14 posts

Read 14 of the top posts from our first year at Educating Modern Learners.

from 2014

EML

ModernLearners.com

14 Posts from 2014

Since our quiet launch seven months ago, Educating Modern Learners (ModernLearners.com) has published over 130 posts from over 20 different authors from around the world about a wide variety of topics most on the minds of modern school leaders and decision makers. The response, over 5,000 subscribers to date, has been amazing.

As the 2014 draws to a close, we thought we'd celebrate by packaging up 14 of our most widely read and debated pieces in one volume. Many of these are from paid section of our site, so we hope you enjoy a bit of a peek behind the curtain.

All of us at EML thank you for reading and for your continued support in our efforts to change the context for the discussions being had around the education of our kids. These are complex, challenging, inspiring times, and we're glad you're a part of the conversation.

Sincere best wishes for a 2015 that is filled with great new questions and experiences for all of us to explore.

Best,

Jess, Audrey, Bruce and Will

To join our growing community, visit ModernLearners.com.

Table of Contents

What a Girl Wants

By Sylvia Martinez

What do we mean by "self-directed learning"? Who gets to undertake it? All kids? How do we make sure that when we promote "self-directed learning" that we're opening up possibilities for all students and not foreclosing possibilities for some. In this article, Sylvia Martinez looks at the ways in which gender plays a role in education, and specifically at how we can help support girls' learning opportunities.

> "What do you want to learn and how do you want to share it with the class?" This is how I began second grade for many years. The ideas would start off ordinary. "I want to learn about tigers, and I will write a book about them." Then, there would continue to be requests to make a variety of animal books. Eventually there would be a child who seemed to want to challenge me – did I really mean ANYTHING? "I want to be a book critic and make my own television show," or "I want to be a scientist, mix things up, and see what happens," or "I want to make a video game." There would be a collective gasp. Surely that's not what I meant. But, I'd casually write down the requests, give a nod, and continue on with more requests until the animal book authors would begin asking to change their ideas to less traditional projects. It happened every year. And knowing that students, both in second and in fifth grade, are surprised by what they can do means that each year my goal is always to make what seems to them to be the extraordinary the norm for my classroom."

In my recent book, *Invent To Learn: Making, Tinkering and Engineering the Classroom*, there are many stories of how teachers can create opportunities that support self-directed learning in their classrooms using modern technology like this one, from Maryann Molishus, a teacher in Pennsylvania who has taught both second and fifth grade.

This may seem like a simple brainstorming process, but in fact, this is a carefully planned scaffolding technique for encouraging self-directed learning. The teacher's role is to help students move past what they know school usually asks of them and take a chance on something that they really want to do. Her seemingly "casual" acceptance of any idea contains a powerful idea. It makes it less risky for students, all kinds of students, to come up with ideas that are more personal. It is a way to start children on a path towards owning their own learning and challenging themselves to do the extraordinary.

The decision to make self-directed learning a priority in a learning organization means asking a lot of hard questions. What does it mean? Is this something that will be infused into all classes and subjects? Is it just for some kids? If so, which kids? If the students are learning by themselves, what do teachers do? What is it about the organization that currently supports self-directed learning and how can we build on those strengths? On the other hand, what existing practices and processes discourage or even prevent self-directed learning?

As you ask and answer these questions, one issue that should shape your approach to self-directed learning is gender. Gender identity studies often show that girls have different problem-solving approaches than boys. This does not mean that all girls or all boys solve problems in a single style, but that there is a wide range of approaches.

For example, teachers need to understand their crucial role in self-directed learning is that of a helpful, but not judgmental mentor and guide. Girls tend to be "people pleasers" more than boys, and their relationships with teachers are very important to them. This may mean that they will avoid a path not suggested or anticipated by the teacher. Teachers need to remember that their suggestions carry a great amount of weight and offer neutral, yet encouraging support for students to think outside the box. This conflicts with the traditional role of teacher as the ultimate judge of student work, and should bring assessment techniques into question.

Girls tend to use more collaborative techniques such as building consensus and adapting rules than boys do. Boys more often approach a problem as a personal challenge, and work on it to the point of obsession. In tackling self-directed learning, all these characteristics are helpful, yet in excess, will sabotage the learner. Building consensus through collaboration is a good skill to master, but not being able to make a decision or get anything done is a bad habit. Tackling a problem with enthusiasm is a good thing, but allowing unbounded competition or grinding an unproductive idea to death is a bad outcome. Teachers are the key to making sure that these tendencies are expressed and channeled in ways that support learning for all.

Girls tend to be more tolerant of a wide variety of situations – meaning that they "get along" better in traditional school settings. So you may assume that girls don't need self-directed learning because they have mastered coping in the traditional classroom. While there may be more boys who do not thrive in traditional classrooms, this is not an indication that girls don't need options as well.

Girls will not fight for scarce resources. Make sure that the opportunities for self-directed learning are open to everyone, not just a select few. Tools and technology should be plentiful and easy to access. If there are not enough computers or materials, or if the access to them is made difficult, you may see gender-specific reactions to your program.

Girls tend to handle obstacles and challenges through negotiation rather than strictly following rules. There must be accommodation and understanding that plans will change, and time and processes in place that allow this. Technology platforms that are overly structured may not only be an annoyance, but may cause girls more than boys to want to go back to more "human" (meaning negotiable) classroom settings and practices.

There are some gender related tendencies that suggest that girls will handle some of the requirements of self-directed learning better than boys.

Some people assume that self-directed learning means solitary learning. This is far from the truth. Mardziah Hayati Abdullah of the US Department of Education writes that self-directed learning is both collaborative and social, where the learner collaborates with both teachers and peers. Students must learn how to navigate new ways of getting and sharing information with others, both in real life and

online. Creating opportunities for self-directed learning means more collaboration and communication, not less, an area in which girls excel.

Girls are generally more organized and better able to self-monitor, another requirement for self-directed learning. Girls may be better with project planning tools, collaboration networks, and other technology tools that support these areas.

However, you may find the opposite is true for technology used in the actual design and development of student projects. Some boys may master software apps, programming, robotics, and other technology with ease, where girls hold back. Conventional wisdom and culture say that boys are just "better at technology" than girls, which reinforces this. However, this is a difference of style, not skill or potential. Many boys are content with mastering technology for its own sake, where girls want a reason to do so, such as designing a product that helps others or solves a problem. Offering both these kinds of opportunities to learn about using technology is crucial for a gender-balanced approach to self-directed learning.

One way to support both genders in learning using technology is to have students as peer mentors and leaders. Training students to mentor their peers to use technology has multiple benefits. Placing students in positions of leadership and authority models student-led, student-centered learning where the teacher is not the guru who has all the answers. This is not just for show – creating student expertise in useful technology tools frees the teachers and other staff to do their jobs, not be tech support.

Understanding gender differences can inform your choices about self-directed learning initiatives in your organization and help you and your teachers create a balanced approach that supports all students.

Next steps...

- How do we make sure that self-directed learning opportunities benefit all students? How do we balance students' need for support with their need for freedom?
- Who gets to pursue self-directed learning? Do we select certain students for these opportunities based on stereotypes about what counts as "good behavior," for example?

Sylvia Martinez

Sylvia Martinez is co-author of Invent to Learn: Making, Tinkering, and Engineering the Classroom, helping teachers bring the exciting tools and technology of the Maker Movement to classrooms worldwide. For the past ten years, Sylvia has been President of Generation YES evangelizing student leadership through modern technology. Prior to this, Sylvia oversaw product development for consumer software, video games, and educational games at several software publishing companies. Martinez started her career designing high frequency receiver systems and navigation software for GPS satellites. She holds a Master's in Educational Technology from Pepperdine, and a bachelor's degree in electrical engineering from UCLA.

Are Apps Becoming the New Worksheet?

By Lee Skallerup Bessette

Despite all the promises that new technologies will unlock a new era of teaching and learning, these tools are often used to replicate older practices in education. Here EML regular contributor Lee Skallerup Bessette asks if apps are becoming the new worksheet, with the same sorts of frustrating and repetitive exercises now on a computer instead of a piece of paper.

My seven-year-old daughter loves school. She will line up her stuffed animals in rows and "teach" them for hours on end. When she got a special new doll for her birthday named Isabelle, my daughter took it upon herself to catch her new addition up on all that she had missed by not being in our possession until this past birthday. One particular evening when she should have been sleeping, I was brought into my daughter's room by the sounds of her uncontrollable sobs. "Mom," she blurted out between the tears, "I can't teach Isabelle anymore because I don't have enough worksheets for her. How can I teach her anything without worksheets?"

My daughter may one day grow up to be a teacher. And it breaks my educator heart to think that all she understands of teaching and learning effectiveness is "the worksheet." This past year, she had a first-year teacher who told the class she had made sure she had lots and lots and lots of worksheets for

the students so that they'd never get bored or lack for things to do. Without clear instructions on a sheet of paper, complete with blanks and prompts and set answers, both my daughter and her teacher were at a loss of how teaching and learning could happen.

Enter Technology

This same daughter has always had a special affinity for learning apps, first on my iPhone and then on the family iPad. She has been playing match games and counting games and letter/phonic games since before she was 18-months old. But as she played, I found increasingly that the apps closely resembled the worksheets she did at school, just with better sounds and graphics. Clear instructions, complete with blanks and prompts and set answers. She is a clever girl, always in search of praise either from a game or a teacher, so she quickly figured out how the apps worked and proceeded to whiz through them with ease. I know she's learning things, both with the apps and with the worksheets, but at what cost?

Her brother, who is two years younger than his sister and only about to start school in the fall, has never, ever shown any interest in learning apps. He prefers open-ended games that allow him to play and experiment. It started with Angry Birds where he would spend hours experimenting with various birds and trajectories before figuring out the best way to defeat all the evil piggies. He loves worlds where he can build, power-up, collect, and explore. These same games intimidate and frustrate my daughter because there isn't one right answer or a clear set of steps to follow. My son bristles against any activity that limits his choices to one right way to do things.

Gendered expectations aside, it's troubling to me that much of education technology today seeks to recreate the same activities that we have had for generations: the worksheet, the lecture, the multiple-choice test. And I see myself what is lost as my daughter fears getting the wrong answer and struggles to direct her own learning in any sort of meaningful way while my son remains unafraid. My daughter, unsurprisingly, does quite well at school. It is yet to be seen what my son's experience will be like, but he is already worried about what it will be like based on his sister's descriptions. Technology or not, recreating a system that has already proven ineffective is a disservice to kids.

Not Just Apps

I'm old enough to remember a time when we used to, at least once during our schooling, have the chance to make our own paper and pencils, physically print our own newspapers, and even develop our own photographs. It didn't happen often — especially making your own paper — but we were able to participate in the process of making the materials that we used and consumed in our educations on a daily basis. We had the opportunity for a greater understanding through our hands-on experience.

As making appears to become easier with tools, apps, websites, and programs, are we losing an opportunity to give students a hands-on experience and deeper insight into the process that goes into making and creating the materials that they use and consume in their educations? For instance, I also learned HTML as an undergraduate in a desktop publishing class because the professor felt that the programs were getting easy enough to use. Even when simple web publishing software became available, I was often the only one in an office who could go through the code and correct any errors. This past year, the institution where I worked stopped teaching HTML and CSS because there wasn't any point anymore; the software had gotten so good that it was no longer deemed necessary.

We have students “make” PowerPoint presentation, websites, videos, gifs, and other digital baubles, but are we really teaching them to make, or are we just teaching them to drag and drop or to effectively follow a set of rigid instructions in order to achieve a static goal?

Certainly, when I was in school, I didn’t make paper for every written assignment, or developed every picture by hand, but my classmates and I were exposed to the process and understood that if we wanted to, we could make our own materials according to our own specifications. How many students understand how their computers or smartphones work, how the web operates, or how coding languages and markup languages function and shape their learning (and social) activities?

What to do?

We need to be free to experiment and manipulate the electronic and digital materials of our education in the same way we used to experiment and play with the more traditional ones. There are affordable ways for students to experience and experiment with electronics such as Raspberry Pi and Arduino. There are programs, like Scratch, that introduce students to the basics of programming. (Hopscotch is a great app for the same thing). As students get more advanced, they can use resources like GitHub so that they can take work that has already been done and manipulate and change it for their own purposes. We can encourage students to use Markdown language to create simple text documents so they can more accurately and closely control what their work looks like and why it looks the way it does, as well as more easily transfer it across platforms. And we can teach them the basics of HTML and CSS in order for them to manipulate their own webpages.

If you don’t know yourself how to do any of this, learn alongside your students. Show them how to be lifelong learners by modeling that practice for them. Engage in the larger communities of practice that exist outside the classroom walls, and help make your classroom into a microcosm of those communities. Be process-driven, rather than strictly results-driven, so that students can feel comfortable experimenting.

Just like I never made paper again, many of your students may never make a website or an app from scratch again. But at least they’ll have a much greater understanding of the process, rather than blindly consuming and using them. They’ll be open to more than just one right answer, one right way to do things, one straight line to knowledge.

Old Practices, New Technology

How do we break from this: our (that is, teachers and students and parents and principals alike) treating new ed-tech like a shinier, electronic versions of lectures and worksheets? Is this a matter of traditional school practices? Educational philosophy? Is it a matter of homework? Testing?

How do we cultivate a culture of school that fosters innovation and inquiry, not simply repetition and drudgery? We have the technology to do the former, but often it seems not the will or the imagination.

