Emerging Technologies in Today's Classroom – by Kris Sward – Feb. 10, 2014

1) Overview

I will admit it right off – I am a bit of a bandwagon jumper. Not in all ways, like I've never jumped on the sports team bandwagon or done the cinnamon challenge or any of those types of mass fads perpetuated on social media. However, give me a new piece of technology to use or a really cool program to show the students in my classroom and I'm there! Give me an app with a 'cool factor' or an 'oooh, look it's pretty' presentation tool and I'll take it. Heck, I'll even take two!

So when it comes to using emerging technologies in the classroom, I'm already in a spot of trouble.

A few years ago my district implemented a pilot project to use iPods in the classroom and though I didn't get in on the first try, my second application was successful. Very quickly we moved from borrowing the district's kit to purchasing our own devices for use at our school and implementing a BYOD program to compliment our existing devices. Ever since we've been building our program from there.

Last year a temporary teacher told us about TumbleBooks online on the regional library site and we've implemented those, too, as a part of our listen to reading component in our Language Arts programs.

Another teacher in my school is constantly getting ideas from Pinterest for ways to decorate her classroom, do art projects, teach writing or just organize her space – and her enthusiasm is catching on and resulting in other teachers, including myself, searching the internet for ideas to use in their classrooms.

And now through this course I was introduced to virtual worlds. Already, my seminar partner Jane C. and I are in the process of being set up with our own worlds on the BC Nexus active worlds platform. Yep, when it comes to technology, I'm definitely in that 'early adopter/bandwagon jumper' group.

And so the challenge for me in completing OLTD 509 has not been so much the introduction to emerging technologies. The challenge for me has been more from the point of view of taking a step back and understanding how these technologies can fit into my practice – how I can justify using them at the same time as ensuring that they are making improvements in the learning environment that I provide for my students. I need to get past that 'wow' factor and understand just how they benefit my students and their learning. The challenge for me has been in refining my filter.

2) Where to find them

With the huge variety of tools and programs available on the internet today (not even imagining the offerings that will be available next week, next month or next year), it falls upon us – as educators and technology leaders in our schools – to research, analyze and share emerging technologies with our respective staff members, district colleagues and teachers everywhere.

So how do we find emerging technologies and where do we share them? The answers are already in front of us.

Educators have readily taken to social media sites as an amazing way to share their experiences of trying new things. From teachers who blog, to collections of ideas on sites like Diigo or Livebinders, social media has provided a great meeting place of the minds. From Facebook to Twitter to Google+ communities, Pinterest and Delicious and more, information is out there and easily found and shared.

Through many of our OLTD courses we have been put in contact with or simply made aware of many experts in the field. By following them on various social media accounts, receiving updates in learning communities and having access to publications by tech companies and societies, we are constantly being bombarded by the latest greatest technologies available. I'll admit that in my busy life, I'm often guilty of simply deleting these updates or moving them into my 'keepers' file for one day when I eventually have time to look at them, but the access to new and exciting things that teachers are using and developing for the classroom is there – we just have to open our minds to it.

Twitter is a great example of this – a tool I was first introduced to early on in the OLTD program. Outside of required coursework, I'll admit that I haven't used Twitter that often as I find it hard to put down and I simply don't have time to spend on it at this point in my life with work, school and family commitments being what they are. However, just last week I was at a tech meeting in our district and as I was sitting through a Twitter Use in Education presentation, I opened my account and found three amazing ideas that I could implement in my classroom in about five minutes of scrolling through posts. With such easy access to amazing and innovative ideas, it's hard not to see its value in finding new technologies to use in the classroom.

Our OLTD Facebook group is another great example of using social media, not just to connect with others, but to share ideas and understandings, post links to articles of interest and notify the group of important information about classes, meeting links and due dates. On top of that, it allows us to support each other through the struggles and successes of our shared learning experiences.

I have loved working in the Google+ environment during OLTD 509. I find it easy to share information, find things related to my topic, connect with my group – as well as others in the education world (I think I'm a member of about 30 different communities in there even though I rarely search through and connect with them). This has been an amazing tool for creating shared knowledge within our group. I found easy to set up and monitor posts for our seminars and I think it worked well for providing access to the resources we found to those in our seminars and those who just chose to lurk. Though the students in my class are probably too young to be able to effectively work within a G+ community – I can see the value of using it in a middle school or higher environment. (The applications alone are amazing!)

Finally, the internet itself – not in a community or through social networks, but simply for searching out activities through Google. Its a perfect place to find information on emerging technologies. Because of my time in OLTD I am on a number of mailing lists for various groups and sites. I find it interesting how sometimes something in a newsletter or email will catch my eye and I will follow this link and then that one to get to somewhere I didn't even know that I wanted to go. The information that I come across keeps leading me deeper and deeper into my 'research' and I end up finding some very interesting articles and activities. Getting lost on the internet has time and again proven to be a valuable lesson in finding new and exciting things to bring to the classroom.

The number of creative and innovative teachers out there sharing their ideas and providing examples of their work is astounding and all of their ideas are there just waiting to be found. Even if we don't copy

their work exactly or follow their lead down a specific path, just being able to adapt our own work according to what we find is a start.

