
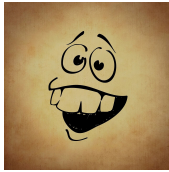

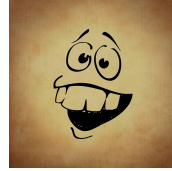


|  <p>Technology / Challenge / Pedagogy</p> <p>Describe, add links, notate...</p> |  <p>Positive Perspective</p> <p>What are the possibilities? What works? What are the benefits?</p> |  <p>Negative Perspective</p> <p>What could go wrong? What doesn't work? What are the barriers?</p> | <p>Conclusions</p> <p>based on</p> <ul style="list-style-type: none"> • Credo • Sustainability • Experience • Psychology • Research • Gut feelings.... |
|--|---|--|---|
| <p>Technology: Bring Your Own Device (BYOD)</p> <p>Description Source - https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxvbHRkNTA5fGd4OjNhZjZiYThmMmZmMDAzZDc (pgs.36/37)</p> <p>BYOD stands for 'Bring Your Own Device'. This practice, which is also known as BYOT (Bring Your Own Technology), involves individuals bringing their own laptops, tablets, iphones, etc. into the workplace or educational setting. In education, many students are bringing their own technology to school, and then connecting to the institution's network to take advantage of having their own device to enhance their educational journey.</p> | <p>The BYOD practice can only improve the learning environment. There are a large number of benefits including the following.</p> <ul style="list-style-type: none"> • Students are already familiar with their own devices, so this will save time and effort • Students will be able to use tools that will make them more efficient and productive. • BYOD provides a healthy environment for student-centered learning. • BYOD should get rid of the problem of not enough technology to go around. Students won't have to wait for an available computer. • BYOD is cost-effective. If students are providing their own devices, the technology cost to the school will be reduced or the money can be spent in different ways. • BYOD allows the opportunity for students to learn how and when it is appropriate to use their devices. • Students will have directed practice in learning how to focus and how to resist the distraction of their phones and other devices. | <p>Okay, this is all well and good for the students who have devices at home, but what about those students that don't have a smartphone, or a tablet, or a laptop. There are still plenty of those students out there.</p> <p>There is already a gap between the haves and the have nots at school. This will only make that gap larger.</p> <p>This will also put more pressure on parents to provide devices for their student(s). We already charge course fees and bus fees. Now we are going to insist that students bring the latest technology to school? And what about security? How are we going to ensure that students don't infect the school network with viruses? This already happens on the guest networks. Also, how are we going to make sure that students aren't just playing on their phones all the time, and what do we do about students accessing inappropriate sites at school? I don't want to be the one to explain how a \$700.00 phone has gone missing, or how a student was being cyber-bullied right in my own classroom.</p> | <p>The BYOD practice, passes my credo filters because it</p> <ul style="list-style-type: none"> • has the potential to be very engaging and motivating. Many students are fanatically attached to their devices, so integrating them into the educational setting is a no-brainer. • allows for practice. If students have access to their devices, at all times, there is a natural increase in the amount of available practice time. • serves students. Student learning can occur anywhere and with technology that is familiar to the student. Also, students can take advantage of efficient and productive educational tools • aid in communication. Students will be able to communicate their learning in new ways and in ways that that they already use on a regular basis • allow student control. BYOD gives students more choice and they can take their learning in many different directions <p>My gut feeling is that the benefits of BYOD outway the challenges. Issues of the digital divide and security, are ones that can be overcome with planning.</p> |
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Technology / Challenge / Pedagogy

Describe, add links, notate...



Positive Perspective

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What are the benefits?



Negative Perspective

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Pedagogy: STEAM Learning

Description Source -

<https://docs.google.com/viewer?a=v&pid=slides&srcid=ZGVmYXVsdGRvbWFpbnxvbnRkNkNTA5fGd4OjNhZiZiYThmMmZmMDAaZzDc> (pgs.18/19)

STEAM Learning came about as a reaction to STEM Learning. Both STEAM and STEM supporters believe that a student's 'big picture' should include the knowledge that different skill sets are tied together in the 'real world'. STEM Learning emphasizes science, math, technology, and engineering curriculum because there is thought that this subject material has the potential to increase national economies and innovation. STEAM, in contrast, is a pedagogy that believes that it would be better to tie the arts into the sciences, to have a more balanced approach. Supporters of STEAM believe that this is the way that subjects naturally connect in the real world. They also believe that the benefits and possibilities of technology are not restricted to particular subjects and that there doesn't have to be barriers between the arts and the math/sciences.