Image credits: Christiano Betta, Kim Love

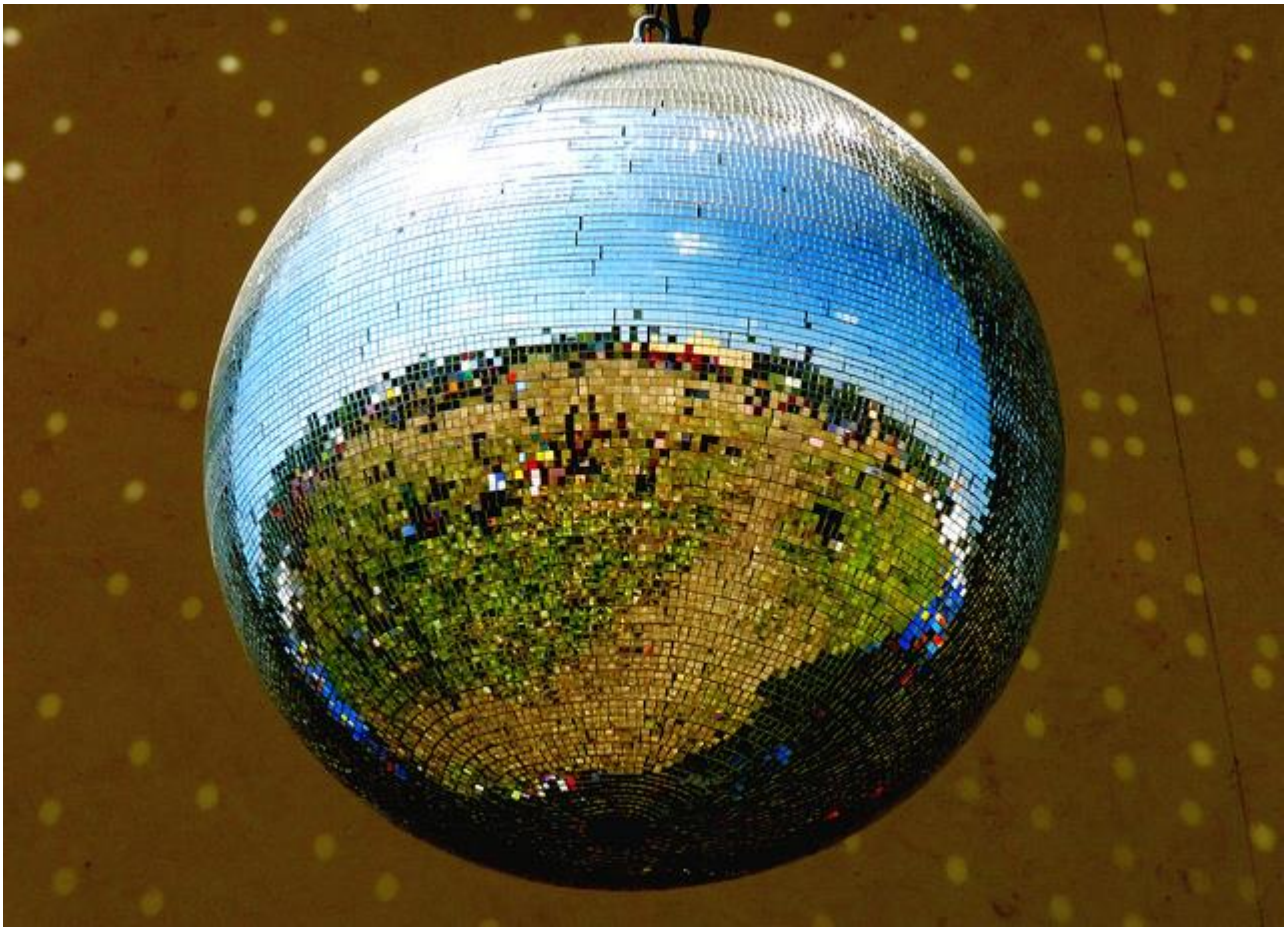
Lee Skallerup Bessette

Lee Skallerup Bessette works at the Center for the Enhancement of Learning and Teaching at the University of Kentucky. She has been an educator in higher education for over ten years, working primarily at public institutions that serve non-traditional, minority, and first-generation students. She is @readywriting on Twitter.

The Problem with “Personalization”

By Audrey Watters

What do we mean by “personalization” in education and in ed-tech? The term has become a popular buzzword to talk about the potential for technologies to reshape how we teach and learn and to challenge a traditional model of “one size fits all” education. But what exactly does that challenge entail? EML editor Audrey Watters looks at the marketing claims of companies offering “personalized learning,” along with the implications of moving education towards that end.



“You keep using that word,” says Inigo Montoya. “I do not think it means what you think it means.”

I always think of this line from the 1987 classic movie The Princess Bride when I hear talk of “personalized learning.” On one hand, “personalized learning” sounds pretty good: a nod towards more student-centered learning perhaps, a move that honors the person learning not just the learning

institution. But on the other hand, I do not think it means what you think it means. Often, what I see the term applied to gives me pause – "personalized learning" appears to be more focused on the scripting than on the student. Personalized learning isn't personal learning.

What do we mean by "personalization" in education and in ed-tech?

That's the $1 million question, heck, the multimillion dollar question. We're seeing hundreds of millions of dollars funneled into education/technology companies that promise tools to "personalize" and "customize" education for individual students, "adapting" to their individual skills and needs.

"Personalization" can be used to describe a variety of educational programs – different instructional approaches and different software and services. For many the term has become a rallying cry to challenge the "one size fits all" model of the traditional education system. Fair enough.

But "personalization" doesn't (necessarily) seem to challenge the goals or the curriculum of traditional education. Instead, it promises to move students towards those goals more effectively, more efficiently.

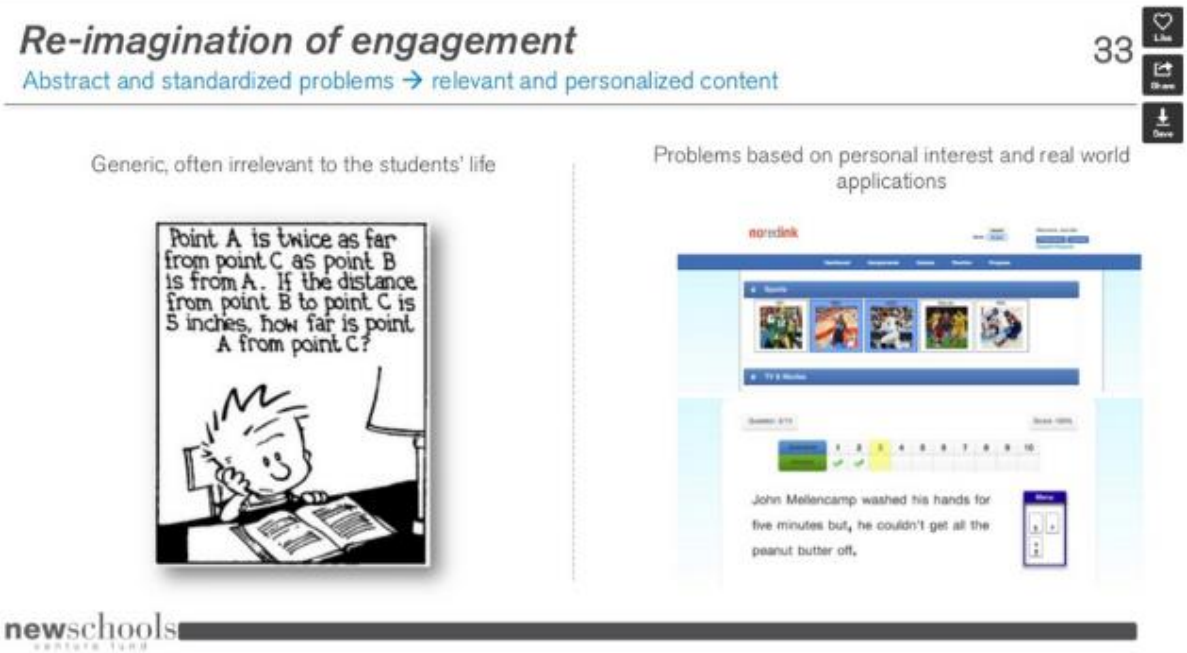
The promise of "personalization" is closely tied to the promise of adaptive learning technology. Thanks to the data that students generate through their computer-mediated work, we'll be able to better track each individual student's progress. Moreover, with their data in aggregate, we'll be able to design algorithms and from there software to deliver content aimed at each individual student's appropriate skill level.

Thanks to data and to technology, we'll finally be able to understand what each individual student knows, what each individual student lacks, what each individual students wants, and so on. Something – if you believe the marketing – we've never been able to do before.

And, ah, the marketing.

How "Personalization" Gets Sold to Schools

This is one of my favorite slides from a venture capitalist highlighting the transformations that technologies will break to the public school system:



It comes from NewSchool Venture Fund's "The Future of K–12 Education" slideshow, and it features their investment portfolio company No Red Ink which promises personalized digital grammar worksheets.

Here the investment firm praises products that seek to "reimagine engagement through personalized content" with "problems based on personal interest and real-world applications." But look at the example. How many kids in middle school today struggling with punctuation would feel so much closer to a "deep learning" of commas because of a reference to John Mellencamp, who had his breakout hit "Hurt So Good" in 1982, long before any kid in K–12 school today was born? How is this personalized?

Here's another promise — one that's less about "the past" and more about "the future":

"If you learn concept No. 513 best in the morning between 8:20 and 9:35 with 80 percent text and 20 percent rich media and no more than 32 minutes at a time, well, then the odds are you're going to learn every one of 12 highly correlated concepts best that same way."

That's a quote from Knewton CEO Jose Ferreira. Knewton, initially a test prep company, now is one of the leading promoters and producers of "adaptive learning" technology — the idea that data collection and data analysis at scale will lead to "personalization."

Knewton has partnered with most of the major textbook publishers — Pearson (which is also an investor in the company), Cengage, Macmillan, Wiley, and so on — to deliver textbook content and assessments through its platform.

Knewton creates an inventory of all the concepts and skills in a particular textbook or course, then by analyzing a student's clicks and running these through its proprietary algorithms, Knewton then recommends what the student should click on next — "learn" is the verb the company uses — to maximize her or his speed and success in moving through the course material.

"Depending on your learning style, it might be best to introduce linear equations through a visual, geometric approach, where you plot the lines and show the intersection." That's a quote from Knewton's VP of research.

Knewton has raised over $105 million in venture capital. There's no shortage of cash there to hire some of the leading minds in cognitive science research. So it's a bit disconcerting to see the company's VP of research point to "your learning style" here. While "learning styles" are a popular concept, there's no scientific evidence supporting the idea.

Nevertheless, Knewton's CEO recently wrote a blog post doubling down on this idea. "To me," Ferreira insisted, "it's pretty obvious that different learning styles exist."

What's New About "Personalization": Big Data

The phrase "To me it's pretty obvious" does actually not reflect how science works, despite the fact that what Knewton and others promise is that "personalization" via adaptive technologies is based on science. What "personalization" is based upon is data to be sure. Knewton says it collects more than a million data points for each student over the course of a semester. These data points are used to build and refine its algorithms, and in turn this data is used to identify how well students fit into certain models, certain profiles.

The content remains standardized. The goals remain standardized. (These are goals of the educator or administrator typically — not the goals of the student.) The metrics remain standardized. "Personalization" is a simply a matter of how the technology optimizes a student's path through the standardization.

Personal Learning versus Personalized Learning

That's never what educators, specifically progressive educators, have meant when we have demanded that education be more personal, more student-centered. Personalization, framed in this regard, means empowering students to pursue their own interests, to follow their curiosity, to build their knowledge and carve their learning paths — to do so not through computer algorithms but through human agency.

Personalization, when it comes to something like "universal design for learning" for example — a concept that comes out of universities' education departments and not out of corporate marketing departments, recognizes the need for flexibility when it comes to how we approach each student. UDL means expanding and accommodating students — recognizing differences, honoring differences. It doesn't mean matching students to different profiles and funneling them through pre-ordained and standardized processes. It means seeing students as different people and supporting them as such.

What are the repercussions of radically "personalizing" education through computers? What do we gain? What do we lose?

There's a very powerful strain of American individualism — and California exceptionalism — that permeates technology: an emphasis on personal responsibility, self-management, autonomy. All that sounds great when and if you frame new technologies in terms of self-directed learning.

But how do we reconcile that individualism with the social and political and community development that schools are also supposed to support? How do we address these strains of individualism and increasingly libertarianism as they permeate the classroom?

What do we do about the communal goals of education, for example — to produce good citizens, if nothing else — if we become maniacally focused on personal goals of education instead? What happens to meaningful moments to collaborate? What happens to discussion? What happens to debate? What happens to the idea that we must work through ideas together — not just in the classroom, but as part of our work and civic responsibilities?

And who gets the "personalized" education delivered through them via adaptive technology? And who gets the "personalization" that we hope a student-centered, progressive education would offer?

This image from a PBS documentary about Rocketship Education haunts me.

The chain of charter schools boasts personalization — "Rocketship uses the most adaptive and personalized programs available, and continues to push Silicon Valley vendors and others to create even more adaptive learning tools," its website boasts.

So the problem with personalization via adaptive software isn't simply that "it doesn't work." It's that it might work — work to obliterate meaningful and powerful opportunities for civics, for connection, for community. Work to obliterate agency for students. And work not so much to accelerate learning, but to accelerate educational inequalities.

Image credits: Sarah, NSVF, PBS

Audrey Watters

An ed-tech rabble-rouser, Audrey Watters is the editor and lead writer for Educating Modern Learners.

Important New Contexts for Leading and Learning

By Will Richardson

EML co-founder Will Richardson asks if we can imagine a world where, for example, gravity no longer exists. That is, can we imagine a world where everything is changed so utterly that all our expectations, our practices cease to function? And what if that's the world we're already inhabiting in education — not one without gravity, of course, but one that has shifted radically due in part to information technologies? How does this change our expectations, our practices for school?

Imagine "having to figure out how to operate in an environment where gravity no longer exists." It is, I think, almost impossible to conceive. Everything, and I mean everything, would be different.

Yet that's the leadership challenge articulated in "Leading in Context," (.pdf) a 2013 study of global CEOs published by Duke Corporate Education, a subsidiary of Duke University. In a nutshell, business leaders around the world are "disoriented" from the pace and scale of change today. Those surveyed

described a modern view of the world "where it is increasingly challenging to foresee problems, where the problems they do identify are more multi-dimensional in nature and the solutions required to address them are more complex, and where the power required to address these problems must increasingly come through influence as opposed to formal authority."

The authors of the Duke study suggest a "supernova" has occurred, an event that has "untethered many of the assumptions and beliefs that leaders have depended on to frame their leadership context." In the business world, that was the combination of the explosion of connections online over the last seven to eight years or so and the "Great Recession" which began in 2009. Those shifts have forced business leaders around the world to challenge old assumptions and principals that worked for a good part of the last century:

We now live in a globally interdependent world where we play simultaneously in an environment that is interconnected in ways that were unheard of before and unpredictable to a degree that we haven't experienced. In essence, our gravitational tethers have been severed, change has accelerated like never before, unpredictability is a fact of life, and complexity is the new norm. This interdependent world is different and holds varied challenges we haven't dealt with regularly before – our current leaders must adapt and future leaders must be developed in order to succeed in this new context.

That describes the business world, but it applies to education as well. Yet, I wonder if education leaders are feeling true, gravity-less disorientation about learning and schooling? Or are they clinging to a narrative about the world that is easier to function within even as it grows more tenuous by the day?

In my travels to hundreds of schools, my sense is there's not enough "disorientation" happening. Sure, here in the US, there's the new Common Core State Standards and the accompanying assessments. Both are causing a mix of angst and excitement. In Australia, it's the NAPLAN, and similar curricular changes are happening in other countries. In all parts of the world, new technologies, tablets, smartphones, and "learning systems" are challenging and changing the way we deliver an education. And on the reform level, the news is filled with charters and vouchers and tenure challenges and parent trigger laws… There's no shortage of changes and "innovations" to unsettle us.

