participating in digital environments in ways that encourage critical thinking, active engagement, and contribution, or are they simply passive consumers? Are they using tools that support their development, or are they trying to use tools that weren't designed for them?

These questions highlight why it is important to make a distinction between interaction and participation. Apps, software, handheld games, websites, and even TV shows have the potential to be interactive. If a tool elicits a simple response or input, it is interactive. Many online games prompt children to select a correct answer by clicking on a choice or typing a correct letter to finish a word. These question/response games encourage interaction, but participation goes a step further.

Meaningful and equitable participation with digital tools happens when students are part of a conversation. It means that they not only receive information from a screen, but also create and contribute their own interpretations. Instead of just being able to answer a simple question, a student is able to create something—for example, a picture or a text—that elicits unique responses from the tool or an audience that the tool supports through comments, interactive avatars, or the like. The student then

could respond again, and the tool or audience would respond accordingly. The student could respond to other pictures or texts and receive feedback on his or her own. This kind of back-and-forth participation is what can happen with well-designed tools.

Selecting and evaluating tools that encourage participation can be difficult. Researchers Colin Lankshear and Michele Knobel conducted a literature review of early childhood literacy and new technologies. They created a framework to categorize the few studies conducted on educational technology intended for students 8 and younger. Though designed as a model to categorize existing research, their framework provides a great way to think about digital tools for young students.

We will describe the framework by using examples of digital tools that encourage literacy participation among young children.

The vertical axis of the framework on page 29 describes a continuum between *encoding/decoding*, as in naming letter sounds or sounding out words, to *discursive prowess*, such as being able to read and write for meaning and communication. While the continuum describes literacy, you could apply it to math, for example, as the continuum from basic facts to problem solving. Digital tools that act like flashcards would lie at the encoding/decoding end because they may elicit interaction but not participation. Digital tools that require a student to synthesize information and create a more in-context response, such as websites that encourage creativity and

discussion, are closer to the discursive prowess end of the continuum because these tools elicit participation.

The horizontal axis describes the nature of the digital tool as *standalone* or *networked*. A digital tool stands alone if it is not networked or connected to other users. Alternatively, a networked tool allows for interaction, contribution, and/or feedback.

The resulting four quadrants can describe digital tools in ways that help educators think about which ones they use with young students. The first quadrant (Q1) describes tools that encourage encoding/decoding skills, and they stand alone. The opposite corner, Q4, represents tools that can be networked and encourage discursive prowess. Tools in this quadrant encourage full participation. Students not only are able to contribute their own interpretations but are also immersed in a digital conversation. They can critique and be critiqued. Quadrants 2 and 3 include tools that are networked and build encoding/decoding skills, such as PBS Kids Raising Readers, and tools that are standalone while eliciting discursive prowess, such as recordable books that students create by using their own voices.

Starfall.com is a popular site that educators use for early readers. Because games and information on the site ask only for simple responses without the opportunity to contribute or receive feedback, Starfall.com would be a Q1 digital tool.

Participating?

## most out of their digital tools.

Bookbuilder.cast.org, in contrast, invites young students to create their own books and share with other book builders. This site is primarily for 8-year-olds, but with guidance from adults or older classmates, younger students could participate as well. Because this tool encourages participation and users are able to give and receive feedback, it would fit in Q4.

Doodlecast for Kids is another digital tool that demonstrates a participatory stance. This iTunes app is for students 3 and up and supports drawing, video, audio, and text. Students can share their creations with family and friends and elicit comments. As with Bookbuilder.cast.org, this tool supports participation and would fit in Q4.

It is not surprising that Lankshear and Knobel found the least amount of research on the Q4 tools that had networking capability and encouraged full participation via discursive prowess. Even though classrooms have physical access to technology, whether and how these technologies encourage participation varies widely.

Digital tools that encourage participation through critical thinking, active engagement, and contribution are the tools that teachers often reserve for students with ample resources and support. Students confined to merely interacting with digital tools may be excluded from the conversation and conditioned to consume technology passively.

