

4 Pillars on Which to Build EdTech

Posted on [November 6, 2017](#)

Creating dynamic, digital, and interactive learning experiences tailored to learner needs.

GUEST COLUMN | by Tracey Roden



Children are born into a world swimming in technology; most have a space in the digital world before they are even born.

Parents share information and images of ultrasounds on social media and through email to relatives and friends anticipating their little one's arrival.

After birth, their lives are documented through more social media shares, blogs,

online scrapbooks, and videos that all document their life through technology.

Kids are growing up in a world where most of the information and entertainment they receive is via a technology source.

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A Responsibility and a Challenge

Our growing digital world makes traditional ways of teaching outdated. With the art of teaching changing, teachers must use their content knowledge and instructional experiences to develop learners with the skills necessary to be successful in the rapidly changing 21st century.

Teachers and students alike must embrace the numerous pathways to learning regardless of age or grade, and as the digital age continues to gather speed, technology is the perfect avenue to create meaningful experiences to accomplish educational goals.

Creating effective teaching and learning environments in an ever changing digital world becomes a critical responsibility and challenge for today's leaders in educational technology.

Not only must they develop technologies that embrace a structure that creates flexible learning to meet the needs of each learner, they must also recognize the unique role of the teacher to further the learning experience and motivate students in a way that technology alone cannot.

Creating High-Quality Experiences

The phrase "Science of Learning" became a commonly used term in the field of education with the publication of *How People Learn*, a report from the National Research Council. The Science of Learning is less about what children should learn, and more about the best ways in which children learn the strategies necessary to be successful in the 21st century. Awareness created from the Science of Learning recognizes the capacity of technology to impact learning in today's classroom.

Kathy Hirsch-Pasek's research report, *Putting Education in "Educational" Apps: Lessons from the Science of Learning*, highlights challenges and emphasizes ways for developers of "educational" apps to create high-quality educational experiences for learners.

As the research from the Science of Learning suggests, children learn best when they are cognitively active and engaged, when learning experiences are meaningful and socially interactive, and when learning is guided by a specific goal.

Educational technology that applies these principles is more likely to result in meaningful learning. Hirsch-Pasek calls these principles "pillars" that represent core of the learning sciences.

The four pillars are:

1. **Active Learning.** Active learning means that the learner plays an active “minds-on” role in knowledge building activity.
2. **Engagement in the Learning Process.** Engagement means the ability to stay on task without distraction. Engagement is reinforced by extrinsic and intrinsic motivation, meaningful feedback, and with few unimportant interruptions that do not enhance the overall learning experience.
3. **Meaningful Learning.** Learning is meaningful allows the learner to connect new material to existing knowledge and experiences while having a purpose to apply what they have learned.
4. **Social Interaction.** Social interaction allows the learner to interact with others, in high-quality ways, around the learning experience to apply knowledge and gain meaning.

By applying these pillars of the learning sciences, developers of educational technology can create dynamic, digital, and interactive learning experiences that are tailored to the needs of each learner.

A Generation of Thinkers and Leaders

Today’s educational systems are not built on this knowledge, therefore most of educational technology used in these systems is designed with a “teach to the test approach,” without much thought on how children actually learn.

By moving towards teaching approaches and structures that create flexible learning environments, educators are empowering students to further their learning experience, and in turn facilitating the next generation of thinkers and leaders in not only the United States, but the rest of the world as well.

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