But none of these developments "sever gravity," so to speak. They serve to disorient us only at a micro level because primarily they are layered on top of a deeply nostalgic vision of what an "education" should be. We have yet to understand the larger, more macro changes that should really make our heads spin.

Simply put, the reason ed leaders are not disoriented enough is that our larger contexts for decision making haven't changed and, to a great extent, are not changing in any significant way.

That should deeply concern us. If we hold to an outdated worldview for educating our children, one that because of technological and cultural changes is quickly fading into obsolescence, can we adequately prepare our students for the challenges they'll face? The simple answer is no, we can't. We need a modern context through which to make decisions about curriculum, pedagogy, assessments, technology, infrastructure, scheduling, budgets, and everything else that goes into the work of schooling.

Now, as the authors of the study suggest, we need to understand that:

- The shelf-life of information is unstable – Our "knowledge" of the world changes rapidly and, in some case, radically on a daily basis.
- The interconnection of information resources is non-linear – The hyperlinked Web environment we live in renders much traditional thinking about research and reading almost useless.
- Access to information is uncontrollable – The gatekeepers are by and large disappearing.
- Creation of information is uncontrollable and global – Technologies and apps make writing (in all its diverse forms) and publishing to global audiences powerful and easy.
- The source of true differentiation between people now lies in figuring things out as opposed to finding things out – As author Tony Wagner says, "It no longer matters what you know. What matters is what you can do with what you know."

Very few of these new realities are currently a part of our context for education and schooling. We still have a library mentality when it comes to knowledge, that it has a spot in a traditional taxonomy, that we can read it and learn it page by page, chapter by chapter, that we have to go to some place to find it, and that "knowing" is more important than doing something with it. (Look at our assessment

regimes regarding that last part.) Our contexts for our decision making do not acknowledge that with a connection to the Internet, we can now learn anytime we want, anywhere that we are, with whomever we can connect to from around the world at that moment. We now curate and write our own texts. We form our own classrooms. We direct our own curriculums. We assess our own learning. And we no longer simply consume; we create and share with the world.

That context should be disorienting because it challenges the fundamental premise of schools. It calls into question the relevance of our collective school experiences and stories. To fully acknowledge the profound new realities surrounding learning and schooling would be to let go of gravity and conceive of a different way to operate.

The Duke report begs some very big questions of us in terms of the way we think about the education world, including:

- How does a system of schooling built on predictability prepare students for challenges that are less predictable?
- How do classrooms move from a focus on explicit knowledge that is now accessible anywhere to tacit, experiential knowledge that people share with one another?
- How do students gain a truly global perspective on the world, one that allows them to find and solve problems with others far outside their local spaces?
- How do we help students flourish in online networks and communities? How do we help them gain influence in those spaces?
- How do we help students (and teachers) question long held assumptions about the world?

Unless we are willing to grapple with these and other important questions we will not be developing the kinds of learners and leaders that the future (and the present) demands.

Would love to hear your thoughts on how we take steps the reframe our contexts.

Image credits: Mike Lewinsky

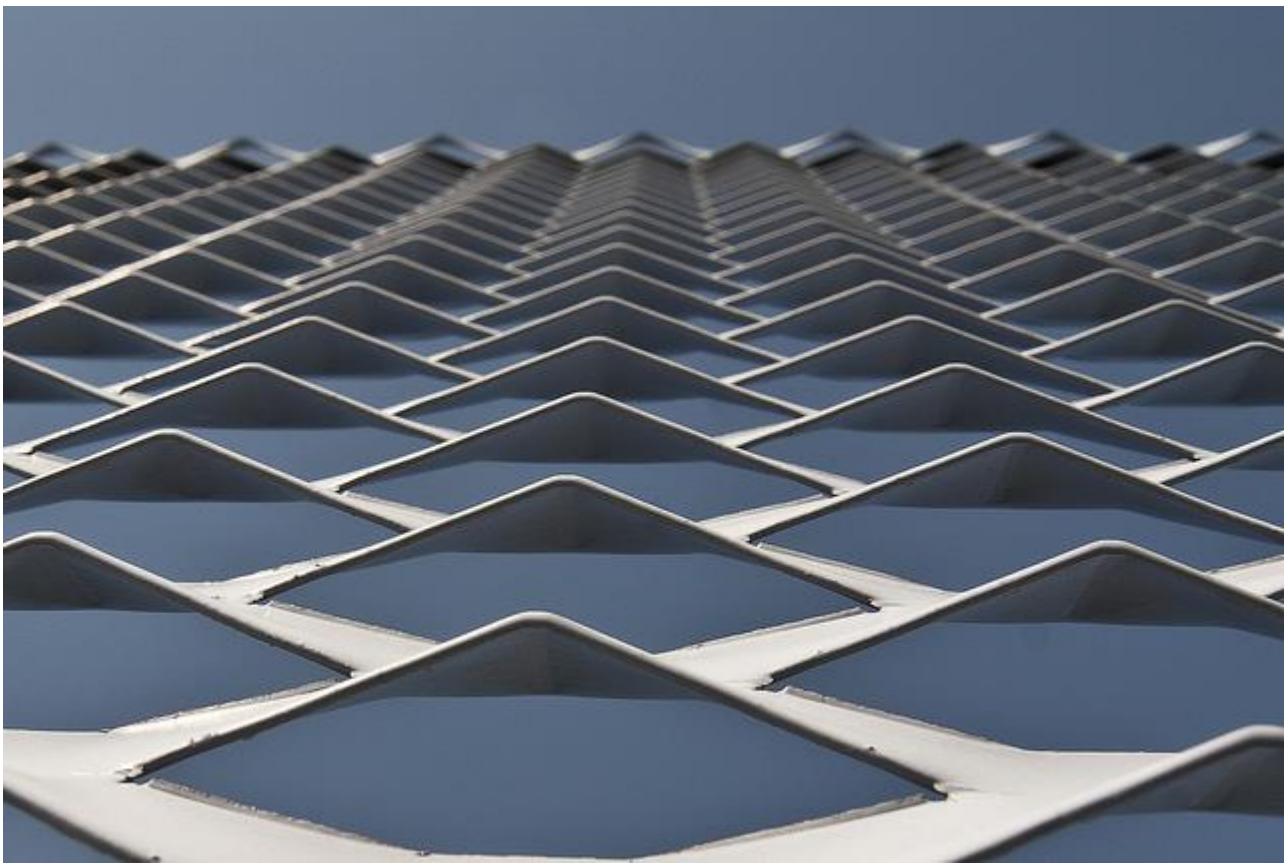
Will Richardson

Co-founder of Educating Modern Learners. Author of "Why School?" published by TED Books. Speaker, instigator, and owner of two teenagers.

Can Science Leadership Academy "Scale"?

By Chris Lehmann

How do we build upon the successes of a particular school or program? How do we expand elsewhere "what works" in one school? Are some successes simply one-of-a-kind — too unique, too specialized, too localized to work in other places? These are questions that Chris Lehmann, the principal of the award-winning Philadelphia high school Science Leadership Academy, hears a lot: "Can SLA scale?" Is it possible to replicate a school like SLA elsewhere? What would that look like? In this article, Chris discusses the recent expansion of SLA to a second school and asks if "scale" is really the right framework for discussions about building and growing successful education systems.



"Yes, but does it scale?"

At Science Leadership Academy, we have that heard question for several years. We opened in 2006 with an inquiry-driven, project based approach.

None of us at SLA saw our work as creating a "scalable model." The school had a shared vision for what we believed the school could be, but the work of building the school was deeply dependent on the people who came together to grow the school, year by year. In this respect, we were very much like many progressive schools that have been heavily influenced by the Coalition of Essential Schools.

In addition, we borrowed from many other progressive schools in building a four-year Advisory program – heavily influenced by the philosophical work of Nel Noddings, and structured using The Advisory Guide by Carol Leiber as a core text. This created the space in the school where every teacher saw their job as teaching more than their content, but truly teaching their students.

But, in other ways, we have learned things in the last eight years that have taught us a great deal about how to build healthy systems and structures that have enabled us to grow as a community together. We've learned that creating a language and a structure of teaching and learning, with clear ways for teachers and students to learn that language to learn together.

We have learned that using tools like our five core values – inquiry, research, collaboration, presentation and reflection – as the foundation of all units in all classes gives us a common language of inputs that form a backbone way to think about the iterative process of learning. We have learned that using "Understanding By Design" as a common unit planning tool gives us a language for talking about the pathways of learning that is invaluable for when we come together as educators to collaborate on curriculum design. And by having a common rubric across all disciplines, we create a language of assessment that means that students have a common framework for thinking about their work, regardless of subject matter. When this is combined with other tools – such as subject-specific standards that build and grow across four years, a focus on reading across the curriculum (with Subjects Matter by Harvey Daniels as a core text) and grade-level themes and essential questions that allow classes to becomes lenses through which we attack "big ideas" – suddenly there is something that certainly looks like a model of teaching and learning that could, for lack of a better word, scale.

So what of the question, "Does it scale?" Are we at a point where we can answer that question? I suppose, on one level, we are. After several years of seeing so many more families wanting their kids to attend SLA than we could possibly accommodate, we made the choice to open our second campus.

A Second Campus

With that in mind, we started a non-profit called Inquiry Schools, and under its auspice, opened Science Leadership Academy @ Beeber last year. Our second campus is five miles from our first campus, and it opened – as we did – with a ninth grade and will be growing a grade a year as we did with our first campus. The school is using the same curricular framework, the same advisory, even the same weekly course schedule. There are some differences in course sequence – we decided to do Physics first at SLA@Beeber as opposed to leading with a two year integrated Bio-Chemistry course, for example – but in many, if not most, respects, it is very much a second campus of what we first attempted eight years ago. When they have a full campus of 500 students, my guess is that SLA@Beeber will feel a lot like SLA-Center City, only different. And that's probably what we are aiming for.

Because on one level, this isn't about a franchising or replication of "the SLA model." This is about frameworks and systems more than replication. If we are to improve education, we cannot expect every single school to figure out how to do this well on their own. Starting SLA was an exhausting process where we felt like we were in new territory every day for the first four years. And while starting a new school is exhausting, even if a team of educators is working within a learned framework, I would hope that the lessons we have learned – often painfully – would serve to make it easier for a new campus. The goal is to learn from the mistakes others have made so that a new group of educators and students can make new and more interesting mistakes.

So does it scale? Kind of. Systems scale. Ideas scale. Concepts scale. But people don't scale. So yes, eight years of thoughtfully building a coherent school teaches you something about what does and doesn't work within an inquiry-driven, project-based model, and if we hadn't learned anything about how to do it well, we probably shouldn't have any business opening a second campus. But systems and ideas and concepts are also deeply influenced by where they are implemented and who is implementing them. Just like at Science Leadership Academy – Center City, the systems and structures are meaningless until the people breathe life into them. The people who actually will do the work – the educators and students of SLA@Beeber – have to make the systems and structures their own for the school to be a success.

Frameworks matter, and where we can scale up systems and structures so that good people of honest intent can do amazing things together, we need to do so. There is no reason to reinvent the wheel in every school. But we also need to remember that there is a powerful difference between common systems and structures and standardization. The first helps good people work together to build a vision of school, the second assumes that we've solved all the problems and now just need to replicate the answers.

What we hope to do with Inquiry Schools is honor the first idea without ever falling into the trap of doing the second.

Image credits: José Sáez

Chris Lehmann

Chris Lehmann is the founding principal of the Science Leadership Academy, a progressive science and technology high school in Philadelphia, PA. The Science Leadership Academy is an inquiry-driven, project-based, 1:1 laptop school that is considered to be one of the pioneers of the School 2.0 movement nationally and internationally.

Advocating for Passion-Based Learning (and Puppets)

By Rafranz Davis

Rafranz Davis is an instructional technology specialist for a Dallas/Fort Worth area school district. She describes herself as an advocate for passion-based learning, inspired in part by her experiences with her nephew Braeden. Rafranz and Braeden's story highlights the challenges that many parents face when trying to advocate for more self-directed learning at school, particularly when "the system" is unsupportive.

Braeden's Story

A few years ago, my nephew was presented with an opportunity to participate in a pumpkin storybook contest at school, which required him to turn a pumpkin into a storybook character. He was so excited about this project that he rushed into the house with a supply list ready to go which included blue, white and black paint, cotton balls, red felt, and paint brushes. Braeden decided to recreate "Papa

Smurf" and as we watched him meticulously turn his vision into reality, we knew that we were dealing with a child with an amazing artistic gift. He was 7 years old.

Over the next year, our family made sure that Braeden had access to as many art supplies as he knew to ask for. With an iPad in tow and his discovery that you can learn a lot through YouTube, Braeden's list of needed art supplies seemed to grow as quickly as his desire to acquire new skills and techniques. To be clear, these were not assigned projects but explorations born from his curiosity and his abilities.

Braeden's school did not have space for art.

Braeden's School Life

Five days a week, a prescribed homework folder came home that required repetitive math and spelling practice, vocabulary sentences and a weekly reader. Braeden was in third grade, the first year of state testing in Texas. With accountability requirements, there was nothing more important to his teacher and administrator than emphasizing those standards that were to be tested. If it wasn't on the test, it was not allowed in class. Period. And that included art.

On a good day, Braeden would rush right through his homework in order to develop his projects. Unfortunately, those days were limited because the magnitude of the work itself meant that he could not spare the time needed until weekends to physically develop his artistic visions. Even with a few moments of free time before bed, Braeden found a way to watch a quick video or draft an idea. This was a kid completely driven by the passion to create in spite of a system aimed at hindering it.

The Journey into Puppetry

On a Friday night, I watched The Muppet Movie with Braeden. Saturday morning, he face-timed me to show me the puppet head that he had just completed. After an apparent binge night of YouTube and rounding up supplies like fleece, plastic spoons, needle, thread and felt from around the house, an 8-year-old Braeden created his first hand sewn puppet. He was so excited that he immediately began simultaneously working on not only planning a new puppet but also improving upon the original that he created.

These weren't sock puppets but full "muppet style" creations, made with specific purposes born from his "I wonders." For example, Braeden wondered if he could make a puppet that looked like a lizard

that he drew. Beginning with drafts rivaling that of professional designers, Braeden not only made a full arm sized lizard puppet by hand but also plans to turn the lizard into his own puppet show.

The ideation and creation of Lenny the Lizard sent Braeden on a few more months of “puppet wonder.” He wanted to know if he could make a puppet with movable eyelids that danced, so he designed and made a body sized puppet equipped with “shoe feet” and an eyelid contraption that moved. He wanted to know if he could make a puppet play guitar so he toyed with the idea of using the stems from the artificial flowers on the table in front of him and “RW” the Rockstar was born.