There are many possibilities with STEAM learning and the benefits are clear and undeniable. It is really only within an academic setting that subjects exist in isolation. For example, Art exists in engineering design in the same way that mathematical patterns exist in art. We are doing our students a disservice if we insist on keeping different subjects in their own separate cubby holes. There have been many studies that seem to prove that students who have musical training do better in math. In addition, the creativity required in humanities courses can only help students understand and use technology better. So, how can blending different subjects be a bad thing? In addition, we will be able to reach more students. For example, If we have a student who is really into the arts, but really reluctant to take on any math challenges, we can possibly engage this student by breaking down the barriers between the two subjects. Subjects that are separate in our classrooms, naturally connect in the real world. We don't have to sacrifice parts of individual courses, by combining courses we can make each of them stronger.

This sounds like artists and teachers of the humanities, are getting concerned that their subjects are getting pushed aside by technology. And, they might have a point for several reasons. We are going to run into problems if we try to mash everything together. First of all, if we try to make technology a unifying focus of all our subjects, are we not going to weaken all of our subjects? For example, what are we going to take out of English 12 to make room for technology? Secondly, what about the students who really like the humanities, who really like reading, writing and drawing. Are we going to force everyone to work with computers? Finally, are English and Art teachers supposed to become experts in technology now? Where are they going to find time for the additional training? Are they going to be expected to pay for and enrol in upgrading courses outside their work day? What if they are not interested? Art they going to be forced to comply? This doesn't sound like it will be very good for school and teacher moral.

STEAM Learning passes my credo filters because it

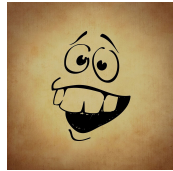
- has the potential to be very engaging and motivating. Most students are naturally intrigued by a new technology, and therefore weaving technology into all courses can't help but be a positive thing
- allows for practice. By merging technology and different subject areas, students will have the opportunity to practice their skills in different and enriching ways.
- serves students. I do believe that in the 'real world', different skill sets are tied together, and students will benefit if their education has a balanced approach
- aid in communication. Students will be able to communicate their learning in new ways and in ways that gives them more options
- allow student control. STEAM Learning gives students more choice and they can take their learning in many different directions

My gut feeling is that STEAM Learning could be a good pedagogy for a school to adopt. However, I also believe that we need to make sure that the basics of each subject's curriculum are still being covered.



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Challenge: Rethinking the Primary Role of Teachers

Description Source - NMC Horizon Report 2015 K-12 Edition - pgs. 28/29
bit.ly/1VcJuHG

Traditionally, a teacher's primary job was to be a lecturer and to be the one with all the information. Now however, a teacher needs to take on a much wider variety of roles. With the Internet and the proliferation of personal devices, teachers find that they need to be able to use technology to deliver content, assess learning, and support students. They are also expected to be research developers, integrators, collaborators, guides and mentors. In addition, they need to support student-centered learning while still adhering to administrative and governmental requirements, documentation and reporting.

These new roles for teachers are exciting. We can accomplish so much more when we share the responsibilities. A teacher, as one person, can not possible provide as much information as can be discovered by using the Internet and by everyone, not just the teacher, taking on a provider of knowledge role. Students can learn from many different sources and go in many different directions so that their learning can become much more individualized and relevant. Giving students autonomy and a voice also means that teachers and students can work together to find the most effective way to use the technology. Teachers will still be there to guide students but they can also model how things like patience and accountability are important. In addition, collaboration between teachers is another amazing opportunity for growth. Not only can we support each other, but we can learn from each other and we all won't be so isolated in our own classroom. This won't be easy, but with a little vision and some working together the results could be spectacular. Technology will even make things like documenting and reporting more relevant because we can use the data to continually improve what we're doing.

