



Crossing the EdTech Chasm: Why we don't see the summit

Chromebooks or iPads? Microsoft Office or GSuite? Laptops or tablets? Detachable or hinged keyboards? Google Classroom or Microsoft Teams?

These are constantly debated issues across many school systems this past year. And while these appear to be important issues for many – impassioned arguments that can lead to fundamental disputes for some – they remain shortsighted questions that reveal the reasons why technology continues to be restricted in delivering upon its full potential. Only by opening our minds to explore “what’s possible with technology” can we break away from the cookie-cutter models that so many technology and content companies continue to drive educators toward.

It’s what we call a “Return on Education” or “RoE.” For investors who always focus on the ROI, remaining focused on the RoE means that stakeholders can be assured your institution has become a leader in digital learning, and not merely a following for instructional technology.

Tech Plan in a Time Capsule

As a child of the 1980s, I always saw my classes in computer labs as an opportunity to imagine. I was doing programming in FORTRAN, and creating games in BASIC. The possibilities seemed endless. Yet over time, imagination and creativity gave way to more rogue tasks such as writing papers as I moved into college.

In early 1998, I was asked by my superintendent to write a new technology plan from scratch, as the board of education wasn’t happy with the status quo. Officials were aggressively debating the “Mac vs PC” selection, with some even

resorting to shouting about their beliefs. At the time, I wrote a very challenging comment in my report, saying, “With the continued growth of the internet and expansion of network computers, computer operating systems will begin to merge into one common format – the internet browser.”

Different Operating Systems (Mac & IBM)

There has been much discussion and debate over the use of either computer operating system for instructional technology. The “user-friendly” format of the Macintosh Operating System in years past made it the computer of choice among educators. However, advances in the IBM-compatible computers and the Microsoft Windows operating systems have narrowed that gap. Equally equipped computers can accomplish nearly all of the same tasks and run similarly designed software, with minor exceptions on both sides.

However, advances in technology will soon change the way users look at computers. With the continued growth of the internet and expansion of network computers, computer operating systems will begin to merge into one common format – the internet browser. Programs like Netscape Navigator and Microsoft Internet Explorer are quickly taking

Now before I start to pat myself on the back for creating a hardware acquisition plan that would take us from the dark ages to a more modern infrastructure, I missed the very issues I so often try to raise with school officials 20 years later. I forgot to answer the question, “How do I want technology to transform teaching and learning?”

Computer Labs Today

I have had the privilege of visiting many school systems across the country and taking tours of their schools. One common trait I found with nearly everyone, is a shared passion to deliver better experiences for their students – far more than what we had as children. But what I’ve also found are dialogues between technology, curriculum and faculty held back by trivial issues.

A recent school was having a heavy debate and decision-making process around whether to use Microsoft Office or G Suite for their students.



Issues around price, ease of training teachers, privacy and home access have been the subject of nearly all of those conversations. But something was clearly missing as I came in as an objective listener, and one without anything to gain if either Office or G Suite is used.

The missing question? How will switching to either platform fundamentally change teaching and learning?

When I visit computer labs, or classrooms doing 1:1 with personal units or COWs (carts), I typically see students most often:

- Typing in a word processing application (keyboarding is still in most curriculum)
- Typing text and pasting images they found online into presentation slides, or
- Reading, watching and possibly responding to multiple choice in some web-based content created by a publisher

When you look at the 1960s research of Dr. Edgar Dale and his actual “cone of experience,” we see that 50+ years ago experts knew that learning by listening, learning by reading and learning by watching were the worst methods of retention possible, all of which view the student as consumers of content. Further, existing activities like word processing and presentation slides barely scratch the surface when it comes to delivering RoE for content creation.

