Inspiring Creativity Through Technology

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Abstract

This paper explores the idea that technology has the opportunity to enhance education through the research of online resources and personal experience. How can technology, if used effectively can enhance a student's learning experience in school? Why do we need to promote the inclusion of technology in the classroom, and how can technology inspire creativity and create independent learners. This paper reviews comments made from the Pew Research Center as well as other papers written to explore the impact more resourceful technology may have on our current educational system. It is the job of the educational system to provide an educational experience for our students that utilize technology in advanced means and provide engaging content that will prepare students for their future.

Introduction

Technology has the potential to ultimately change the way our educational system works. The educational system of our current American society is in desperate need of a rehaul. Technological takeover is inevitable. We see this in our cities, hospitals, businesses, but not our schools.This paper aims to answer these questions and promote positive effects of technology in our schools all while questioning the need to begin technology implementation as soon as possible

Why Integrate Technology into Classrooms?

The availability of technology brings with it issues of inequity the current education system needs to address. "All students deserve a quality education. But declaring that everyone must reach the same level is naïve at best, cynical at worst, in light of wildly unequal resources," (Kohn, 2014). This quote from Alfie Kohn depicts the general direction of this paper. Right now our education system is in a rut. Standardized testing relies on every student taking the same test and being stuck with the scores regardless of intelligence. We need to embrace technology in the classroom to provide students with a greater change to succeed in life - teaching them how to use this technology and encourage them to think creatively rather than conform to the rigid and out of date mode of thinking that standardized testing encourages.

We should challenge the outdated model of instruction that assumes students are empty receptacles into which knowledge is poured, (Kohn, 2014). The era of the student's being taught to regurgitate mass amounts of content with no application other than on standardized tests or classroom tests in general is only harming our students in the long run. It is a pointless task that is only done from a political point of view. Students cannot actively apply the knowledge they gain from learning from Standardized Tests in secondary school to relatable, real world situations. That is true, students are open to the words from the teacher, and filling them up with

content knowledge will help them learn, but only if they are able to apply the content in appropriate ways. The world is full of different careers and ways to use the knowledge and skills they gain in school, but spewing out content on a test is not going to be one of them. We need to find ways to incorporate technology into our current education system to make it more effective and produce more creative and authentic learning situations that require students to focus on critical thinking and problem solving rather than memorization

Effectively Integrating Technology Into The Classroom

Successful technology integration generally involves three key principles. Edutopia, a website published by the George Lucas Educational Foundation (GLEF), defines the first key principle as "students play an active role in their learning and receiving frequent personal feedback," (Vega, 2013, p.). This requires us to explore how we can offer technology that would give precise feedback in the form or a critical thinking questions. The second principle asks that, "students are able to critically analyze and actively create media messages," (Vega, 2013 pg.) Never before in history has it been this easy to communicate with one another and view a mass amount of content instantly. Finally, the third principle: "teachers are able to connect classroom activities to the world outside the classroom "(Vega, 2013). This is the most responsible thing teachers should do in regards to technology. It can be tough to relate topics such as cell mitosis and the war of 1812 to current real world events in the classroom but technology helps bridge that gap and make content more relatable to students' lives.

When we begin to introduce technology in more meaningful ways to our students we have to remember something specific: "A key transition over the history of information technology has been in the shift from passive audiences to active users. Digital technologies permit users unprecedented control over the content they consume and the place in and pace at

which they consume it," (Vega, 2013, p.). In order to successfully implement the idea of personalized learning, we need to understand how technology can specifically enhance the classroom learning experience. At the heart of effective technology integration practices, digital technologies offer learners greater opportunities to be more actively involved in the learning experience (Vega, 2013). The key word is active. We have to move from a passive classroom where students sit quietly, memorizing and note taking into a more active and engaging classroom, where students use technology to build upon content they can instantly access through the internet.

Incorporating Technology Early On

In order to make the best use of technology in education, we need to incorporate it early on in students' school experience. We have to think of the type of careers we are helping our students become ready for. Jonathan Grudine, principle researcher at Microsoft believes, "the essential skills will be those of rapidly searching, browsing, assessing quality, and synthesizing the vast quantities of information," wrote Jonathan Grudin, principal researcher at Microsoft," (Anderson & Rainie, 2012, p.). The traditional sense of memorizing vast amounts of facts and formulas in traditional classrooms will remain, but in lesser quantity. "In contrast, the ability to read one thing and think hard about it for hours will not be of no consequence, but it will be of far less consequence for most people," (Anderson & Rainie, 2012 p.12). The internet has given us a need to not have basic facts memorized. It does however, provide us with an opportunity to think deeply and more critically about the content we are learning about if we don't have to spend hours memorizing. Another comprehensive insight came from Barry Chudakov, a Florida-based consultant and a research fellow in the McLuhan Program in Culture and Technology at the University of Toronto. He wrote that by 2020 "technology will be so seamlessly integrated