How are teachers supposed to do a good job when they are stretched between such a large number of roles? If you ask most administrators and parents, teachers just need to make sure that

- students move through the curriculum in a timely manner
- students can do well their provincial exams and be prepared for post-secondary education
- they have their reports in on time
- they maintain good class control

Furthermore, as indicated in the UNESCO's report, teachers can't use technology in a 'transformative' way because when the government mandates a specific tool, they don't make sure that teachers have the training to integrate the technology in an effective way. Teachers don't have the time or knowledge to make this all work. I just know that I have a hard enough time figuring out how to input my report card marks. I wouldn't even know where to start integrating more technology into my classroom and there's no money for it anyways.

The idea of changing a teacher's role from a lecturer to a technology savvy integrator, collaborator, guide and mentor, was a really easy sell for me because these are roles that I wear comfortably. I originally trained as an Art and English teacher. And, since I've never been totally comfortable as the center of attention, the front of the classroom was never a place that I wanted to be for an extended period of time. My teaching style, which worked well in these two subject areas, was to give a quick (no more than 10 minute) introduction or demonstration, and then step back and let the kids take over the learning direction. In Art, this meant students were working with the materials and learning in a hands-on way and from watching each other. I would facilitate the process and guide when necessary but I allowed them to go off in directions that their interests took them and that way we ended up with some unexpected learning opportunities and valuable enrichment as a result. I haven't been in an art classroom since the technology invasion, but I can see that things like personal devices and 3D printers would only lead students into innumerable different directions.



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Technology: 3D Printers

Description Source - NMC Horizon Report 2015 K-12 Edition - pgs. 40/41
bit.ly/1VcJuHG

Description: 3D Printers build physical objects using software designed for the task. The process involves layering one electronic file on top of another, using flexible material such as plastic or bonding agents sprayed onto powder. In this way, great accuracy and detail can be achieved so that virtually anything can be modeled in three dimensions. 3D printers are presently used in many different fields including medicine and architecture. With 3D printers now being available to the individual consumer, this technology is finding its way into the education system.

The possibilities for education are endless. This is an amazing way for students to add another dimension to their learning. I can see 3D printers being utilized in virtually any subject matter and at any grade level. This technology will be of great benefit to the visual and tactile learner. Imagine if my kids in kindergarten could make each letter of the alphabet and then hold the letters in their hands and manipulate them into words. I could use it in my art classes to have students create a 3D model of their self-portraits. We could even turn the portraits into masks. In my grade 7 humanities, students could re-create the Nile river or an Egyptian tomb, and really 'see' the artifacts and the space. For all learners, 3D printers will add engagement, but imagine if we give students some autonomy and challenge them to come up with their own projects and create 3D models of things that could actually have a practical and helpful purpose outside the classroom.

There is a big danger that 3D printers will end up sitting unused in a storage closet. There may or may not be money for the initial investment of the machine, but then there may not be money or time for teacher training, materials, and upkeep. A while ago, Smartboards were all the rage, and districts invested large sums of money into installing Smartboards in their schools. Some teachers embraced the technology and have integrated Smartboards fully into their classroom. However, many times teachers went to the initial Smartboard training (if it was available to them), and then never had the time to practice and implement the skills necessary to feel comfortable using the device and ultimately went back to doing what they were used to doing. Also, there is a danger that students will just use this technology to make trinkets to show their friends. And, what is going to have to be sacrificed to allow students time to learn and use this technology. Is it going to take time away from the basics?

The 3D Printer passes all of my credo filters because it

- is very engaging and motivating. Most students are naturally intrigued by a new technology, and this one is pretty amazing. I think students would jump at the chance to use it.
- allows for practice. Students can learn how to use the 3D printer and then practice their skills on different projects
- serves students. The printer would allow students to enhance their learning. It would offer a richer understanding.
- aid in communication. The printer would allow students to share their learning in a new way.
- allow student control. The printer would give students more choice and they could take their learning in many different directions

My gut feeling is that the 3D printer could be a great addition to a school. However, even though it seems fairly simple to use, I do worry that it might get forgotten in a storeroom somewhere. It might work best if one or two teachers volunteered to be trained how to use the printer, with the expectation that they would implement the technology into their classrooms. Then, those teachers could serve as mentors to other teachers in the school and hopefully others would be inspired by the possibilities.