For his mother’s birthday, Braeden wanted to make her a bunny so he started with molding a few models using clay and transforming those moldings into one of his most extravagant creations to date, a pink bunny puppet with glove shaped hands for realistic movement. Braeden is now 9 and in the span of a few months, Braeden created 8 different puppets, a life sized mascot suit and is now in the process of creating puppet number 9, a lion inspired by our hometown mascot.

Braeden's World Today

It has been almost one year since the first puppet was created and in that time, we've seen Braeden grow in ways previously unimagined. Aside from his artistic abilities, Braeden's passion-driven creations have empowered him as a research-driven critical thinker and problem solver beyond any form of schoolwork that he could be assigned. He's still making puppets but he's also expanded his interest to include Minecraft, digital drawing and animation.

I need to point out that according to OLSAT (the Otis Lennon School Ability Test), Braeden is not identified as a gifted student in his school district, and therefore he receives no additional services or support. Braeden's creative development happens at home when the homework ends.

Reflections as a Parent-Educator

Watching Braeden's development opened my eyes to the fact that schools must be a place that not only gently encourages student-driven wonder and creativity but actively carves out a place where self-directed learning is supported. School is where the art of learning should be embraced, not simply to complete state-mandated requirements surrounding "student achievement" but to support a more holistic idea of "growth."

All children need this.

Braeden is a kid with the privilege of having people in his life who not only recognized his talent but also understood the need to cultivate it. That is, he is lucky to have educators at home, not just at school.

But the fact is, there are far too many "Braedens" who are in schools such as his, without the additional eyes and ears at home. That haunts me daily. It prompts me to share his story, hoping that others will recognize that there are children all around them with curiosity and passion who are waiting for the opportunity to shine.

Reflections for School Leaders

Braeden's artistic talents are extraordinary, no doubt. But they were never recognized by traditional assessments or fostered by traditional schooling. Yet Braeden's initial steps on his learning path are probably becoming more and more common: be curious, turn to YouTube, and tinker.

How do we make the changes in school so that this curiosity and intensity isn't "extra-curricular" but is central to education's mission? How do we make the changes in school so that students needn't have a strong parent advocate or a supportive home environment to be self-directed learners? How can we make the changes in school so that it is the place where all students can be passionate and curious?

Image credits: Rafranz Davis

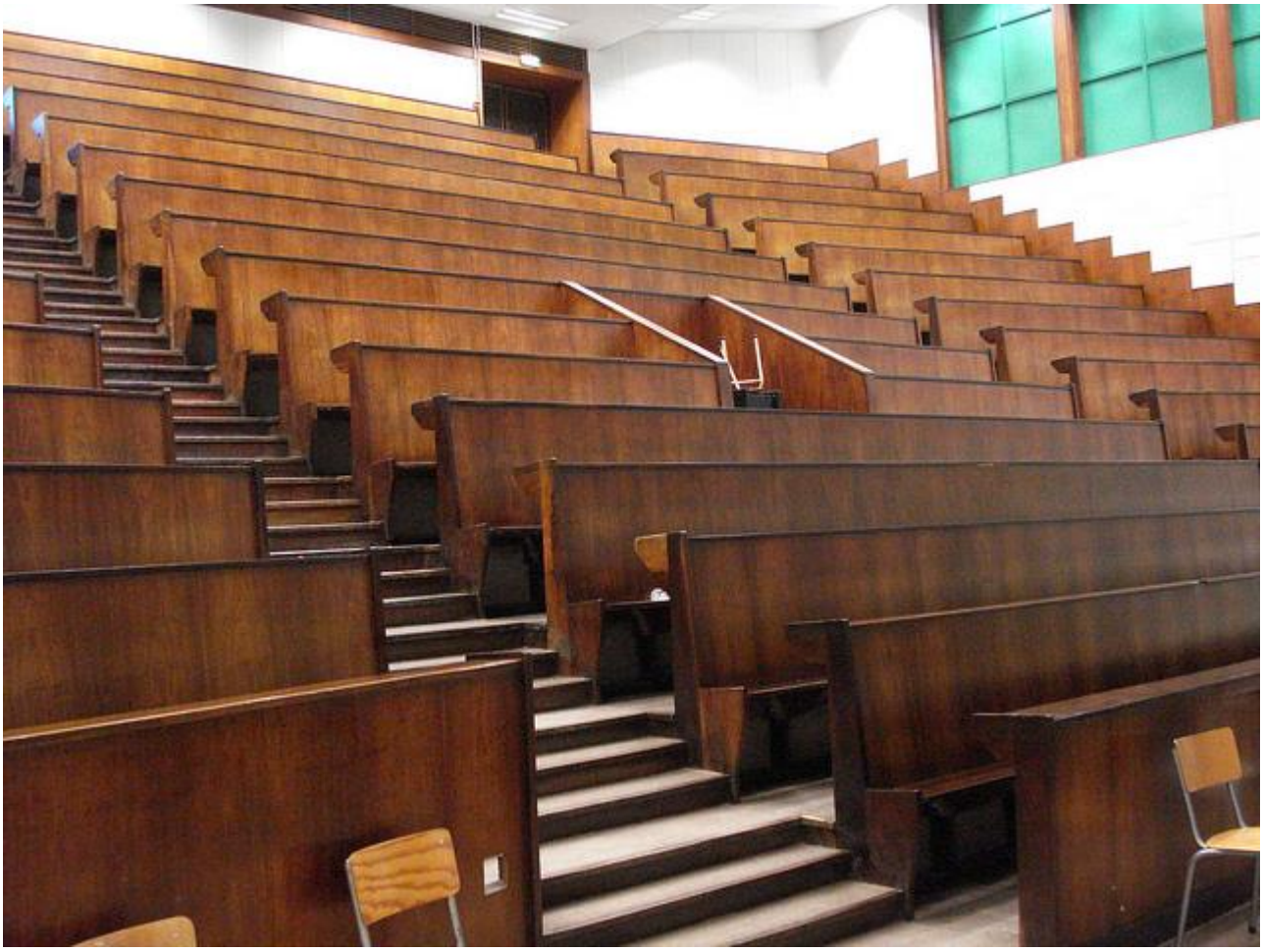
Rafranz Davis

Rafranz Davis is an instructional technology specialist for a Dallas/Fort Worth area school district. As an advocate for passion-based learning, Rafranz uses her experience as a secondary math educator to help teachers integrate technology using innovative teaching strategies aimed at empowering students to be autonomous learners. As a writer and speaker, Davis frequently draws upon her background as a parent and woman of color to offer ideas and insight into how technology can be used in schools to not only break barriers but to provide opportunities for diverse learners. Rafranz's first book, Missing Voices of Edtech Conversations: Bringing Diversity into Edtech (Corwin Press Connected Educators Series) is scheduled to release January 2015.

How Do We Prepare Modern Learners for College?

By Bryan Alexander

What will the future of higher education look like? And in the midst of uncertainty as to how to answer that question, how do we prepare students for college? (Or do we?) In this article, Bryan Alexander explores the changing landscape of higher education — new demands and needs for knowledge, skills, networks, credentials. How can those at the K-12 level help to prepare students and prepare educational institutions to think through these changes and these challenges?



Educators have been hoping to prepare students for the 21st century since late in the 20th. We have spoken of this new epoch as needing new skills, new literacies, or perhaps the development of new content areas. The fresh century demands global awareness, or technological abilities, or training for a transformed labor market, or a mixture of all of these.

This 21st-century framing makes college preparation even more challenging than it was a generation ago. On the one hand forecasting what the next eight decades will require is a daunting task given the sheer complexity of the problem. For comparison, imagine trying to predict what the next 85 years would require from educators in 1915. Ahead lay the completion of the industrial revolution, Sputnik and the research boom, higher education's opening to women and minorities, the civil rights revolutions, computers, and the internet, to name just some leading developments. On the other hand, developments already under way since 2000 have already shaken up our sense of what it means to prepare learners for college:

- The median age of students has increased, partly due to demographic changes, as well as the growing demand for adult learning and retraining. This has rendered traditional-age college and university students a minority.
- The published price of higher education has increased dramatically, outpacing the costs of nearly every other consumer good and service.
- Student debt has soared, cracking one trillion dollars.
- Technological developments have impacted nearly every aspect of academia, from classroom structure and design to scholarly publishing to campus governance and student life.
- Distance learning has entered the mainstream, becoming a major player in both K-12 and higher education worlds.
- A bipartisan move for education reform has energetically engaged the entire American school system.
- Alternatives to classic higher education functions have sprung up, including alternative assessment and certification systems.

The model of college and college preparation we collectively held in the year 2000 seems to be already on the way to being outmoded. We must then revise that model in light of events, and then further transform it by anticipating as best we can what is most likely to come next.

The Myth of the "Traditional College Student"

We can begin by examining demographics, since population patterns tend to have fairly predictable, long-term impact. The American populace is growing older, overall, as the under-18 population shrinks

and the large Baby Boom generation enters retirement age. The reduction in children and teen numbers may well be attenuated by economic pressures now facing people in their 20s, who seem to be delaying childbirth, being weighed down by student debt and a difficult job market.

If we face several decades of fewer minors, colleges and universities should therefore plan on serving fewer traditional-age learners and prepare instead to serve more adults, including seniors. Competency-based learning may grow in importance. We may revise the term "adult education" to simply "education", and instead use a new phrase for what used to be the mainline college experience, such as "youth university" or "post-12 schooling".

Globalization, Technology and Higher Education

That focus on adults suggests that American higher education will focus solely on American learners. An alternative path presents itself through several forms of globalization. First, colleges and universities can ramp up their recruitment of students abroad, especially from Asia. Many are already doing so, attracted to a large, academically prepared, often wealthy, and diversity-friendly population. Second, some American universities are expanding their global presence through creating new campuses and establishing partnerships with local institutions. United States higher education could well become very international, changing the culture of individual campuses.

In response, college preparation would need to emphasize multicultural awareness. Moreover, global populations are increasingly relying on digital technologies to maintain contact with friends, families, and business associates. Higher education and K-12 alike will have to support such connections at the levels of technical infrastructure and human literacies. Our current emphasis on collaborative group work pedagogy may morph into distance collaborations, as student practice team work with partners not geographically nearby. Some humanities and social programs may see renewed demand to better educate students in such a hyperglobal milieu: languages, cultural studies, comparative fields (literature, religion, history), politics.

That global setting will be increasingly networked through digital technologies. This is likely to very a very dynamic process, based on recent history. Digital innovation has been rapidly working since the Web's mid-1990s launch, and shows no sign of slowing down. Technological transformation looks

likely to persist, based on all current trends. Looking over the next decades, it would be naïve to see schooling untransformed by this steady digital tide.

The Changing College Curriculum

Curricula should show signs of this change. Already academia has seen the rise of new and hyphenated fields beyond traditional computer science. Many pre-existing sciences have spawned new branches under the impact of high-powered computation, such a bioinformatics and computational genomics. E-science opens up new vistas for research. The digital humanities revolution has impacted disciplines seemingly least likely to take advantage of new technologies: history, literature, language. Powerful tools shed new insight upon classic problems: text mining, simulation, sensor networks distributed across natural sites, visualization technologies, and more.

What we teach, the curriculum, has therefore changed, and will continue to do so. Colleges and universities must look for the continued emergence of new and hybrid fields, and be ready to introduce students to them with teaching faculty, research faculty, and a variety of support staff. K-12 schools need to monitor these developments in order to prepare learners for a new university world.

What We Teach, How We Teach

If what we teach changes, then how we educate must also become something new. As of this writing "blended learning" is emerging as a practice whereby faculty strategically integrate digital technologies into their classrooms. Yet given the prevalence of digital hardware and software, and the steady penetration of technology into learners' lives, we should consider that unblended learning will shortly become anomalous. The default setting for learning involves both digital and analog resources. College faculty, especially tenured ones, need support in shifting to this model, for which many have been unprepared by their careers to date. K-12 schools should continue their gradual embrace of technologies for this very important reason: to better prepare graduates for this new college world. This means a sea change in pedagogy across the board, starting with the recognition that learning – indeed, cognition – increasingly occurs through distributed networks, rather than in artificially isolated classrooms or their digital analogs (i.e, course management systems). We must learn how to learn in the open, upon a global stage, with all of the many issues stemming from that transformation.

At the same time we can embrace what seems to be a dialectical opposite to this digital migration: the rise of maker culture. American learners of all ages have taken to doing hands-on work with non-digital materials, including wood, yarn, metal, and cloth. Maker resources and makerspaces support would-be makers in their quests to learn older crafts, creating an environment very different from a school. Maker practice is nonhierarchical, lacks standardized testing, responds to individual learner's desires, is based on projects, and does not punish failure.

The success of this movement suggests that these pedagogies could reshape academia, helping build a more flexible, open, and humane culture of learning. Is this movement a place for us to rethink what it means to talk about post-secondary education, away from traditional "college preparation" and away from traditional "job training" and towards a different notion of lifelong learning?

Further Discussion:

- The dominant narrative seems to be that "everyone should go to college." How can K-12 school leaders address this push, supporting all learners in paths that aren't simply academic?
- How does the emphasis on "college preparedness," particularly in a rather traditional form, shape what gets taught at the K-12 level?
- Does, as Alexander suggests, maker culture point to a different path forward?

Image credits: Ian Barbour

Bryan Alexander

Bryan Alexander is a futurist, researcher, writer, speaker, consultant, and teacher, working in the field of how technology transforms education. His work focuses on social media, digital storytelling, mobile devices, gaming, pedagogy, scholarly communication, forecasting, and the future of academia. He is the senior fellow for the National Institute for Technology in Liberal Education (NITLE) and also runs a consulting firm.

Arrested (Professional) Development

By Lee Skallerup Bessette

When we talk about rethinking education, our focus shouldn't simply be on how students learn. Frequent EML contributor Lee Skallerup Bessette looks at how professional development is still often stuck with bad pedagogy and very traditional models of "content delivery." She also points to some of the new forms of PD that educators themselves are designing and participating in.

By now, you've probably seen it: the video that showed public school teachers in Chicago going through what can only be described as some of the most appalling professional development. And while some in the comments (also in the comments here) point out that the facilitator was simply having the participants go through the same kind of drills they would have their students do, others (quite rightly) noted that it was poor pedagogy, no matter the intended audience: teacher or student.

Professional development, like any teaching, is extraordinarily difficult to do well. Unfortunately, most of us have experienced poor (ok terrible) professional development sessions during our careers. Most sessions on pedagogy don't even use the pedagogy they espouse. Others assume the worst of the participants. Others still provide little to nothing of relevance to the majority of those in attendance. We need to do better, and there are many who are doing better. We just need to be open to those opportunities, both traditional and non-traditional.

