

Put the Kids' Needs First: A Modest Proposal for Determining Where Digital Media Should Fit in Early Childhood

Lisa Guernsey

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Thank you. I'm glad to be here. It is prime time to take conversations about media and children to a new level. *Issues related to media and young children must be elevated and better incorporated in our conversations* about what is best for young children. We know that the environment matters to a child's development, and that environment increasingly includes digital technology, especially screen media. This conversation is, in fact, long overdue.

But we should not start by asking about what technology can do to help young kids.

Nor should we start by asking what technology to harm them.

We have to start by asking: What do children need? That's why I've titled this talk: Put the Kids' Needs First.

As you may know, I'm a science, technology and education reporter by training. When my kids were babies and toddlers, I set out on a quest to examine all the research I could find on how children learn and how screen media does or doesn't help them learn. The result was a book – *Into the Minds of Babes: How Screen Time Affects Children From Birth To Age 5* -- that takes a developmental perspective, that was very much colored by what I learned from developmental science with a little bit of neuroscience thrown in.

Let me very quickly sum up what I gleaned from that three-year deep dive into the research: All questions about media use by kids should be filtered through three lenses, which I call the "Three C's": 1) Content 2) Context and 3) The Child – the needs of the individual child.

Parents – all adults, honestly -- need to pay attention to more than the quantity of media consumed by young kids. They need to learn how to examine and analyze the content of what is seen on screen.

Parents, teachers and caregivers need to take into account *context* – how the media fits into a child's day and what it displaces; how it is introduced, described, used by adults in their lives; and how or whether it changes, augments or detracts from a child's conversations or play when the screen is off or the technology is not around.

And third, Child. We all need to remember that each child is an individual, with different likes, dislikes, health needs, areas of interest, temperaments, triggers for stimulation and anxiety. Decisions about a child's media use have to take into account these things.

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Okay. Now let's get to the framework of today's talk – putting needs first. The same question could be asked of adults.

Here's my iPad. Why do I have one? Not just because it's trendy. Because it is filling a need. I need to be able to read multiple newspapers on the metro without having to remember to stuff them in my bag. I need a light-weight alternative to bringing pounds of books and magazines with me when I travel.

Same with my iPhone. I'm a hopeless case when it comes to spatial intelligence and getting around new places. I need maps at my fingertips.

Let's go to the kids now.

What do young children need to learn and succeed today and as they grow up? Here are six major needs that I offer you. These are synthesized from what I've gleaned of the latest child development and education research. This list is focused on children from birth through age 9. You may have a different list, but see this as a start. Young children need:

- Attachment and a feeling of security
- Conversational partners
- Early exposure to new words and ideas
- Physical movement and hands-on exploration
- Practice at 'self-regulating'
- Deeper learning

Attachment and Security

Everyone in this room, I presume, has some notion in their head of what attachment theory is – the theory that babies and young children need to have an adult in their lives with whom they feel a tight social bond, who will be there when they need them. I recognize that among scientists there are still debates over the role of temperament, genetics, peer versus parental influence, etc. But I don't think it's a stretch to say that research, especially the now classic orphanage studies, have pointed us to the importance of warm, loving and reliable human relationships.

What does digital media have to do with this? Here's the question to ask: Is it helping parents or caregivers to form that strong attached bond, is it neutral, or is it getting in the way? In 1999, when the American Academy of Pediatrics came out with its statement saying that children from birth to age 2 shouldn't be exposed to screens, they were envisioning screens as getting in the way, as becoming replacements for "the direct interactions with parents and other significant care givers" that are critical to children's healthy development. Twelve years later, and

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seen through the lenses of the Three C's, is digital screen media forever to be seen as an unhealthy substitute or replacement for direct interaction, or could it be a partner in some cases, fostering or stimulating parents to interact more directly with their young children?

Conversational partners

I spend a lot of time examining research on how children learn language and, further down the road, learn how to read. Many of you have probably heard a lot by now about the remarkable and troubling research by Hart & Risley that showed the stark differences between the vocabulary and "talk" that children experience in middle income families versus low-income families. That's foundational, crucial information.

But scientists are also discovering that these language deficits are not simply a result of some children being showered with vocabulary words and others not. It's how children and adults engage in back-and-forth conversation that matters. A study at UCLA, for example, showed that "the effect of the conversation is six times as great as the words" in helping young children learn language." That study and others have shown that children in homes with a TV on in the background had lower language skills, and lower interactions between children and parents.

The next question is, what about *non-passive* digital technologies? What kind of impact do they have on conversational turns? Are children and adults talking while playing games? Is it making a difference that children can Skype with grandma? Could it make an even bigger difference for dual-language learners if they could have the opportunity to have online videochats with their grandparents in, say, El Salvador? There's very little research on this so far.

Early exposure to words and ideas

Let me go back to that Hart & Risley research again, and let's talk about kids in disadvantaged circumstances. Who is modeling language for them? How are they learning 'academic' language – not words like "why aren't you eating your dinner? drink your milk" but sentences that might only arise if someone was reading them a book or telling them a story, sentences that give children a hint of storylines and complicated sentence structures and introduce words that won't come up in routine conversation?

New research out of Vanderbilt University is showing that if parents show their children videobooks by treating them just like books – pausing at moments to ask their children questions about what just happened or what might happen next – those children do better than other children on tests of language development.

