5 trends poised to rock education

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Changing technology trends will have an near-immediate impact on teaching and learning

[1] Five technologies are reaching maximum impact and are about to transform education, changing just about everything, according to educational futurist Jason Ohler [2].

Speaking during the International Society for Technology in Education’s virtual conference on Feb. 13, Ohler noted that five trends—big data, augmented reality, the semantic web, extreme bring-your-own-device (BYOD), and transmedia storytelling—will change teaching and learning in the very near future.

(Next page: The major trends)

Trend #1: Big data

“Now that we no longer have the anemic kind of media that we used to have to store data—and this is a relatively new development—we can store all the data we want,” Ohler said. “And if we can store all the information we want, we’re going to store all the information we can.”

In fact, the extent to which we have created ways to gather, store, and analyze information is “mindboggling,” Ohler said.

Consider a petabyte of data, which is $10^{15}$ bytes of data. Google processed about 24 petabytes of data a day in 2009. Information and data are stored in massive amounts, with a seemingly endless number of possible uses and implications, including how big data storage and use intersects with child protection laws and privacy concerns.

Collecting data and creating predictions can go a long way. “Our output is their input,” Ohler said. “Their output becomes our choices.”

In terms of education, big data can have a massive impact on educational trends, rendering information on millions of students, from names and grades to learning habits and test scores. Big data, Ohler said, assumes that the data will never stop, and the more data, the better.

This data, then, feeds into a predictive analytics marker and comes out with a prediction. “Without some kind of analytics, we have utter and total chaos. The ends to which we might use predictive analytics have not been mined,” Ohler said.

Trend #2: Immersion

Most people think of this as augmented reality, Ohler said, but augmented reality is really only one expression of immersion. Most in the business world call it immersive reality.

Quoting Sherry Turkle [3], Ohler said: “It is always on, and always on you.”

Even the simple act of keeping a smartphone with us at all times is akin to immersion, he said. “If we walk around with cells always on, and always on us, we’re living in two places at once. We live in augmented reality—that’s the intersection between virtual reality, the place we go whenever we’re alone and on our cells, and real life. Augmented reality overlaps by virtue of what you do and where you are.”

It also is the very deliberate linking and making meaning out of two pieces of data, which has grand potential in education.

“The fact that I’m standing somewhere, and the cloud knows where I am, guarantees that the information I get will be somehow relevant and related—it’s the opposite of spam,” Ohler said.

How does this change education? Immediate, targeted, and responsive data, and cross-curricular connections, are just two ways.

“Once you get it, you begin to see all the possibilities,” Ohler said. For instance a science class could use tablets in a specific ecosystem and have immediate access to relevant research to prompt student discussion. Art students can hold mobile devices over pieces of artwork to link an art lesson with a history lesson.

Trend #3: The semantic web

In a nutshell, this trend is changing the way web data and results are presented and used, from a collection of pages to a “web” of data by building relationships between data.

Web 3.0 makes assumptions during a search, and returns data to users even if users didn’t think to ask about that related data, just by virtue of Web 3.0’s underlying structure.

Web 4.0, then, is “the internet of things, and this is absolutely huge,” Ohler said. Here’s how it works: Your tire is low on air, so it communicates with your car. Your car goes on the web, locates an open service station, checks that station’s inventory to make sure your tire is in stock, and then provides you with a map so that you can drive to the service station.

“Everything talks to everything,” Ohler said.

Educational research, from the way teachers locate and create content and resources, to student research and how students locate and evaluate information, and even the information students have access to, could change.

Trend #4: Extreme BYOD

Students want personalized learning, and extreme BYOD is an extension of that.

“The reality is that everyone wants their own individualized workspace,” Ohler said. BYOD is expanding to include more than tablets, laptops, and smartphones—wearable technology is on the horizon.
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<th>Trend #5: Transmedia storytelling</th>
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<td>Transmedia storytelling is “absolutely huge everywhere except education, for some reason,” Ohler said, and while he ran out of time to explain it in detail, it involves a story experience that crosses multiple forms of media, and each delivers a unique or specific contribution to the overall story experience.</td>
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<td>It has the potential to transform student engagement, especially because today’s students thrive on using multiple technology tools and platforms simultaneously. In fact, students’ brains today are wired differently, and students have come to expect and anticipate this immediate satisfaction and stimulation.</td>
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