The best professional development is participatory and connectivist. It is driven by the needs and interests of those attending and allows for collaboration between the facilitator, the participants, and beyond. It needs to be a space where everyone is open, honest, and ready and willing to work and to try. It challenges us to actually engage with, experiment on, and develop for ourselves whatever approach, tool, or technology targeted by the session. It is, unsurprisingly, much like the learning environments we want to create for our own students.

Social Media as PD

It is Wednesday night, and my kids are finally down for bed. I've spent a long day teaching, but I grab a glass of wine and my laptop, settling down to moderate this week's #FYCchat, or First-Year Composition chat, on Twitter. I co-founded it in 2010, inspired by the many K-12 chats I witnessed happening in my Twitter feed, notably #engchat for Language Arts teachers of all levels. Once a week, for one hour, a group of us who teach Freshman Writing get together to share with one another around a selected topic. The participants range from graduate students to full professors, from community colleges to prestigious liberal arts colleges. And it fundamentally changed the way I teach.

While the chats are only for an hour once a week, we use the hashtag outside of that hour to share articles we think our peers would find interesting, ask questions, and seek support and advice. We have grown into a community of writing instructors, regardless of geographical location and institution type. We learn from one another. And we do it openly, in public, and willingly. Graduate students alongside senior professors, and everyone in between. We crowdsource best practices, a true form of peer-review, because through our interactions, we become a real community of peers, of colleagues.

These Twitter chats have provided countless hours of professional development to thousands of teachers. You can find a full list of types of chats, as well as when they take place here. All disciplines

are covered. All levels. All types. Everyone is invited to participate at whatever level. Lurkers (those who follow the hashtag but don't actively tweet) are welcome, too. There is a bit of a learning curve, as the tweets come fast and furious; using a tool that only shows you the hashtaged tweets like TweetChat. It's fast-paced, it's boisterous, it's community-driven, but most importantly, these chats are filled with some of the most passionate, open, talented, and generous educators I have ever had the pleasure of meeting, on Twitter or in person.

The Un-Conference

It looks like chaos; people darting around a large classroom, their hands filled with markers and giant Post-It notes. We've brainstormed possible sessions, and we're now grouping them together, choosing which ones we'd like to attend, deciding where to put ourselves: do we need lab space, white board space, or just an empty, open room to roam? After about 15 minutes, we all take a step back and look at the day we just planned. The sessions range from discussing innovative pedagogical practices to an introduction to GitHub. There is space tomorrow for any topics that might come up today that we want to get further into.

Welcome to THATCamp. It is an un-conference, meaning that the sessions are developed by the participants, for the participants. The focus of THATCamps are the intersection of technology and the humanities, and have typically been directed towards higher education professionals. But participants have come from museums, community organizations, libraries, and, yes, K-12 teachers.

And welcome to Edcamp. Also designed around the un-conference model, which has held events all around the world. Its mission: "We are all self-directed learners, developing and sharing our expertise with the world."

These un-conferences are opportunities to create a meaningful experience and grow and expand professional communities.

For many, the most valuable part of a traditional conference is what happens between sessions, over drinks, over food, over the long walk between conference venues. Un-conferences are like that: meeting like-minded people and seeing where things go from there. This isn't to say that the traditional conference and conference workshops can't be effective, or are no longer worthwhile, but

for one thing, they are expensive. Un-conferences are, by design, free (or almost free), and take place regionally so that participants don't have to break the bank to get there. Often, locals will offer spare bedrooms to participants coming in from out of town.

Un-conferences might not be the answer for everyone, but we can learn something from the success of this format: when you put together a group of dedicated, motivated, and open educators, good things happen. Great things happen. Learning happens. Community happens.

Think Past MOOCs

I am browsing the offerings from Coursera, one of the largest MOOC providers, and I am struck by how many of the offerings are geared towards teachers. I met someone at my own institution who helped develop an Advanced Chemistry MOOC, and she pointed out that many of the most active participants were K-12 teachers looking to stay current, brush up, or find new and better resources to use in their own classrooms, particularly those living in rural or more isolated areas. But as I suffered through my own MOOC experience, listening to boring lectures, completing overly-prescriptive assignments, I kept thinking about other online learning experiences I had had.

The National Writing Project now annually offers #CLMOOC, or the Connected Learning MOOC, that looks to inspire, connect, and re-energize educators. This summer focused on making, while last summer it was about play. But the National Writing Project isn't the only people who are looking to Reclaim Open Learning; this fall will see a coming together of multiple open, online education projects together for Connected Courses: Active Co-Learning in Higher Education. It brings together some of the best open learning classes, such as ds106, FemTechNet, and PhoNar. These open, collaborative, participatory courses are changing the MOOC experience from passively listening or watching recorded lectures to participatory learning and engagement.

From the Maker Movement to Learning to Code from Scratch, there are communities out there to support learners, rather than just transmit information to them. We can learn from each other, support one another, and share our trials and triumphs. Professional development doesn't have to be expensive, didactic, and a chore anymore. It can be an opportunity to help your faculty, school, and students open up to the world.

Perhaps one of the keys is that school leaders must actively model being learners themselves. How do you demonstrate this to the educators you work with?

Image credits: Kai Schreiber

Lee Skallerup Bessette

Lee Skallerup Bessette works at the Center for the Enhancement of Learning and Teaching at the University of Kentucky. She has been an educator in higher education for over ten years, working primarily at public institutions that serve non-traditional, minority, and first-generation students. She is @readywriting on Twitter.

Student Data vs Student Privacy

By Audrey Watters

Thanks to our increasing use of technology, we are creating mind-bogglingly vast amounts of data in increasing volume, speed, and complexity — IBM estimates about 2.5 quintillion bytes of data created every day. The great challenge for education technology (and, as such, for schools) will be striking a balance between the collection and analysis of student data and the protection of student privacy. Audrey Watters explores what's at stake.

It used to be fairly clear what comprised a student's "educational record": the information that appeared on the transcript. That is, name, address, demographics, age, grade, courses taken, and final grades. Data kept on an individual student also included attendance and behavioral information.

What's changing today isn't simply that these records are stored on computers instead of in manilla file folders. It's that students are generating vast amounts of data via their computer usage — on mobile

devices and desktop computers, at home and at school. This means that what counts as "student data" is changing radically.

Some contend that all this data — collected and analyzed — will provide new insights into how a student learns. It will enable a technology-assisted "personalization" of education, so the argument goes. That is, it will lead to computer-based instruction and assessment specially crafted and adapted to suit each individual student (and to achieve, no doubt, what are highly traditional goals of education).

Of course, the science isn't really there yet, despite some of the marketing claims by companies already offering software that purports to function to this end. Nevertheless the generation and the collection of student data continues, some hoping that we will eventually divine the perfect algorithm — and product — for teaching and learning.

In the meantime, what do we do about student privacy?

Protecting Student Privacy

Protecting student privacy was (somewhat) simpler when a student's "educational record" could be kept under lock and key — in a file cabinet or even on a local computer or district server. Access was supposedly restricted to the student, the parents, teachers, and administrators, and the student and parents had some say over who else could view it.

And now?

It's another example, perhaps, of how policy has failed to keep pace with technological change. (The US law governing student privacy, the Family Educational Rights and Privacy Act or FERPA, was passed in 1974.) There has been little consideration of how best to ensure the same rights and protections that cover the privacy of information on a student's transcript extend to cover the privacy of all the data created by a student — whether that data is created purposefully or incidentally.

What Counts as a Student's "Educational Record"?

A short list of what this expanding "educational record" could now include, thanks to students' computer usage:

Their learning management system log-ins and the duration of their LMS sessions. Their course-related blog posts. Their blog and forum comment history. Their Internet usage while on campus. Their search engine history. The size of files they upload and download. The apps they are assigned to use — which apps they actually use and for how long. The emails sent and received via a school-issued account (who to, who from, subject line, and so on). The pages read in digital textbooks. The passages highlighted.

There's more too — a gray area via software that isn't necessarily administered or even assigned by the school: students' geolocation (based on their mobile device location). Their social media profiles. Time spent on social media. Items shared and comments posted on there. Photos taken. Videos recorded. Photos and videos shared. Text messages sent — the contents and the recipient. Videos watched on YouTube— the content of the videos, the pauses and rewinds. Khan Academy views. Khan Academy exercises. Wikipedia visits. Wikipedia edits. Highest level achieved on Angry Birds.

Who Owns a Student's Data?

Who has access to that data? Who controls it? Who owns it?

Despite claims to protect the privacy of students' records, nowhere does FERPA, the law that addresses student privacy in the US, say that a student actually "owns" her or his data. Nowhere does it say that a school does either. At best, it would seem, the education institution is a steward for the official "education record" — responsible for its storage, its security, and its protection. The terms of "ownership" of other student-generated content and data are mostly spelled out between individual schools and the databases and software they buy or license, and as such there is little protection or autonomy for the individual student here.

Furthermore, there's a strong argument from many in the technology industry (most famously, perhaps, from Facebook founder Mark Zuckerberg) that we have reached "the end of privacy." We are encouraged to share more and more personal information via applications in exchange for purportedly better, more "personalized" service; yet we typically have little say in what happens to our data. It's collected, analyzed, and monetized — sometimes with our consent (you did read the Terms of Service, didn't you?) but more often without our giving it much thought.

Changing Privacy Expectations?

How does the technology industry's attitude towards data and privacy shape the ways in which they design educational software? Will there be a major push to collect more and more data and to share it across the various third-party systems that schools utilize? Will students be able to examine their educational record and demand that errors are fixed? How long will data be kept on students? Will it move with them from school to school? What sorts of data will be shared and with whom?

What sorts of privacy expectations can students have?

These questions matter immensely for educators, and not simply because there is such a strong push right now for more "data-driven education." In this framework, the student (and her or his data) remains an object — for collection, for analysis, for tracking, for molding — rather than a subject in control of her or his own learning (and any data that might indicate that).

As Julie Cohen argues in "What Privacy is For," "Privacy shelters dynamic, emergent subjectivity from the efforts of commercial and government actors to render individuals and communities fixed, transparent, and predictable. It protects the situated practices of boundary management through which the capacity for self-determination develops." The protection of student privacy matters immensely because students need a safe space for exploration, experimentation, and development — one that isn't fully surveilled and tracked.

The challenge will be carving out that safe space for students, particularly in the face of policy and technology that wants very much to monitor and monetize their data. The key will be making their learning — and any data associated with it — theirs to control.

So How Do Education Leaders Do That?

- Read the Terms of Service. Read privacy policies. (The website Terms of Service; Didn't Read helps parse the legaleze in these sites and highlights the best practices (and bad practices) in popular Web-based tools.)
- Share publicly with parents and students a list of educational software utilized, with links to their Terms of Service.
- Choose software that honors student privacy. Ask questions to vendors about the data they collect, how it is used, and with whom it is shared.

- Choose software that offers the export of individual's data (and that offers interoperability, that is, data in a form that is usable with other software).
- Recognize the right of students to control their digital data — all the digital data they create. That is, extend the rights we have already granted students regarding their traditional "educational record" into the digital sphere. But then push further to put this into their hands and not simply the school's.

Image credits: Mark Crossfield, Sarah Joy, David Reber

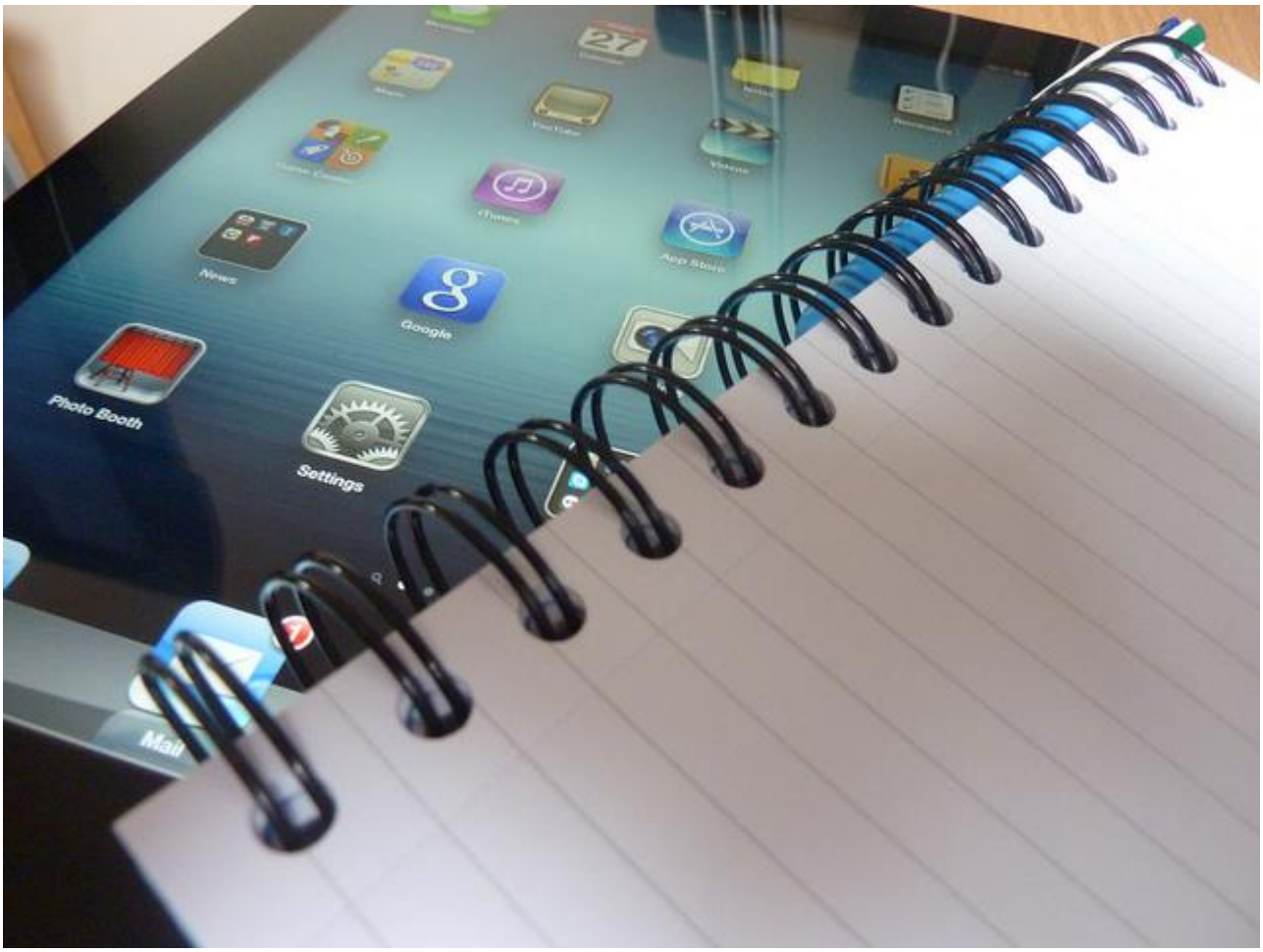
Audrey Watters

An ed-tech rabble-rouser, Audrey Watters is the editor and lead writer for Educating Modern Learners.

