

Running Head: Instructional Technology

Philosophy of Instructional Technology

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How can teachers relate education to students' lives and how can it help them become better people? This is an essential question when developing a philosophy for teaching; however, technology must now be incorporated into that philosophy. Some of the most important skills to teach students are how to: think creatively to solve problems, communicate and collaborate with others, and critically evaluate all the information found in the world today. These skills are critical when developing a student that is going to succeed in the 21st century with all the resources technology makes available to them.

Students are now entering the classroom with the skills to use the technological hardware available to them. As educators it is our job to facilitate that ability to the learning process. However, using technology just for the sake of using technology does not benefit the students. The specific technology must be carefully selected and integrated into lessons and course objectives. Lessons must not only focus on memorization of information but how to interpret information to create new meanings and open different avenues of learning. The visual arts is a huge part of helping move students toward being able to think critically. Nancy DePlatchett in her essay, *Placing the Magic in the Classroom TPACK in Arts Education* discusses how the choices students make during the art making process are self-directed. "They make decisions based on their own judgments of 'right to fit'. They use creativity and critical thinking to find the best vehicles to communicate their ideas and to solve complex visual, aural, verbal, or spatial problems. In art making, learning is a process of self-discovery". It is this self-discovery that will help develop student's intellectual curiosity.

In order to be able to teach effectively using the new software and hardware becoming so readily available teachers must understand TPACK. TPACK (technological pedagogical content knowledge) is "an understanding that emerges from an interaction of content, pedagogy, and

technology knowledge” (Colbert et al., 2008, p. 17). Each one of these is important on its own however, teachers of the 21st century learner must study and master the interaction between them. This knowledge must be incorporated into their instruction. When these components are intertwined into lessons, units and learning objectives students will have a much better chance at mastering the skills to become successful members of society. With TPCK students will not just use technology but will create new avenues and connections with what they already know and what they wish to learn. Teachers will help guide the students in a learning environment that is both self- directed and constantly challenging. This will help ensure the students are emotionally linked to their learning and have a supportive network of peers and teachers.

In the visual arts most of the learning students do is during the active phase of art making. The students are constantly assessing their work and making changes while they try to solve ever-changing problems. This learning is supported by John Dewey’s philosophy of “Learning by Doing”. “John Dewey is often seen as the proponent of learning by doing – rather than learning by passively receiving. He believed that each child was active, inquisitive and wanted to explore”. (Pegg 2017) The 21st century learner is one that must be engaged in what they are learning by actively participating in the learning process. Students today are coming into the classroom with short attention spans because they receive so much information quickly on a daily basis. It is like the way people channel surf on the TV. Watch for a few seconds and quickly move on. Click small amount of information, click small amount of information, click and move on. “Smart” phone use at young ages has also helped reduce student’s attention span. The world is reduced into a 3inch by 5inch screen conditioning students to view information and images quickly and then swipe and move on. Students are able to quickly assess what is interesting to them but they do not stick to it for very long. Educators must be in tune to this if

they expect students to stay interested in the content they teach. This is why “learning by doing” is going to be critical for the 21st century learner. In Michael Grant’s article, “Getting a Grip on Project-Based Learning: Theory, Cases and Recommendations,” he discusses the importance of student centered learning. “Project-based learning is centered on the learner and affords learners the opportunity for in-depth investigations of worthy topics. The learners are more autonomous as they construct personally-meaningful artifacts that are representations of their learning”. With the vast array of technology available too, there are endless possibilities for project-based learning. As listed on the webpage Common Sense for Educators some websites students can use are Wizards School, Crayon Physics, Contraption Maker and CueThink. Students can create multimedia projects, create web quests, use Google Earth to explore the world and school districts can promote and encourage activities such as Genius Hour. These types of activities will foster higher level thinking skills such as analysis and evaluation. The teacher has a pivotal roll in creating the proper environment for all of these technological possibilities to come to fruition. First and foremost the teacher has to develop trust with the students and prove to them that they matter. The students should be able to enter the classroom and know that their needs will be met. This requires the teacher to wear many hats and have clear expectations on how the students are to behave. The students also need to know that they can rely on the teacher for just about anything. Knowing that the classroom environment is safe will allow the students to be able to take risks and know if they fail that it will be OK. 21st century learners should be taught to aim high without the fear of missing rather than aim low and always hitting.

With all the technology and the vast amounts of information that is easily accessible to students, educators have to demonstrate how to be good digital citizens. Teacher must start (in elementary school) modeling good ethical behaviors so that as students gain more independence

they have a sound foundation for using online environments. Part of this should include educating the students on the potential consequences that can happen with inappropriate use. Any information that is posted on the web is potentially accessible to anyone. There is no expiration date on this information and it can show up years later possibly affecting college or careers. Even though the Internet seems anonymous, it is not. Students need to understand that they need to treat people with the same respect that they would if they were seeing them in person. When students begin to understand this, at a young age, it will help make better choices as they enter middle and high school.

Another problem that will arise with the vast amount of information and resources accessible to students is an understanding of the correct ways to use and cite this information. Plagiarism (intended or not) is a serious consequence that educators must address with their students. It is very easy to cut and paste or download information from the Internet into papers and documents. Students may do this without a clear understanding that these words and images are protected. “The Copyright Act of 1976 defines intellectual property rights and what constitutes violations of these principles, and section 107 of this act discusses the fair use defense for teaching, scholarship, and research” (Williamson & Redish, 2009, p. 131). According to Williamson and Redish most teachers have not read this and the ones that have “find the text tedious and ambiguous”. Because of this educators need to be diligent when it comes to using information from the web and monitor student use. When teachers are not sure about using information it is their responsibility to get help or do the necessary research prior to helping their students. If we as educators do not understand how to properly use and cite information how do we expect our students to learn the proper methods? “These barriers must not prevent educators

from being informed, teaching students, and reinforcing legal and ethical behaviors in schools” (Williamson & Redish, 2009, p. 132).

An important aspect for teachers to consider as they develop their teaching philosophy is that even though technology is filtering into all areas of the world there are still students that have limited access to it. “Another divide is the well-known digital divide between those who have access to the latest technology, and those who do not”. (TPCK 2008) Due to this educators have to be able to differentiate their lessons to challenge students that have advanced skills and train those with little or no technological skills. This training is imperative to help those students move toward becoming 21st century learners. Students must be trained on how the technology works before they can benefit from it. Educators must master their own skills so that they can have the confidence to teach in this environment. Since technology is constantly changing and improving teachers have to continually upgrade their own skills. According to ISTE Teacher Standards (2008), “Teachers continually improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources”.

Technology is a mainstay in educating the 21st century learner and mastering its use in the classroom is critical for the teachers of the 21st century. Educators must relate their teaching to their student’s lives and challenge them to take responsibility for their own learning. Students can learn by doing project-based lessons that will develop their ability to think creatively to solve problems and communicate and collaborate with others. Different technological tools must be used and integrated into teacher’s philosophies so that their students can succeed in the 21st century world.

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