into our lives that it will effectively disappear. The line between self and technology is thin

today; by then it will effectively vanish," (Anderson & Rainie, 2012, p. 11). This isn't

unfathomable. We have seen substantial improvements in technology in the past decade and it

has only become easier and more mainstream than ever. With smart phones, which have evolved

to a jack of all trades device, we hardly have to think twice about what we are doing. Youth will

assume their minds and intentions are extended by technology, while tracking technologies will

seek further incursions into behavioral monitoring and choice manipulation. Children will

assume this is the way the world works (Anderson & Rainie, 2012). When more and more people

continue to be raised in this technologically advanced society, we have to tend to their needs in

the classroom.

Personalized Ownership

Teaching is an interaction between teacher and student. Rather than there being one,

singular way in which technology can be incorporated into a classroom's curriculum, each

specific classroom and content area should work to integrate technology in a way that is

specifically structured and catered to that content area, (Koehler & Mishra, 2009). We want our

students to learn by exploring through trial and error, and as educators, we need to do the same.

When teachers subject themselves to the same practice of exploring technology through trial and

error that we require of students, the idea of teaching as an interaction between student and

teacher becomes stronger and more authentic. "Honoring the idea that teaching with technology

is a complex, ill-structured task, we propose that understanding approaches to successful

technology integration requires educators to develop new ways of comprehending and

accommodating this complexity," (Koehler & Mishra, 2009.). Teaching can be described as a

problem solving career, so we need to let teachers be free to explore, rather than require a one size fits all solution to successfully employing technology to help students learn and succeed.

Any good educator is fully aware that there is no one-size-fits-all method to helping any student or classroom. The same must be true for teacher educator. When teaching educators how to integrate technology, they must be treated as students and offered different approaches as well. "Many approaches to teachers' professional development offer a one-size-fits-all approach to technology integration when, in fact, teachers operate in diverse contexts of teaching and learning," (Koehler & Mishra, 2009, p. .) The same technology that works in the science lab isn't going to be the best solution for the music room, so how can we offer teachers different technology options? Using technology has to be an open ended experience. Instead of requiring the students to use a certain program for making a presentation, allow them to use any option they want to create their presentation. This offers freedom and a more personalized sense of ownership to their work, encouraging creative thinking and opening doors for students and educators alike.

The Future

Education is a vital part of, not only encouraging growth in society, but maintaining its continued adaptation and survival. It is largely accepted today's America that education is a critical part of the success of the future. However, it is more complicated to specify what it is we attempt to accomplish with today's education system. According to Tom Horne, the purpose of education can be broken down into three parts, (Smith, 2009). Horne notes, we're preparing kids

for jobs. We're preparing them to be citizens. And we're teaching them to be human beings who can enjoy the deeper forms of beauty. The third is as important as the other two," (Smith, 2009, p. 3). Though classrooms will continue to look different with increased use of technology, these purposes proposed by Horne remain the same. Just as today's classroom inevitably involves technology, so does today's workforce and this will only be more true going forward. We need to include tech into our classrooms now to prepare for the jobs of the future and to be productive citizens. Also, we need to teach students who to use technology creatively, in order to appreciate the things in society that make life beautiful, rather than only encouraging them to consume monotonous information.

The future is going to require a full on technological revolution. Students using their own personal devices to access content daily in specific classroom learning environments. The teacher will be seen as a guide, someone who is knowledgeable but also able to step back while the student's use the technology to teach them the content - making a more student-centered learning environment rather than the traditionally teacher-centered mode of instruction. "As with other professionals, we expect teachers to use technology in ways that extend and increase their effectiveness. It is no longer appropriate to suggest that teachers' low-level uses of technology are adequate to meet the needs of the 21st-century learner" (Smith, 2009, p. 4). The student of the 21st century has been born into technology. Their child has been molded around playing video games, surfing the web, and social media apps, and learning how to code through a seemingly infinite amount of free content on the internet. We need to adapt to this concept of allowing students to use the free resources of the internet to create, design, and build learning content that can be applicable in the real world