Here are five things teachers should think about before implementing digital tools:

Encode/Decode

Stand Alone ← Q1 Q2 → **Networked**
Q3 Q4

Discursive Prowess
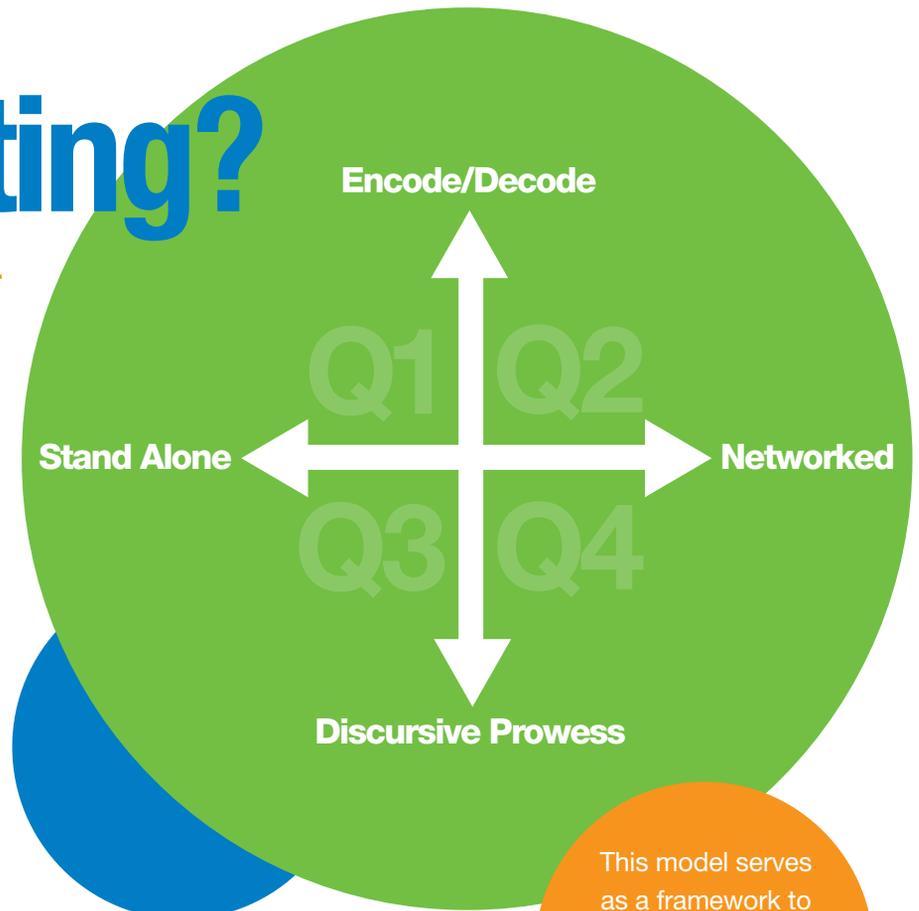
This model serves as a framework to categorize and evaluate digital tools that teachers provide to young students in class.

1. Acknowledge that inequities exist and consider who has or does not have the opportunity to participate in a digital environment.

2. Access to digital tools does not simply mean participation in a digital environment. Just because a website or application is educational does not mean that young students are using digital tools in ways that promote critical thinking and active participation.

3. Consider how digital tools can give students voice and make them feel included. Access to technology alone will not create inclusive learning environments. It's essential that we select tools that create more inclusive teaching practices.

4. What digital tools are best for young students? How can you select and encourage use of tools that invite participation? How can you inform parents and promote awareness of the digital conversation?

5. How can you encourage your students to critically analyze the affordances and limitations of digital tools? In addition to content-based features, consider examining external issues, such as commercial advertising. While there are ideal times to use tools

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categorized in all four quadrants, students as young as 4 can think about tools that encourage more time and thought creating something of their own. They can also look at classmates' creations and talk about what they like or what they could add. If advertisements or sponsor information is embedded within the digital tools, explicit conversations about "trying to make you buy things" can foster media awareness.

Students are truly participating with digital tools when they can synthesize information, contribute texts as part of a wider digital conversation, and receive feedback. While most tech tools are interactive, not all offer students the opportunity to do

these things fully. To ensure that your students can participate fully, critically examine the tools that you provide in your classroom.

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