3) Filters?

So how do we as educators develop a filter to bring in the good and keep out the bad? What sorts of considerations do we have to be aware of in bringing emerging technologies into our classrooms? I have come up with a few must haves for any technology that comes into my classroom.

First –the technology has to be accessible and easy to use. The worst part of every failed technology related lesson is when the technology simply doesn't work. As a teacher you work from your PLOs, you develop an engaging lesson that will draw students to a variety of resources aimed at being accessible to the diverse needs of your learners, created a variety of ways for students to provide evidence of their learning eliciting choice in how they create their projects, and then just as you are ready to start three students complain that their laptops aren't charged and another student's computer is doing updates, the iPads are signed out to another class and the site that you want students to start from is having server issues and is not able to allow all of the students to log on at the same time. This scenario happens time and again and as a direct result many teachers just avoid using technology altogether. So for me, it is imperative that the infrastructure is set up so that student accounts are ready to go, the wifi is strong enough to support multiple users online at once, the program or tool is tried and tested to ensure students and teachers alike can understand and easily work within it and the students have access to the devices they need to get the job done. If I try to use a program and can't seem to get it to work from the get go, I'm very quick to drop it and look for something else. Gone are the days where there was one word processing program and one program to track your finances. There are new apps created on a daily basis that can organize your to do list, keep detailed notes of your readings, remind you of important dates and meetings and balance your chequebook – wait, who uses cheques anymore? Anyways, the point is that the tools are out there and if a specific company's tools aren't up to snuff, then I'll find someone's who are.

Second – through my experiences in OLTD 509 I have started to take a closer look at how the tool can help the learner and not just let myself be caught up in the 'wow' factor. This has been an important step for me – the bandwagon jumper – as I am often eager to try something I saw online or just go with a new piece of technology without weighing the pros and cons. Often, for me, that happens after we've attempted to use it and I decide if it's worked or not. I do value that I am open to trying new things and taking chances, but I'm starting to build a repertoire of tools and resources so I'm becoming more critical of the ones that I use and what I leave behind. I'm starting to ask the question, 'is this doing what I used to do in a better way to benefit my students or am I just doing it because it's fun and unique and wow – look what we can produce.'

Third – My filter is often guided by my specific needs for any given project or assignment. I tend to only look for ideas specific to a topic that I will be covering in class. Being a full time student, a full time teacher and a full time wife and mom, I don't have time to just sit and the computer and surf just to see

what I can find. But that old adage of 'beg, borrow and steal' anything you can find for your classroom is never far from my mind. If I'm wanting a cool writing activity to do for the Olympics, I'll simply google it. If I'm wanting a cool art idea to use in my class, Pinterest here I come. If I'm wanting a way for my students to create dynamic and interesting presentations of their learning, well I usually use a program that one of my classmates has brought to our coursework at some point along the way. I don't waste my time drifting on the net, I search for a tool specific to the task I have in mind.

I also want to consider how much support students will need in using the new technology. If I'm going to have to sit beside every student as they problem solve through how to use the tool, it's not going to work for me. I just don't have the time. But if students with a reasonable amount of computer experience are going to be able to problem solve and work their way through issues that arise, and are challenged and engaged enough to do so, then I'll likely stick with that tool. Further to this I am keenly aware and critical of how long it will take for my students and I to feel comfortable working with the technology. If half of our year is going to be spent just figuring out how to make it work, it's probably not an effective tool. If we can pick it up and start understanding how it works within a week or two and can see signs of it benefitting our learning within the first month, I'm more likely to adopt using it in my classroom.

Finally, we need to understand what technologies will support learning for our students and what will simply be distractions. Many of my current students are Minecraft experts and I thought that building a school in a virtual world would be right up their alley. Imagine my surprise, then, when less than a third of my students signed up to take that on as a personal project. A number of my students have bought into the ebook trend and are reading books on their iPods or tablets during silent reading, yet I have a number who are mad about the regular paperbacks available in the library and will leave their device to the side as they enjoy reading their book. Not only is it important to know yourself and your own limitations in what emerging technologies you can take on in the classroom, it's also important to know your students and what technologies they will buy into and what will limit them as well.

4) Lead others to try?

So being that we are now quasi-experts in emerging technologies (if there can be such a thing) – how do we encourage others to adopt them in their classrooms for the benefit of all students? How do we lead the way? How do we become beacons of light to guide our own journeys as well as the journeys of others through this transition to a more personalized, meaningful, technology based education?

Well, as with any change – it's not going to be easy.

I think the single most influential way that we can get others to adopt new technologies is by being enthusiastic about what we are doing and by making our enthusiasm contagious. How many times have you been taking part in a Pro-D session and said, 'ooooh, I like that! I'm going to do that in my classroom!' I know I've been there many times. By doing and learning and then sharing the positive aspects (while also giving a nod to the drawbacks and realities), you will have other teachers want to try just what you've been doing.