Lessons for Leaders from LAUSD

By Bruce Dixon

What lessons can we learn from the disastrous iPad initiative in Los Angeles? EML co-founder Bruce Dixon looks at why it's obvious people still haven't learned about 1-to-1 initiatives, despite decades of efforts to put computing devices in every student's hands.



It was never a question of if the 1 to 1 initiative in the Los Angeles Unified School District would implode, but rather when. But while much has already been written about the failed rollout, little seems to have been learned.

It is a sad truism that we too often learn not from what others do, but more from what others have not learned; and so it is timely to reflect on the lessons of what has become a very public experience for leadership across that district. It should be noted that despite appearances to the contrary, this was

not the first 1 to 1 initiative, or in fact even the largest, but it has probably had the most public commentary and so deserves some reflective insight that might be valuable for other educational and policy leaders. Here are six thoughts on what we might learn from LAUSD:

The end of the education technology grandstand. The iPad initiative at LAUSD was not the first time leadership has sought to use technology to grandstand, but it is hopefully the last. Indeed if leaders learn anything from the LAUSD debacle it should be to think of technology initiatives as they do utility initiatives; first make sure they work before claiming credit and seeking recognition.

This has sadly not been the case in many past ed-tech initiatives, and the consequence of public failure is not just the impact that has on the project in play, but how it also undermines the broader community's believe in both the education sector's ability to manage large projects, and more specifically, how it eats away at their understanding of any cost benefit analysis of technology use in education.

The last gasp effort at transformation that doesn't transform. Despite repeated assurances about the potential of technology to transform education, few ed-tech initiatives have actually done so. In fact, if we could measure the extent to which we have in any way genuinely transformed the experience for our modern learners through the billions that has been spent globally, we would have to give ourselves a very low mark. But if we reflect that much of those funds were spent isolating students in computer labs for rare and occasional use as we sought to integrate or 'inject' technology into orthodox curriculum, the paucity of impact is explainable. Contrasting this is the emergence of a rapidly growing number of modern educational leaders who have a holistic view of education transformation, and while they see ubiquitous access to technology for their students as a given, it is also only one small step.

The outstanding technology initiatives that are gaining momentum globally are not those who have sought the highest public profile, but rather those that have been situated in a deep commitment to building a shared vision of teaching and learning within the context of the modern world our young people are growing up in. It takes time, and it takes a community, but only then is it truly transformative.

The danger of non-educators influencing educational decisions. To some this lesson might appear like a stuck record, heard many times before, but maybe the public flogging of a $1.3 billion project might make people finally take notice. While we could go on forever about doctors not allowing accountants to design operating rooms and the like, for some reason, educational leaders repeatedly feel the need to defer to textbook publishers or technology companies when looking for advice on learning. Note the word learning, not education; this is not about an institution or what is stands for, but rather about pedagogy and how to create a modern learning environment for our young people.

This is not core business for anyone but educators, and while publishers continue to hang on to their traditional business models with every desperate cell in their bodies, educational leaders must move on and invent new models for supporting modern learners. Accordingly educational leaders must assert a pedagogical lens across every technology decision they make…and not be misled by others who will ultimately compromise your students' best interests.

The gloss has gone from the "Shiny New Objects." iPads are not the first piece of technology that has distracted educational leaders from rational decision-making, but hopefully they will be the last. As we all know they are an exceptional piece of technology…when used appropriately, but whether they were ever designed to be the core device for all learners is highly questionable. We had PDA's in the '90's, thin client terminals a little later, and all sorts of cleverly marketed devices targeted as personal learning tools for young people…without any serious educational rationale for their use. All are simply a compromise for a fully-functional personal portable computer. Ubiquity and the consumerization of technology means we now have endless choice. Keep it simple, and don't be distracted.

The weakness of hierarchy in modern leadership. Few would debate the vulnerability of the traditional hierarchical structures that have dominated education in a world that is increasingly connected and collaborative. Ubiquitous access shifts the paradigm and means that networks become the dominant platform for decisions, ideas and information.

For teachers it's about reaching beyond the boundaries of their classroom or school to build collaborative learning networks, and for our young people it means that learning has already democratised to the point that we can no longer control what students learn. As Stephen Harris, the visionary leader from the Sydney Centre for Innovation in Learning stated at a recent conference, "it

also implies that as leaders we should more often model and run our staff interactions and capacity building sessions using only pedagogies we wish them to implement."

Finally it suggests that school leadership is about building a shared vision across the wider school community, one that is widely connected and genuinely collaborative, and on which a leader can depend on to help make better decisions.

Timing is everything. As a corollary to the first lesson, it is prudent to note the degree of urgency that was implied in the LAUSD implementation. There is no prize for the most number of students having devices in the shortest time, but there is a booby prize for getting it wrong. Timing is not just about device deployment, but also about how and when you engage the wider school community to ensure their support, it's about the educational rationale for the rate and choice of grade levels you wish to deploy to, and it's about readiness of all sectors of your community to embrace the opportunity ubiquitous access provides students.

Whether LAUSD is a tragedy or turning point is currently debatable. We have seen far too many financial tragedies in the education technology sector in the past, and it might be reasonable to suggest that in fact this could be a turning point. It will be a turning point if we gain from the lessons so publicly learned. It will be a turning point if we accept the realities and context our young learners are growing up in; and it will be a turning point if educational leaders now accept that genuine transformation is both inevitable and desirable.

Image credits: Sean MacEntee

Bruce Dixon

EML co-founder Bruce Dixon has spent the bulk of his career developing programs that assist governments to make effective use of technology across their education sector. His strategic work has enabled governments to better manage large scale personal technology deployments, and ensure outcomes that drive both school improvement and ultimately transformation.

Cognitive Dissonance: How Teaching with Twitter Opens Up the Classroom

By Bonnie Stewart

The media hype about the transformative potential of new digital technologies gets louder and louder. But how might this narrative around education technology — particularly social media tools — run counter to the ways in which these tools are used in the classroom? Is "social" welcome in the classroom? How do students (and in the case of this article, students who are teachers-in-training) view social media? Do they view it as a technology that will enhance teaching and learning? Or do they view it as something that's about the things they do and say when they're not at work or in the classroom? University of Prince Edward Island PhD student Bonnie Stewart writes about her experiences teaching teachers to use Twitter, raising important questions about "openness" in and out of the classroom.

Earlier this year, the New York Times announced that the English language curriculum of American schools is going digital. In a refrain growing wearyingly familiar, textbook companies and other major corporate incumbents – including Amplify, the featured Rupert Murdoch-owned venture – are promising nothing less than that they "will change the nature of learning across the country."

This is the cultural narrative around education these days. Whole curricular areas are being digitized and packaged and sold back to educators as revolutions. Amplify is touted as incorporating games and embedded video, and is cited as offering "the ability for teachers to see if students really understand vocabulary words when they use them in Twitter-like hashtags and other social media contexts."

Maybe it's schadenfraude, but if Twitter and social media are genuine goals of the Amplify English curriculum, Mr. Murdoch may have met his match.

Twitter: The Final Frontier?

I teach teachers. And in courses that focus on communications or technologies, I require my students to use Twitter.

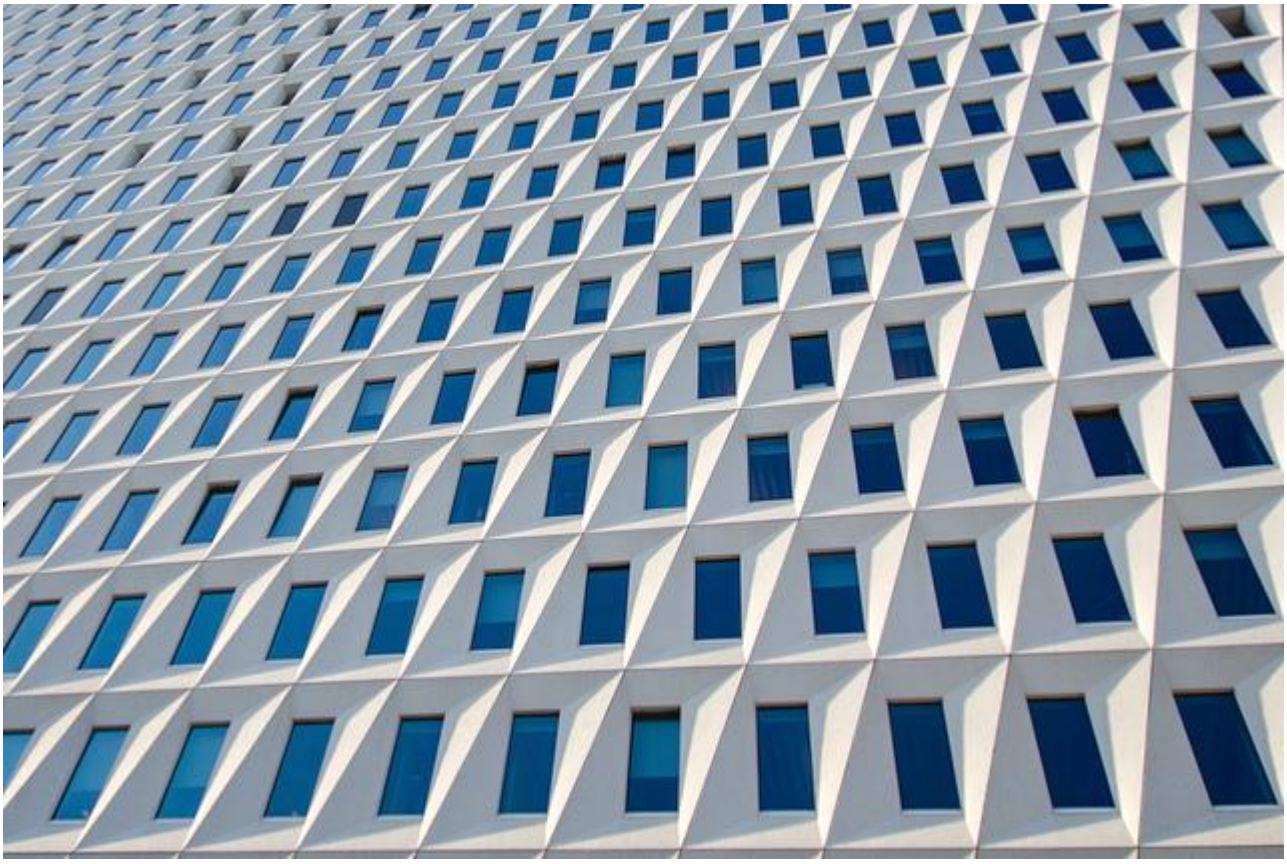
It's one of the hardest things I do.

I'm not a Twitter fan in any true geek sense of the word – I don't find the platform elegant or appreciate the growing corporatization of the space. Still. Real-world audiences and supported, hands-on practice and reflection are foundations of my pedagogy. Twitter happens to be full of real, interconnected, hospitable networks of educators engaged in the kind of hands-on, reflective, participatory learning that articles like the one about Amplify pay lip service to.

And teachers, if you want students engaging in participatory learning in school, you've got to model it.

I teach with Twitter – in as safe and supported a context as I can scaffold – so that the teachers-to-be in my classroom can then go out into their own careers and classrooms able to make experientially-informed decisions about hype and digital technologies. I teach with Twitter so that these teachers will be able, if they choose, to model real participatory learning with their students.

Mostly, I teach with Twitter to counter the narratives The New York Times keeps selling us about education and technologies.



Web 2.0, We Hardly Knew Ye

Ten years ago, I would have thought things would be different by now. The hype back then was for Web 2.0, which signaled the potential of user-generated content and peer-to-peer networks. A far more likely candidate to actually "change the nature of learning" than anything packaged for consumption by today's edupreneurs, Web 2.0 was practically an archetype for collaborative, student-centered learning.

Yet, a decade later, education – and society – increasingly take up the Internet as if Web 2.0 never happened. Sure, there's research suggesting that the networked, 2.0-style practices of connecting, sharing, and collaborating are key digital and web literacies for today's learners. Yes, participatory platforms like Twitter make it easy to teach those literacies, connecting students to active, supported educational communities beyond the walls of the classroom. And indeed, such networked practices do align with the student-centered learning approach that educators have espoused for decades.

In spite of all that, a generation of young adults appears broadly convinced that social media has NOTHING to do with learning.

The Cognitive Dissonance of the So-Called Digital Natives

How did the idea of an open, participatory, educational Internet get left on the shelf?

Part of it is the stories we tell ourselves. The narratives surrounding what gets reported on as the next big technological innovation in education are not accidental. Major players attend to major players, in the attention economy of the 21st century, and what we're fed as a steady diet of education news tends to serve the interests of those major players. Rupert Murdoch owns newspapers. What he sells to schools counts as news.

That's not the only reason networked learning stories don't get told, though. The other part stems from a single story, and the way our culture left a generation to navigate networks entirely on their own.

In my Bachelor of Education classes, preservice educators' reflections and ruminations are ripe with what must be one of the most persistent stories EVER in the ed-tech hype cycle: Prensky's idea of digital natives. His assertion that the kids 'these days' just take to technology naturally and differently has been largely debunked, to the extent that even Prensky has distanced himself from the term, but the truism that youth love tech lives on. Like the teacher interviewed in the NYT article on Amplify, educators continue to tell themselves that reading via tablet must be a step in the right direction, because it's "natural for young people to have this technology in their hands."

Yet, each term when I ask my B.Ed students to take out their devices and use them as more than consumption or entertainment tools, I meet a sea of anxious, bewildered, vaguely horrified faces.

Make no mistake: the majority of my 38 Education students this term are Prensky's so-called digital natives. They would have been, on average, eleven years old when the narrative first burst into the hype cycle in 2001.

They spent their adolescent years being treated as digital natives. Between the assumption that they navigated tech better on their own, and the strict taboos around teacher-student friending that leapt up on early social networks, most have had few real models for open, participatory networking. Facebook does not foster a sense of social media as a potential professional learning space: Aunt Shirley and the people you happened to go to high school with seldom share a vast number of lesson plans or educational resources in the run of a day. The majority of these young teachers-to-be have no experience of social networking in the peer-to-peer production sense. Instead, they come to the idea of Twitter steeped in the pervasive cultural messages that social media is making us lonely or stupid or toxic or whatever the accusation of the month may be.

