

Is it time to redesign your curriculum for the 21st century learner?

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A new framework advocates for carefully curating what students learn. Is it time to rethink your curriculum?

It's not a stretch to say that today's educational paradigm is preoccupied with the "how" of learning. Educators are grappling -- either by choice or decree -- with how to incorporate digital devices, new learning standards, and more collaboration and critical thinking into the already-packed school day. With so much to do, who has time to take a fine-toothed comb through the curriculum or debate whether students still need to know the date of the Battle of Hastings?

But maybe it's exactly the right time, according to Charles Fadel, the founder of the Center for Curriculum Redesign and a visiting practitioner at Harvard's Graduate School for Education. Fadel has previously written about 21st century skills and recently turned his attention to the "what" of learning as co-author of a new book, "Four-Dimensional Education," which is less of a teach this, not that manual and more of a framework for exploring the modern competencies students will need in a world where job titles and career choices are changing faster than schools can keep up. Recently, Fadel spoke with us about his framework, the appeal of inter-disciplinary subjects, and whether it's time to retire the old Capitals of the World quiz once and for all.

What is a 21st century curriculum? What needs to change?

Four years ago, in 2009, I wrote a book called "21st Century Skills" -- the moniker is now used around the world, but initially people were unclear that it meant the 4C's of Creativity, Critical Thinking, Communication and Collaboration. Now, people have accepted that. We needed to rethink the "what" of learning. It's always been about the "how" in one way, shape, or form. Due to Common Core and its debates, it's now possible to revisit that conversation. The question we've been asking is: What should students learn for the 21st century?

Reflect from your own life: it's not just your own knowledge, but how you use that knowledge -- your skills. It is not just your skills and knowledge, but also how you engage in the world-- your character. And lastly, it is also about how you reflect and adapt in a changing world: your growth mindset and metacognition. That's what the book was about: learning is about all four of these dimensions, not only traditional disciplines.

What are these four dimensions you discuss in the book?

We synthesized more than 32 frameworks from around the world. First there is knowledge -- which still matters of course! It is not a false dichotomy of knowledge or the other competencies. It is knowledge and competencies. Competencies do not "float" out there with no knowledge base. But that knowledge needs to be carefully curated for relevance -- traditional areas carefully revisited to make more room for more modern areas. The skills framework had become accepted: the 4Cs. The character side was a lot more complicated. Even to use the word character; everyone wants to call it something else. Sometimes the word is hijacked to mean morality. We really looked at what people were calling "attitudes" or "behaviours." Character was a word that was recognized around the world -- even though sometimes it has a charge to it. So we synthesized it down to six essential qualities: mindfulness, curiosity, courage, resilience, ethics, and leadership. Lastly, there's meta-learning: growth mindset and metacognition.

Why do we get so hung up on the "how" track?

I think people don't realize that you can't just pepper the standards with the right buzzwords. For deep learning to occur, there must be time and space available. But we have tried and tried to make it happen within the existing constraints without the willingness to challenge the box we are in. There's so much already on the docket from a content knowledge perspective that it really crowds out everything else. It's hard to teach more deeply if you have to cover a lot of material. To add new knowledge and competencies is hard politically. You have to make careful changes that will always upset somebody somewhere sometime. It's also hard for experts of a given discipline to do, because of confirmation bias. And if you're a discipline expert, it's hard to accept giving up time and space to another discipline.

Should we still be teaching areas like trigonometry? What new additions should be considered?

I'm not saying don't teach Trigonometry at all, but let's be careful how much, so that we can make room for other things. Long division: is it necessary? It's about making these hard choices in a balanced way. It's not this extreme view of "all or nothing." Everyone needs a certain amount of algebra or trig, but the question is how much? Time can be made available by carefully curating the what.

Robotics is a modern area of knowledge ... this is an area that's already popular in after school study. Why is that? Because the core is already busy. But we know so well that a lot of these modern areas are inter-disciplinary areas. How do we learn math in the context of robotics? It would make some aspects of traditional disciplines more relevant. Student motivation is related to perceived relevance. They're asking to see the relevance in front of them or else they're disconnected.

People make assumptions on intelligence based on how much you know off the top of your head. If you have to go and look up the capital of Canada in a job interview, it can make a bad impression. Where do you draw the line on what isn't worth knowing?

This is where people go overboard -- the misperception that if you can search everything, so you don't need to know anything. It's not one or the other. We're not saying you don't need to recall certain facts instantaneously. But the question is: Which ones and how should you learn them? If you do a project on the mining industry in Canada, for example, you will learn the capital of Canada naturally, rather than studying a list of capitals.

Everyone thinks of these changes as a chainsaw but we're talking about using a scalpel and being extremely careful about how we choose the knowledge to teach, which is very important. Think of it like line items in household expenses: a Starbucks coffee every day, toys for your kids, dinners out. Every one of them you can justify, but in aggregate too much and it breaks down. Relevance is a sophisticated topic. It's about both short term and long term, and not taking a narrow view.

How can the "what" of curriculum be rethought?

We should be thinking in terms of redesigning standards from the ground up: Start from scratch and revisit every line item, with the thinking that the goal is to teach more math, more history, more branches and subjects -- and deeper so that's there's much deeper understanding and ability to employ that understanding -- and doing so in less time. It is quite a challenge but it is doable if done right and openly.

Lastly, the message is not STEM or humanities/arts, it is STEM and Humanities/Arts. The world needs modern renaissance humans.

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