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What we're learning about "working memory – the research of Dan Willingham at University of Virginia and other cognitive scientists -- is important to bear in mind as well. Willingham shows that children need a foundation of, an exposure to, words and ideas *before* they can easily process them as readers and thinkers. This is a key piece of reading comprehension. Early exposure to content really matters.

If parents and teachers were careful and thoughtful about using digital media with young kids, could they help to expose them to new words and ideas that they wouldn't get otherwise? I'm thinking especially of disadvantaged children who might never be introduced to concepts of science or social studies or literature at home.

Practice at 'self-regulating'

I've been reading Ramona Quimby with my 1st grader. In kindergarten Ramona has a classmate with beautiful curls – boingy hair that Ramona just wanted to touch and pull. It is soooo difficult for Ramona to resist, and most of the time she doesn't. Researchers for years have told us that children need to learn over time to self-regulate – to keep their emotions in check, who can hold themselves back from pulling on a coiled curl to see what will happen. And as adults who are increasingly sucked into our email or our Blackberries, oblivious to the world around us, it's clear that self-discipline – being able to stop and put it away -- will be an incredibly important skill to learn.

Newer research that goes deeper into brain architecture has provided us with words like "executive function." This research moves along a similar vein: That children who can develop high executive functioning skills will be able to focus in class, complete tasks, avoid tussles with their neighbors during circle time, etc. Studies are showing that 1) the way moms interact with their babies is linked to EF in toddlerhood, and 2) maternal warmth may be linked to children's "executive functioning" at age 5.

So what helps to build EF? Research based on Tools of the Mind, the approach to learning created by Deb Leong and Elena Bodrova, is showing that make-believe play is a likely facilitator. With children who have grown up in settings where there is little space or range or encouragement for such play, adults will need to provide a little guidance and help to open up their minds to what they could pretend.

Digital media can play both a dampening and a stimulating role here. Dampening if the presence of a TV show or videogame is replacing any chance to get involved in playing pretend. Stimulating if, by seeing something acted out on video and then that video is turned off, children have a chance to imitate, test out, experiment with the roles that they have seen.

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Physical movement and exploration

This is a key under-estimated area when it comes to what children need to learn. I'm not talking about obesity concerns here – they deserve their own panel. I'm talking about how physical exercise is tied to learning. Many in this room know well the research on recess and the ties between academic success and children having time to run around in an unstructured way. I see elementary school children on playgrounds with Nintendo DSes, perched at the top of slides with a crowd of peer watching as they look at something on screen. How is the DS affecting their run-around time and then how is that affecting their learning later that day? Who is helping to coach them on when it's time to put down their devices and let the wind run through their hair?

Granted, we do see kids moving with the Wii and the Kinect. Will they learn more or retain more or be more engaged because of the movement? Still so much to study.

Deeper learning

As educators, you know that special moment with a young child when they are not just engaged or energized by a new topic, but they are obsessed and fixated and brilliantly exploring every nook and cranny of that topic. Maybe it's dinosaurs, or crystals, or the way ice freezes, or the colors of the rainbow. They are full of questions – they want to know more and more. And you, the adult, don't have all the answers. You are not a walking encyclopedia. Nor should you be. There is huge value in children searching for and finding answers on their own.

What does digital media allow in these circumstances? Children can literally just touch a screen or swipe a screen to open up a new window to explore. For kids without much access to new ideas at home, how might this offer them a new self-directed path toward deeper learning? Better yet, imagine if an adult is with them as they do so, an adult who is fostering their curiosity and validating their questions, and helping to guide them to aha moments of discovery.

This is an area very under-addressed in the research, especially the research on younger children. But this deeper learning – getting beyond worksheets and multiple choice and yes or no answers – is what children will need to not only succeed in school but to see themselves as lifelong learners who know how to use the tools at their disposal. How might digital media give preschoolers or kindergarteners a pathway to deeper learning?

So there you have it. Six things that children need. Lots of unanswered questions. Does digital media help or hurt?

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When we think of each of these needs, should we be welcoming of technology or wary of it?

Based on what we know today – and remember, there is so much we *don't* know -- here's how I would think about technology in the context of each of these 6 needs.

What Young Children Need	Could Digital Media Help or Hurt?
Attachment	If left alone, hurt; If used to stimulate s help
Conversational partners	If replacing conversation, hurt; If used conversation, help
Exposure to new words and ideas	If dull content, hurt; if new words they
Physical movement and exploration	If replacing, hurt; if stimulating explor action, help
Practice at self-regulating	If it replaces pretend play, warmth from playground sharing; hurt; If used to pra help
Deeper learning	If puts kids into dead-end, hamster-wh leading to new questions about how m well as what it means, helps

I wouldn't be surprised if you don't agree. Am I too welcoming in some spots? Too wary in others? I hope this will trigger discussion and debate. We need to be talking about this. My contention is that we should to be considering each of these 6 needs against the Three C's of content, context and the individual child.

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Where are the spots of promise for a blueprint of learning through technology? Here – in these two areas (point to slide with arrows).

I propose that digital media be harnessed to make a difference to young children in those two promising areas: exposure to new words and ideas and deeper learning.

As long as we can be mindful of the other needs and ensure children get the resources, time and attention that those other areas require, shouldn't we be imagining a world in which digital media for young children opens up new ideas and new resources for them?

Thank you.