This cognitive dissonance is staggering: these earnest, sincere young teachers almost universally espouse ideals of student-centered pedagogy and meaningful, real-life audiences for student work. They believe their students want to do stuff with tech. But they themselves don't, not really. They are acculturated to respond to the idea of online networked engagement fostering and enhancing student-centered learning as…ludicrous.

How to Start Teaching the Twitter-Resistant

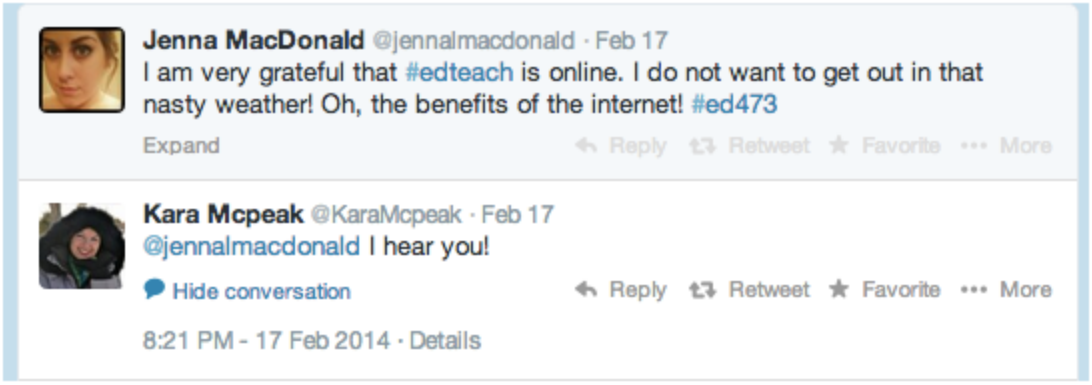
For me, anticipating and understanding pushback over Twitter was key to using it successfully as a teaching tool. The first time I tried to scaffold it into a B.Ed class, I made it optional…an add-on I hoped might complement the class and allow students to build a backchannel for communications and contributions.

The silence was deafening. Even when I taught them how to livetweet each others' presentations, their bafflement at why a person would livetweet a lesson or a discussion was evident. Twitter, they were very clear, was for celebrity gossip and what people had for lunch.

Instead of giving up, I dug in. We talked about their discomforts, and assumptions, and about how these compared with what they were seeing in the Twitter streams I helped them curate for themselves. I made it clear they only had to give it eight weeks. My goal in teaching Twitter is not to make networked converts of my students, any more than my goal when I teach The Academic Essay is to make them into published scholars. I want to help them learn skills and mindsets through which they can learn and express their learning, full-stop. Since social networking is very much an experiential learning medium, I make it an experience. And just as I do with writing, I make it mandatory.

But I also make the risk of failure very low: their Twitter grade is a simple satisfactory/unsatisfactory, based on clear minimums. So long as people make the effort to show up and try, they cannot fail. The majority of them, in fact, shine: the class hashtag creates an ambient discussion space that allows them to take leadership roles, share resources, and strengthen relationships with each other.

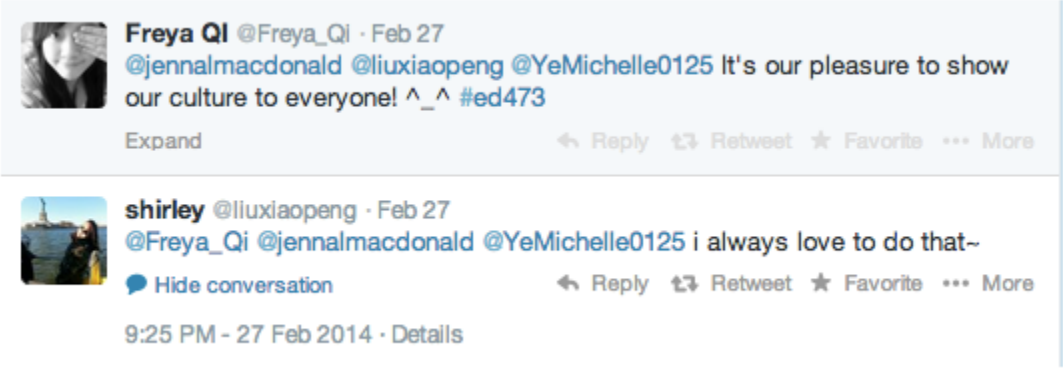
I encourage 10 to 20 tweets a week, with at least 70 total over our nine-week intensive term. The scale can be intimidating for students at the outset, but what it achieves is a robust, conversational class hashtag that achieves the critical mass required for Twitter to actually make sense. I ask students to comment on articles we read, to share other articles they find, to talk with each other and RT each other and – for those who choose public rather than private accounts – to connect and try to talk with at least three educational leaders outside our classroom. I also require them to participate in at least one hashtag chat throughout the term, whether an intensive real-time experience like #edteach, for preservice teachers, or an ongoing asynchronous venture such as #edchat. In the midst of a long Canadian winter, doing classwork from home has benefits:



What Teaching with Twitter Takes

Teaching with Twitter requires two key things from me as an instructor. First, I need to be present. A lot. I engage with my students, I populate the hashtag with resources and RTs related to our course materials, I model what it is to be an engaged educator on Twitter. I connect students to the generous professionals in my network wherever I can, and try to create real-world activities that they can promote and take pride in – my most recent class capped our term with a live, student-run webcast with Scotland's Radio Edutalk. I check in with them privately if I see them drop off in participation. And I work hard to ensure they feel their efforts are seen, and valued:

Second, I need to let go. Not of my responsibilities to the class, but of the sense of control that I'm accustomed to inhabiting in relation to it. Students get to take real ownership, and we all benefit, as we did this winter when students used both Twitter and class presentations for intercultural exchange:



The traditional classroom system privileges the teacher as authority. We're trained from childhood to pay attention when our teacher raises her voice or flicks the lights. There's no equivalent process in social media. When you open things up to a platform that enables public backchannel discussions and subtweets, you change the power differential more than is comfortable, sometimes. Twitter encourages overt performance of discontent and questioning in a way that the classroom simply doesn't, unless you're in Dead Poets' Society.

That's the thing about working in the open. You can't simply dim the lights and hush everyone. You're part of something, and you may be guiding something, but you don't control that thing. Networks are not hierarchies. It isn't necessarily easy. But in terms of student-centered pedagogy, it's real.

Enhancing my classroom teaching with Twitter is not a revolution. You're not likely to read our story in the NYT. But that's okay. Just know it exists. Just know there is more to digital education than consumable packages of curriculum and empty promises of change.

Addressing the dissonance

- How do Bonnie Stewart's observations about teachers' reluctance for "social" coincide with those by Danah Boyd's arguments about teens and social media? If we (only) fear for teens' safety online, for example, will schools ever move towards fully embracing the Web?
- How might school leaders better support teachers so that vulnerability and openness are seen as pedagogical strengths and not professional weakness?
- How do we build better and more supportive networks online — those in which teachers and students alike can fully participate?

Image credits: Gisela Giardino, Ferdi De Gier, Beverly Goodwin, Twitter

Bonnie Stewart

Bonnie Stewart is interested in who we are when we're online. A social media researcher, a writer, and an educator, she's spent the last 15 years exploring the intersections of education and technology. Her work has appeared in Salon.com, The Guardian UK, Inside Higher Ed, University Affairs, Hybrid Pedagogy, and a number of academic venues. A Ph.D candidate in Educational Studies at the University of Prince Edward Island, Canada, Bonnie's research explores network literacies and identities, and their implications for educational institutions. She wants to be David Bowie when she grows up.

What We Don't Talk about When We Talk about Connectedness

By Bud Hunt

October was "Connected Educator Month." In the US, it was also National Bullying Prevention Month. And in the midst of all of this was "Gamergate." How do we reconcile the possibilities and the dangers of online connections? How do we, as Bud Hunt asks here, shine a light into some of the dark corners of the Internet? How do we help our students navigate these shadows?

For several years now, October has been celebrated by many educators across the country as "Connected Educator Month." Teachers flock to Twitter, Facebook and other social media spaces to proclaim the value of social media for teaching and learning, and they emphasize the need to bring students and teachers into social media spaces.

I certainly believe in the power of connectedness as an educator who has blogged and podcasted and tweeted and otherwise taught publicly with my students for the last ten years. But social media spaces, like the physical spaces of teaching and learning, are complicated.

October is also National Bullying Prevention Month, in case you missed it, and that's ironic because we've seen some pretty epic online bullying taking place around issues in gaming and gamers and the perceptions of some that gaming culture and many games themselves are shallow and demeaning in their depictions of female characters. Gamergate is all over mainstream media now, with even Stephen Colbert doing a segment on the controversy on a recent show. And, as Gamergate has reminded us, online threats can easily spill over into real world fear, uncertainty, and hostility.

Here in my hometown, we've experienced a significant online mess in the midst of a conversation around the name of a soon-to-be-opening restaurant. Friends and colleagues questioned the owner about the connotation of the name and what it might imply to other members of the community. A hailstorm of rage and ridicule ensued in comments and emails and letters to the editor.

The questionable, potentially offensive, and violent behavior of grownups in these online spaces has much to teach us about online community, safety, and discourse. These are difficult conversations to have, and I'm not seeing them happening in the rich and thoughtful ways they need to be happening among educators and in our schools.

This makes sense, of course. Educators in the United States don't even agree on the definition of "bullying." So we have trouble recognizing it when it plays out online. And we're hesitant to engage in conversation around issues of power, bullying, and speech when they are playing out in real time.

I've been online with students for ten years, remember, and I'm still not sure how best to handle issues of online harassment and abuse. And I'm, according to many, an "expert" on this.

How Do We Speak About & Respond to Online Harassment?

A few weeks ago, as I watched friends on Twitter attempt to respond to what had devolved to hateful and hurtful threats and name calling (yes – Gamergate), I did something I've never done before. I reported a user to Twitter for what I found to be blatant harassment – outright threats of violence, repeated, after the target had requested they cease.

Twitter has easy to use automated tools for this. It only took seconds. The response I received, also quite quickly, was chilling and frightening and kind of made sense – Twitter wouldn't allow me to file a claim on behalf of someone else. The target of the alleged harassment had to take that stand for

Twitter to investigate. I couldn't stand up for a friend in the torrent of anger in an online shouting match.

That feels like one more boulder in the way of forward progress in building communities online that we can be proud of. If we can't, in the eyes of the services that host these online communities, stand together against anger and vitriol, then why should we be putting our students into spaces like these, with people like these, engaged in conversations like these?

These are hard conversations to have. And acting in the best interests of ourselves and our communities is hard enough as individuals, but to, as teachers, be expected to facilitate these conversations can be so discouraging and scary that we avoid them all together.

But we can't allow our students or colleagues to hop onto the Internet, to embrace "connectedness," if we're not ready, willing, and, in some small way, eager to address these issues head on. We're teachers. We teach. There's learning that needs to happen here.

Seeing Children and Developing Students

A few days ago, I was sitting in a preschool lobby waiting for a staff meeting to begin. A young girl, probably just about four, was playing with a puzzle as she waited for her mommy to arrive.

She's cheerful and talkative, showing her Ariel necklace to the receptionist and fiddling with puzzle pieces. Eyes bright. Ready for the world and all it can offer her.

And I saw her only worry was when would her mother arrive, one easily held at bay by the warm smile of the receptionist and the allure of the puzzle in front of her.

In my work as a teacher, I have big dreams for these young people. That they'll do amazing things. That they'll challenge wrongs. That they'll explore new ways of doing things. I think most teachers dream big like this for their students. We hope for the best.

But we don't ever wish or hope that they'll be harassed, shamelessly harassed or demeaned only because they challenge those paradigms.

How to Shine the Light?

I'm a white male with an established Web presence, a steady job, and a reputation for solid online behavior. All of those attributes seem to give me a bit more protection online than my friends who might happen to be of color, or female, or otherwise in a perceived minority position. And I'm frightened of some of what I've seen in response to reasonable calls for change by my friends and colleagues involved in Gamergate conversations and the conversations occurring in my hometown. It seems that change, or the potential of it, can deeply, deeply frighten folks, and fear turns quickly to anger. And that anger just rushes forth. Stopping that is bigger than online/offline dynamics, but is important. Essential. And the stuff of public life in schools.

How can we balance the need to help students navigate these online spaces with a desire to keep them safe?

I'm not certain of the best way forward. I know that hiding or avoiding the issues here is certainly wrong, but I don't know the right first steps. And the bromides of "use pseudonyms" or "use walled gardens" don't do the job.

I remember introducing blogs to some high school counselors several years ago, and suggesting that they might be spaces where they could follow along and check into the lives of the students in their schools. They were frightened of what that might mean for them, and what they might be expected to do beyond their work days. I understand that fear and hesitancy. But that ship has also sailed. If our schools are to be places of care and concern for our students, we must, from time to time, go forth into the world with them, eyes open and ready to teach, to help, to model. We must help them to participate in the world.

Power Anger Fear

In watching the Gamegate controversy unfold in the midst of Connected Educator Month — the juxtaposition of those two contexts appearing daily in my Twitter feed — I am struck by how urgently we are encouraged to connect online, and to bring our students into online environments. Without as much urgency, at least at first blush, on helping us navigate once we get there.

No one is asking us to protect our students from harassment. What are we connecting to?

Who builds the nodes in Connected Educator Month, or other celebrations of connected learning, around supportive cultures and preventing sick and dangerous and hurtful communities? Where and when does school talk about care? How do we redirect seemingly inane goals of "connecting" beyond upping friend, follower, and subscriber counts towards notions of community and care and concern for each other, especially in places and conversations that are fraught with anger, frustration, and deep, deep potential for harm?

How Do We Teach Kindness to Strangers?

I say often that the Internet isn't good or bad. It's a mirror of our best and worst selves. And we can be pretty wonderful sometimes.

Other times, we can be downright terrible.

When do we stand with our students and model how to resist bullies? And how do we reconcile our desire to connect students to a world that is sometimes sick, twisted, and just plain mean?

How do we encourage educators and students to be brave and compassionate and firm with each other and strangers both online and off, and how do we support each other along the way?

I have no idea. But I have three daughters. And only so much time before they are potential contributors to online discourse.

Or only so much time before they are targets.

Image credits: Kevin Dooley

Bud Hunt

Bud Hunt is an instructional technologist for the St. Vrain Valley School District in northern Colorado. He blogs at budtheteacher.com.

Taking Inventory of the Ed-Tech Schools Use

By Bill Fitzgerald

We talk a lot about data and privacy. But how do we take concrete steps to actually address these important issues? Funnymonkey's Bill Fitzgerald offers a guide for education technology — school leaders, teachers, parents, and students — about the questions we need to ask about the software schools demand students use.

Anyone working in or around education technology in the last two decades has likely experienced the tension between district-level technology policies and classroom-level technology implementation.