Open Educational Resources (OER) do offer some challenges in the current system we have now. Implementing some new concepts requires change from within classrooms and in the minds of teachers, and that doesn't always come without a struggle. This transition will not come seamlessly. Getting teacher's away from the "'I need this textbook and structure' to leveraging OER that [are] readily available and accessible" (Marcinek, 2014, p.3). Pushing forward the idea of getting rid of textbooks all together, which will become outdated shortly after published it seems could be a game changer for school's strapped of funding. "Additionally, OER are free and, in most cases, vetted for credibility and accuracy of information. Plus, teachers have full autonomy over their content and can update it from year to year," (Marcinek, 2014, p.3). One of the biggest reasons to push for this type of change in the education system is how OERs operate. They are free of charge. Anyone at anytime has access to all of the scholarly and credible content the resource has to offer. This could be a huge blow to the textbook industry but potentially allow school districts to save textbook money and relocate it elsewhere to more productive places, creating a more equitable learning environment for those school district's with less funding.

To explore how the internet has affected education specifically, the Pew Research center completed a survey on ways digital technologies have helped them in classroom. This survey was completed and published in 2013. Times continue to change and technology has come a long way, even since then.Part of the Pew Research Center can be described as a non-partisan think tank. This particular survey explored the impact of the today's available technology on educators at the secondary level, (Purcell, Heaps, Buchanan, & Friedrich, 2013). The results of the survey found that, out of the 2,462 educators surveyed, 92% of these teachers say the internet has a "major impact" on their ability to access content, resources, and materials for their

teaching, 69% say the internet has a "major impact" on their ability to share ideas with other

teachers, 67% say the internet has a "major impact" on their ability to interact with parents, and

57% say it has had such an impact on enabling their interaction with students, (Purcell, Heaps,

Buchanan, & Friedrich, 2013). The correlation this data shows on how technology shapes

education will only continue to rise and become more apparent. Each of these specific questions

asked had to deal with technology/internet making it easier to interact with one another. These

interactions are not often face to face, but advancements such as email, instant messaging

software, and comment sections allow constant interaction.

Inspiring Creativity

As explored previously in this paper, technology is used differently across different

subjects. The same is true for how technology *influences* different subjects - specifically the

visual arts. The visual arts have cemented themselves as a critical part of the classroom

experience. According to Hare, who provides a teacher's point of view, on The Art of Education

website, "An art classroom can be an enhanced atmosphere of deepened critical thinking,

authentic collaboration and communication, intense creativity and uninhibited curiosity through

the addition of digital resources and technology," (Hare, 2016, p.5). The visual arts allows

students the opportunity for hands on work experiences and the potential to express oneself

through a variety of media and techniques. "It is through a combination of resourceful

instructional strategies (rooted in traditional, researched pedagogy) and high-quality digital

media resources that students can continue to strive towards these goals," (Hare, 2016, p.6).

Technology within the visual arts realm can be used in a multitude of ways. One way is viewing

technology as a new medium, rather than an assistant. Courses such as animation and graphic

design have been around for years but as the technology continues to improve, the opportunities

for students to experience these creative classes increases as well. We can also view technology

as an aide to help with communication

In order for technology to become a part of the visual arts classroom, we must not forget

one very important aspect of learning. "In order for a child's brain to develop properly, a child

must experience touch, movement and human contact:

> Consequently, the practice of depriving a child of participating in recess as a punishment
>
> is clearly counterproductive. The 21st Century students must be given plenty of
>
> opportunities to run and play, touch things and experience real life, communicating with
>
> other humans, rather than spending excessive time in a virtual online environment"
>
> (Valle, 2013, p.).

As an advocate of the visual arts in education, I wholeheartedly agree with this. Technology

must be used in a way to enhance the traditional hands-on experience. The classroom can

provide technology to students to upload their work on to online galleries, share their finished

projects with classmates or post to social media.

This paper provides a glimpse into the why we need to incorporate technology into our

current educational system, reasons technology will benefit our future students, and how to

provide them with the skills needed to succeed in our technologically advancing society.

Additionally, as technology is integrated into the curriculum of the future in order it will

revitalize the visual arts and create creative and independent thinkers. The key lies in better

teacher education as to how to adapt technology to specific curriculum and encouraging teachers

to embrace their status as lifelong learners in the realm of technology, just as we expect students

to be. We also need to embrace technology as a tool for authentic learning experiences that

provide students with a new definition of "hands-on" learning opportunities. Just as education is

the key to the survival of our ever-evolving society, integrating technology into the classroom to

encourage creative thinking is the key to innovation that will allow society to not only survive,

but thrive.

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