Technology as it's used today in many classrooms doesn't motivate or foster creativity, imagination and new ways of thinking beyond some unique anecdotal examples. While there are good examples of select students pushing boundaries and creating

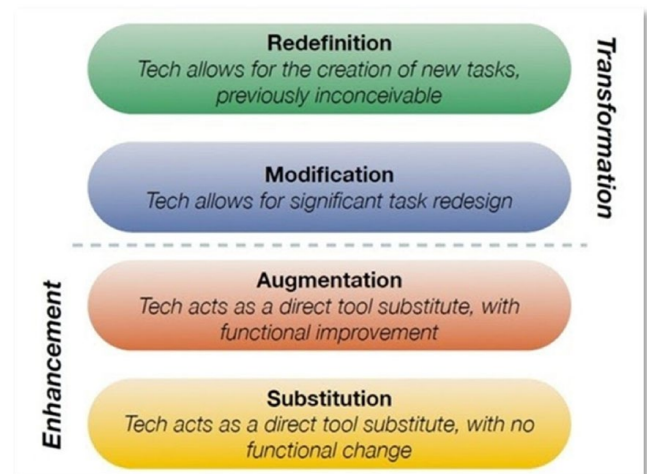
3D designs or videos, that level of creativity rarely expands to the masses.

With so many educators and industry experts speaking about the importance of STEM education, so few students explore STEM careers. How can emerging technology help inspire imagination and creativity, much of the foundation for future leaders in this space?

Visualizing the Chasm

While attending an industry event recently, the keynote speaker spoke of wonders and the limitless possibilities edtech can afford young people.

However, every speaker that followed was deep in the weeds, speaking about individual software products as the goal, when merely they are tools that, when used effectively, can empower students and educators to go much further.



Source: <http://www.hippasus.com/rrpweblog/archives/2014/08/30/SAMRAndCurriculumRedesign.pdf>

The SAMR model for edtech, in its current form, highlights the key facets of change, from mere



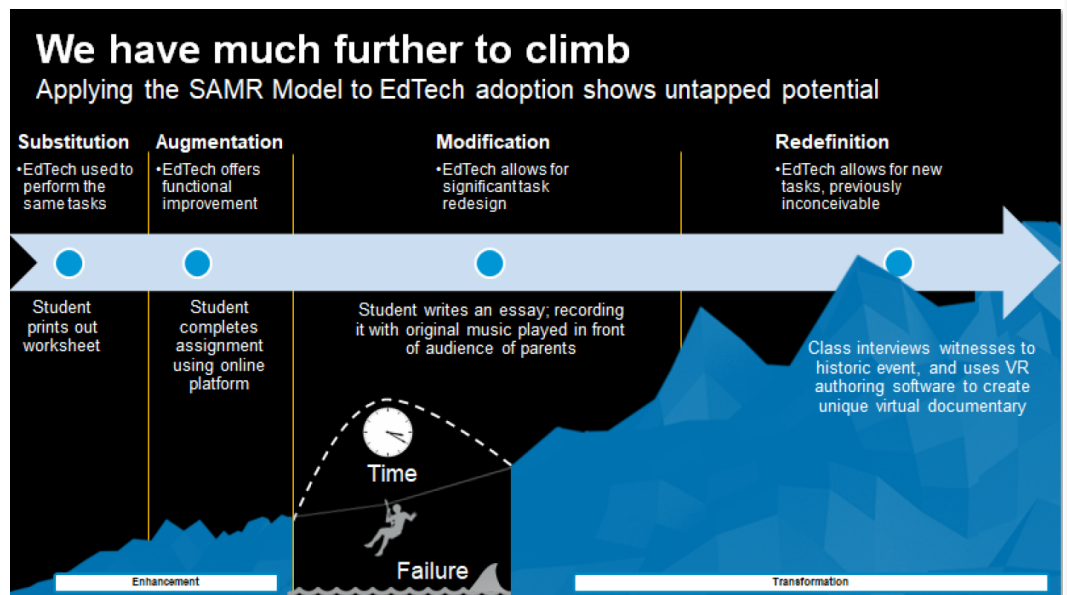
enhancement of existing learning to meaningful transformation of the teaching and learning process. I believe one reason that many institutions fail to go on the journey to reach true transformation is that the SAMR model fails to visually represent the journey to be undertaken, and the primary reasons that I and other experts have experienced that prevent organizations from moving beyond mere substitutions (i.e. reading a digital textbook vs a print textbook) to redefining the learning process (i.e. project-based learning with student driven initiatives). In essence, they are unable to see the summit from the classroom, and mistakenly believe that the level they have reached is the top...when indeed much greater possibilities remain ahead.