In very general terms, district-level decisions tend to minimize risk, often at the expense of teacher autonomy and creativity. On the other end of the spectrum, classroom-level implementations – where a teacher brings in an application outside of district- or school-level approval processes – can get teachers the resources they want to use with less hassle. However, over time, classroom-level implementations that sidestep school- and district-level review often result in a patchwork of applications, with little or no review for privacy, security, or effectiveness. Complicating matters even further, district-level reviews and contracting processes aren't always adequate – and even if they are, district policies are often not explained in terms that make sense or are relevant to teachers.

Disconnects Within Educational Systems

The disconnect between classroom needs and district needs increases when district review schedules do not align with classroom schedules. Because of this longstanding and inherent tension between a district's need for stability and a classroom teacher's need for flexible and timely adaptation, we create a situation where districts are not fully informed of software use at the school level, and district security needs are not understood at the classroom level.

The fallout from broken processes often results in students, parents, teachers, school administrators, and district staff all having an incomplete and inaccurate vision of the technology used while learning.

The good news is that this broken communication can be fixed with a simple inventory, and taking inventory of software used to support teaching and learning within a school is not rocket science. It requires time, and the process of documenting software used to support teaching and learning will almost certainly uncover shortcuts in the contracting and vetting process, but we can't continue to allow the mistakes and habits of the past to shape the learning environments of the present.

Inventory to the Rescue

In this post, we will create a replicable process that can be used by students, teachers, school administrators, and/or district staff to document the technology used in your learning environments. One of the barriers to implementing pedagogically sound technology programs is a clear sense of what is being used, and why. An inventory, evaluation, and privacy review of existing technology needs to be part of how we implement software used in learning.

In all likelihood, there will be holes in what can be documented initially at both the school and district level. If people at the school level are fully forthright, there will almost certainly be apps used within schools that violate district policy – and depending on the context, that could be attributable to district red tape, school-level intransigence, and/or teachers being under pressure to get their work done. If people at the district level are fully forthright, the inventory will reveal shortcomings in both the contracting and review process. However, the point of documenting software and technology currently in use is not to be retroactively punitive, and "success" does not require all schools and teachers to fall in line with district policies. The goal here is to establish a baseline, and learn how to do better – including questions to ask ourselves, our vendors, and our students – as we move forward. "Doing

better" requires changes in district policies, school implementation, teacher practice, and vendor policies. All stakeholders have a role to play.

The process of taking a complete inventory will highlight places where all stakeholders need to improve. School and district staff need to tighten up contracting processes, and do a more thorough job evaluating software and systems for privacy and security. Teachers need to triage applications for privacy and effectiveness. Vendors need to clean up their privacy policies and terms of service and stand fully behind their product, and ensure learners that their work today is not getting fed to a data broker tomorrow – and teachers, students, parents, and administrators need to demand responsible and safe behavior from vendors.

Steal This Process!

The core of any inventory system starts with a list. To jumpstart this process, we created a Google Spreadsheet that you can copy and modify for your local use. The structure of this spreadsheet could also be starting point for a more structured database.

The process of taking inventory includes four steps:

- **General information**: a list of software or services, with contracting information;
- **Purpose: What Does It Do**: a description of how the software or service supports learning or administrative needs;
- **How:** Types of Records, and Data Collected – a description of the data collected by the software;
- **Privacy:** How Is Data Protected (or Not Protected) – an overview of basic privacy details

General Information

- **Name**: Name of Application
- **Web Site**: Web site of the company
- **Authorized By**: Who brings in the application, or authorizes its use? (District/School/Teacher/Other)
- **Contract**: Does the application require a contract to use?
- **Contract Location**: If yes, where is the contract?
- **Contract Duration**: What is the duration (start and stop dates) of the contract?

Purpose: What Does It Do

This section summarizes what the app does, and why it is useful or effective.

- **Description**: what does the application do, and/or how does it support learning? Is the application used/supplied by the district to manage student, parent, and teacher data? Example applications here could include a gradebook, a student information system, a system designed to manage IEPs, systems designed to support communications about snowdays, etc. Is the application used to support learning? Examples here range from a district-supplied textbook from Pearson to a schoolwide use of IXL to a math app or a music app used by an individual teacher.
- **Access**: How do students access this application? Is the application a web site available online, a program that is downloaded, an iPad or tablet app, a Chromebook app, or any of the above?
- **Indicators**: what indicators show that the app is effective, or supports the goals it aims to achieve?

How: Types of Records and Data Created

This section provides an overview of data collected by the app, and where the data is stored. It is likely that some vendors will not support or share some of the information outlined in this section. If a vendor does not support a feature or describe their data process, the column can be marked "unknown" or "unsupported."

Also, this section contains two questions related to the Family Educational Rights and Privacy Act, or FERPA. This only applies to the United States; if you are outside the US, omit these questions and delete these columns from the spreadsheet.

- **Data Stored**: What data is collected and stored by a learning application? This field can be a link to a detailed data specification, or a general list of data points that can often be found in privacy policies.
- **FERPA**: Does the app create educational records as defined by FERPA? It's worth noting that many apps will collect data that is considered an educational record under FERPA, and data that is not considered an educational record, and would therefore be governed by a vendor's terms of service. The point here is to get a sense of what the legal

obligations are with respect to the data collected in the application. The US Department of Education provides some solid resources around FERPA.

- **Other Data**: Does the app collect data that is not considered an educational record under FERPA?
- **Student Review**: How can students and parents review, modify, correct, or delete data collected by the application?
- **Storage**: Where is data collected by the app stored? Is it on a local server controlled by the school or district, on a server controlled by the vendor, or in another form of remote storage?
- **Https**: does the app use https at all times? In this doc we try and avoid absolutes, but if an app collects data and is not using https it should not be used.
- **Security Measures**: how is data protected? Many apps contain some details about this in their terms of service of privacy policies.

Privacy: How Is Data Protected (or Not Protected)

This section highlights some elements of how vendors will use or transfer data, as defined in their privacy policies and terms of service. To complete this section of the inventory, you will need to read and review the terms of service and privacy policies of software and services. See here for tips on triaging privacy policies and terms of service.

- **Privacy Policy**: What privacy policies govern use of the application? Link to the policy.
- **Terms of Service**: What terms of service govern the use of the application? Link to the terms.
- **Additional Terms**: Are there additional terms or conditions that govern how the application can be used? Link to any applicable terms or policies.
- **Opt Out**: How can students and parents opt out of using a specific application?
- **Affiliates**: Do the privacy policies and terms of service allow for data to be transferred to partners or affiliates?
- **Business Transfer**: Do the Privacy Policies and Terms of Service allow for the sale or transfer of data in case of an acquisition, merger, sale, or bankruptcy? Most apps currently allow this, and this is an area where vendors can improve their current practice. The effect of allowing sales in case of merger or bankruptcy means that we can't predict

where data collected in an educational setting will end up, or how our student's data will be used over time.

- **Cancellation**: If the teacher, school, or district ends the contract, does all school/district data get deleted?
- **Data Sunset**: Does the vendor have data sunsets (a period of time after which user data will be permanently deleted)?
- **Portability**: How can parents or students download data collected and stored by the application?
- **Parent/Student Deletion**: How can a student or parent fully delete their information from the application?
- **Changes w/o Consult**: Can the vendor change the terms without consulting users?

Closing

As mentioned earlier, the spreadsheet and the process described in this writeup are intended for you to take them and use them. Modify them as needed. If there are things you feel should be added here, please let us know.

Once the inventory has been completed, the list can be made public so school communities have a clear sense of what technology is used, and the privacy protections in place with each service. Getting the details documented lets us start the conversation from an informed place. We can't build on or improve current practice without a clear sense of what current practice looks like.

What is your school doing to address student privacy?

Image credits: Yuri Samoilov

Bill Fitzgerald

Bill Fitzgerald worked as a teacher for 16 years, working with students in English and history courses. Bill is the founder of FunnyMonkey, an open source development shop working primarily within education. His professional work supports peer based learning communities, and using, creating, and distributing openly licensed learning resources. Bill is active in various educational and open source communities. Bill blogs about education and technology at http://funnymonkey.com/blog

Sustainable Pedagogy

By Kris Shaffer

What if we focused less on scalable pedagogy and more on sustainable pedagogy?

When someone proposes a new idea in education, that proposal is often followed by the question, "But can you do it at scale?" While "at scale" can mean a variety of things, in this context, it usually means doing it big — maintaining the effectiveness while increasing the efficiency. But going big isn't always best for students, and it isn't even always best for the bottom line. Education-at-scale is frequently more expensive than anticipated, and we end up "doing more with more" or "doing the same with more" instead of "doing more with less."

But what if educators started thinking small again? Doing something important, doing it well, doing it sustainably, and helping others replicate the success?

Consider the typical undergraduate humanities college course. These courses in history, literature, etc. are often small, and therefore bring in less income than, say, Chemistry 101. And since they often involve heavy amounts of discussion, critique, and student writing, they don't scale as well as a lecture course with clicker-based quizzes and multiple-choice exams. As a result, humanities departments are increasingly likely to bear the brunt of cuts and adjunctification. But does this make sense?

While the undergraduate humanities seminar may not be scalable, it is sustainable. Not only are humanities faculty cheaper than their STEM counterparts at every rank, but facility needs for these courses are at a minimum. Just about any classroom will do, as will a large table at a coffee shop, or a spot on the lawn — weather permitting. Books are cheap, especially if the focus is on primary sources — many of which are likely to be in the public domain — instead of textbooks or anthologies. And because of these low costs, recent reports have shown that traditional humanities departments tend to operate in the black, sometimes even subsidizing other departments. Even when humanities courses do not work at scale, generally speaking, they are sustainable.

The arts provide another example. I teach in a College of Music, where students participate in one or more large ensembles most semesters — orchestra, choir, or band. Large ensembles are incredibly valuable for helping the college build relationships with the community, many of whom will pay to attend a symphony orchestra concert or an opera production on campus. However, large ensembles are incredibly expensive. They require dedicated, large rehearsal facilities and performance venues, which are designed in consultation with acousticians. Those facilities are often underused — left empty when not needed or, more often, used for classes and activities that do not require such expensive facilities.

Music students also participate in small ensembles — "chamber" groups like string quartets or brass quintets. Most music schools require less chamber music study than large ensemble participation for a music degree. However, these small ensembles offer incredible educational benefits for students, while simultaneously being more financially sustainable for most music schools. A typical college chamber ensemble will meet for one hour per week with a faculty coach, with rehearsals often taking place in the same studio where the instructor teaches lessons and holds office hours. Unlike large ensembles, the bulk of the rehearsal is done by the students on their own, in a large practice room, a small classroom during open hours, or even an apartment or a dorm basement. Most sheet music is in the public domain, and new music is far less expensive per student than much orchestra, musical theater, or opera music. And chamber ensembles can perform just about anywhere. In terms of finance and facilities, chamber music ensembles are incredibly efficient, and entirely sustainable.

Chamber ensembles often come with a significant pedagogical benefit. Since the bulk of rehearsal is done away from the faculty, effective student agency is paramount to the success of the group.

Students, not a conductor, direct the artistic decisions. Unlike an orchestra, which is effectively a class, students in a chamber ensemble are free to rehearse beyond set university timetables. That promotes the freedom to experiment in rehearsals, rather than following the predetermined decisions of a conductor. In some musical styles, this also provides more freedom to improvise, an essential activity for developing musicianship, but one that is often neglected among classical musicians because of the lack of room for it in an 80-piece orchestra. And because chamber ensembles can perform nearly anywhere, students are free to pursue more live performance opportunities than in an orchestra, which needs to schedule performances well in advance as well as pay for the performance venue and support personnel. Thus, these small ensembles are both pedagogically valuable and financially sustainable, often more so than larger ensembles.

Because these kinds of endeavors are small, when a new experiment fails, the impact is minimal. But because these kinds of endeavors are sustainable, when a new experiment succeeds, they can be replicated. And that means we can "go big."

But there are a few key differences between going big with a single project at scale, and going big with a small, sustainable project repeated many times.

First, education-at-scale limits the intellectual, pedagogical, and cultural diversity of our classes. One-size-fits-all education rarely fits anyone well, and the world would be all the poorer for having only a small number of elite institutions — or private, for-profit corporations — pursuing massive, "at scale" education. Just as biodiversity is good for a species' long-term survival, intellectual and ideological diversity is good for society, and a diversity of pedagogical approaches is good for our students, who come to class with a diversity of backgrounds, interests, and goals. Because of this student diversity, one-size-fits-all education means that most students will pay an increasingly high price for an education that was designed with a different kind of student in mind. However, since the sustainable practices I outlined above are small and replicable, there is more room for a variety of approaches between sections, instructors, and institutions. There is also more room for differentiated instruction within the class.

Second, in all of the sustainable practices I discussed above, there is an increase in student agency and freedom when compared with corresponding "scalable" practices. This may be as simple as smaller

classes allowing students more freedom to choose a paper topic than in a large class, where grading is only possible with a significant degree of uniformity. Or it may mean the difference between students writing their own thoughts, or not writing at all — in favor of bubble tests and plug-and-chug problem sets. In more innovative classrooms, going small may mean that the instructor is more likely to be able to offer tech support for student work, enabling more novel projects. It may even mean that students can have a say in the kinds of projects the class undertakes. Such things are far more difficult, and thus rare, in large classes. In the arts, going small means students make more of the artistic decisions themselves, and they do so in collaboration with peers, not just faculty. Going small doesn't always mean more student freedom — more chances for students to grow as critically minded agents — but education-at-scale almost always means increased rigidity, simply to keep the machine moving. That rigidity often runs counter to student freedom, and therefore their intellectual growth.

This contrast of big v. small, uniform v. diverse, controlling v. empowering betrays the industrialist roots of many of our modern educational practices. The name of the game is efficiency, effectiveness, growth, and control. However, control of the scholarly ecology is not (and should not be) part of our educational mission. As John Dewey writes:

To the growth of the [student] all studies are subservient; they are instruments valued as they serve the needs of growth. Personality, character, is more than subject-matter. (The Child and the Curriculum)

Education-at-scale can enable widespread and efficient distribution of information. But so can the printing press and the internet. Education is more than that. Going small means a greater chance of intellectual and instructional diversity, an increased chance that students can exercise their freedom and learn to wield it well. And when going small also means going sustainable, it ensures that we can continue to do these important things for some time to come.

Kris Shaffer

Kris Shaffer, Ph.D. (Yale University, 2011), is Instructor of Music Theory at the University of Colorado, Boulder and Editor for Hybrid Pedagogy's long-form publishing division. He is also the lead author and editor of Open Music Theory, an open-source, interactive "text" book for undergraduate music theory courses.