Another key way of initiating change is by letting students play, come up with options of how they want to present evidence of their learning, create engaging and amazing presentations and then show them

off. By having the students take the lead on the project, they become the experts and I've found that teachers are always very impressed when a student can teach them something – and are more prone to try it when they know they have a student who can help them through it as well. And once the students get used to using the technology in the classroom, they expect to be able to use it further in their learning. By having them push other teachers to be open to the options technology can bring, the better chance there is of having it adopted long term.

Of course, you can't just leave it at that – there is also the much needed training and support that comes after introducing emerging technologies to others. In order to have these technologies stand the test of time and become a part of others practice, we need to provide ongoing support and guidance through any problems that arise. Having experience using the technology allows us to help others work through these issues and problems, but also allows us to be a sounding board to find potential options to make their projects work.

And we also need to address the reality that things aren't always going to go as planned. The technology isn't always going to be available, sometimes the websites will go down, and there will always be those students who are going to use the technology in a less than desirable way. We need to be realistic in our expectations and take those incidents as learning opportunities to develop protocols and practices to ensure that we are making the safest, most efficient use of technology in our classrooms.

Kill 'em with kindness and just keep swimming.

5) Barriers?

As we are moving towards having these technology rich classrooms, there are a number of barriers that must first be addressed. What about the inequalities of the haves and the have nots? In the public school system there will always be students who have the latest version of the coolest smartphone as soon as it's released, as well as students who can barely afford to eat, let alone have a piece of technology in their pockets. There is also a need to address teacher anxiety and provide proper training and support for them so that they will implement technology in their classrooms. If teachers are wary of using technology in the first place and do not see the potential value it holds for educational purposes, then they will avoid using it even if it is readily available to them. But the old, "I'll teach the way I've always taught" mentality just won't cut it in a world where students require training in – at the very least – word processing and basic understandings of computer functioning and - more preferably how to research, assess, critique, analyze and create shared learning exemplars in the online world. It is thus imperative that we convince teachers of the value of emerging technologies for our student's futures and our duty to provide them with the training and knowledge needed to use it effectively.

We need to have an understanding of our students skill levels in order to develop lessons that will challenge them to think critically while not making it too hard for them where the chances of them giving up are more likely. We also need to be aware of cost considerations. Purchasing the hardware to provide access to emerging technologies is expensive and replacement cost as the devices wear out is

not always feasible. A BYOD option will circumvent some foundational costs, but that takes us back to the students who cannot afford to keep up.

You must have teacher buy in for any program involving emerging technologies and that can be a huge barrier. If teachers are not comfortable with using the technology themselves, they are less likely to implement it in their classroom. If they have an open mind to try anything, they might get lost in that 'wow' factor and not use the technology effectively. We need to be leaders in developing sound practices and pedagogy around emerging technologies and support each other by sharing ideas.

And the biggest barrier for implementing any change in the classroom, technology related or not, is time. Time is something that we, as teachers, never have enough of. To ensure that emerging technologies find a place in our practices we need to consider if we have the time to dedicate researching, understanding, trying and assessing each technology. We need to understand if we have the time to dedicate to doing these things in order to really learn it and use it effectively. We need to understand if we have the time to develop the skills necessary to be able to lead our students in using it – and we need to ensure that we have the time to support anyone else who is willing to try it.

These are just some of the things that we are going to have to keep in mind when trying to elicit change in using technology in the classroom.

6) My experiences

My biggest challenge in dealing with emerging technologies is continuing to challenge myself to understand 'how can this activity be done differently using technology'. I still find myself falling back into doing things the 'old' way because 'it's worked in the past'. I have to force myself to be innovative and creative to give my students the best possible education using both existing tools and emerging technologies that will be relevant to their future lives. I've always felt my job was so much more than covering curriculum. More importantly I need to prepare my students to be able to be responsible, organized, caring and discerning citizens prepared for the future that they will face. I love John Dewey's quote, "If we teach today's students as we taught yesterday's, we rob them of tomorrow." (what I love about it most is that he lived from 1859 to 1952 so this is obviously not a new quote!)

At the same time, I have to continue to refine my filter so that I'm not wasting my time, and that of my students, on things that won't benefit them or their learning in the long term. I need to not shy away from emerging technologies, but I also need to hold myself back from being that eager bandwagon jumper.

My experiences in bringing technology to my school and in working my way through this OLTD program have exposed me to a huge number of potential tools and resources that I can bring to my classroom. My filter – though it is still in the developing stages – requires any new tool or resource to be effective for the task at hand, easy to learn and use, have a 'cool' factor that will draw my students (and hopefully other teachers) in to using it, reliable (in that we don't lose our work through glitches or mistakes), tried and true and recommended by experts in the field and not just a fun distraction but something that

brings actual value to my students learning and that can be transferred to tasks that they will encounter in their real lives.

Our students are already exploring a number of these emerging technologies for their own purposes and if we don't try to effectively incorporate them into our classrooms, we run the risk of missing the right wagon.

7) Resources

For further information, you can peruse my ePortfolio for blog posts and assignments relating to online teaching and learning: Krisslearnsonline.weebly.com