Having never truly excelled in the fine and visual arts, I set out to create an image that reflected the theoretical principles most educators share, along with the realities facing classroom teachers and school/district officials. Please forgive the artistic shortcomings.

The first portion of the SAMR model reflects enhancement to the existing learning process. With the dramatic increase in the number of devices being purchased by U.S. K-12 schools – an increase of 250% in just three years – the readily accessible free resources allow many schools to easily adopt the Substitution and

Augmentation processes with relative ease. For many educators, this may seem to be the end goal of meeting a checklist (Integrated the devices into my classroom/school....check!).

However, for institutions looking for a measurable Return on Education, there's so much greater potential. But to cross the chasm from mere enhancement to true transformation, fear holds us back. For a classroom teacher, that fear is reduced to its simplest forms: the fear of time and the fear of failure.



Fear of Time

“We’ve been given too much professional development” has been said by no teacher ever! When school systems have wanted to bring about true change, they invest heavily in training for their faculty. One Michigan district maintains twelve (12) days of PD in their annual calendar, 300-600% more than most U.S. school systems.



When launching its major digital learning initiative, one Alabama district invested \$50/year per student towards professional development. Unfortunately, professional development remains an after-thought for many school systems, as district officials inquire about “free PD,” whether posted in RFPs or asked when asking for a large hardware or curriculum purchase, even if those resources are not directly aligned with the locally-needed teaching strategies to bring about change.

Professional development aside, often overlooked is the necessary release or comp time to encourage faculty to reinforce their newly-learned skills and apply them to their classrooms, whether through amended lesson plans or new activities being attempted.

Fear of Failure

As I attempted to convey with my image, edtech adoption is never just a straight-forward progress. Even the best of programs stumble along the way, but they continue to grow based upon a committed group of stakeholders representing all facets of the community. To get faculty buy-in, proactively addressing the fear of failure must be addressed. If a teacher attempts a new project-based learning activity, but fails in the execution, will that fear of failure hold them back from even making the attempt? How your leadership addresses this concern can make a world of difference when it comes to witnessing adoption.

A simple tactic I have suggested is the “Failure Fest” contest. Staff members should be encouraged to submit their worst technology experience of the school year -- the greatest personal failure when a digital learning effort failed. The district can publish those stories and

give prizes to the best “worst” stories. Such efforts help to eliminate the stigma of failure and show an educator that many of their peers share those same worries and experiences.

Where Do We Go From Here?

My suggested graphic fails in that, by displaying a flag, there is a specific end target in sight. There shouldn't be one. Possibilities are limitless in how we can reshape learning, but oftentimes it's hard for people to begin a journey without some sense of a goal line to cross.

But as we stretch the definition of the learning space and what can and should occur in classrooms, we open the door to limitless possibilities. Technologies that can reshape teaching and learning include many new technologies that will be introduced into schools and colleges in the coming years: immersive computing, extended realities, esports and artificial intelligence.

Today we have the connectivity, ingenuity, and technology to turn this vision into reality. Our potential to create change lies in our ability to learn and spread the skills we need to make it happen. Pairing technology with human ingenuity to empower innovators, educators, and entrepreneurs creates positive change. People equipped and inspired to create a better world represent both the founding values and the future of our business, and those we seek for every lifelong learner.



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