
Philosophy of Instructional Technology

Elizabeth Rinkes

Introduction to Instructional Technology
University of Akron
I-Chun Tsai, Ph. D.

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Teaching is a very rewarding career because teachers have the ability to impact many different lives in one short period of time. There are many students in one individual classroom, however, each and every one is unique and learns in their own ways. Teachers who make the biggest impact recognize these differences of the students. They are able to accommodate these differences in their lessons so that the students can maximize their learning. One avenue teachers can accomplish this is through the use of technology.

Technology is becoming a very prominent tool in education. It allows various tools to be accessed and utilized by the teachers and students. The use in education can be extremely beneficial for a variety of ways. First and foremost, it allows the students thrive on their curiosity by having answers at the tips of their fingers, literally. If they do not know the answer to why something works, etc, then they are able to simply Google the answer. This was not something that was available in the past. However, most importantly, it allows the teachers to transform their teaching to better accommodate and meet the range of needs in their students. Technology allows educators to engage students of varying abilities.

According to Harris and Hofer (2009), "When integrating instructional technologies in instruction teachers' planning must occur at the nexus of standard-based curriculum requirements, effective pedagogical practices, and available technologies' affordances and constraints." By following this guide, the teachers will be able to maximize their instruction through the use of technology. It is important to show students the various tools and devices to enhance their learning experience. State testing uses technology today and therefore the repeated exposure to various technology tools will benefit students

immensely. On the other hand, in order for the educator to choose the best fitting technologies for their subject area, they must also be familiar with the tools and devices available.

Because of the ever-increasing amount of technology in schools and in the homes, students and teachers may not always have the same skill-level and therefore may create additional challenges. “One divide, for example, is between the digital natives and the digital immigrants” (TPCK, 2008). Referred here are the digital natives as in the students who have grown up using technology, while the digital immigrants being the older teachers who have begun to use technology later in life. This divide begins immediately in the classroom if the natives have a greater understanding of technology over the immigrant teachers who may still be uncomfortable with the technology being presented. The teachers are presented another challenge in this case. The natives may be difficult to motivate because they have grown so familiar with the technology.

According to TPCK (2008), “Another divide is the well-known digital divide between those who have access to the latest technology, and those who do not.” This creates a driving factor to integrate technology in the classroom regardless of this challenge. By exposing the students to these technologies, educators are setting the students for their success. Not all students may have digital access at home and may have lower exposure to these tools. By implementing various technology tools and devices, the students, as well as the teachers, will become more comfortable with the use in the classroom.

On the other hand, new technology can be a difficult skill to manage. If teachers are familiar with the tools prior to introducing, they will be able to set a positive example.

Teachers need to demonstrate to students the importance of technology while also the patience of learning a new skill through technology. According to TPCK (2008), "Learning to become flexible, creative educators who can transcend functional fixedness and other barriers is an ongoing and complicated process and must be confronted at both pre- and in-service level." Teachers need to be able to set the example of flexibility in the classroom so that the students are more open to change as well. Implementing new technology is a challenge in itself so the teacher must provide ample time for the students to develop their skills and a positive learning environment. This can also be a challenge for teachers who are not familiar with technology themselves.

In order to integrate technology, it is pertinent for educators to become familiar with the tools available. According to ISTE Teacher Standards (2008), "Teachers use their knowledge of the subject matter, teaching and learning, and technology to facilitate experiences that enhance student learning, creativity, and innovation in both face-to-face and virtual environment." The more comfortable the teacher is with the technology they plan to use, the better learning environment and support they can offer to the students. If the teacher is not familiar with the tools, they can attend professional development to hone the skills in which they feel least confident. 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."

When the teacher is able to properly integrate technology into a lesson, it opens the classroom to many opportunities not available prior. "The digital computer is unique in its

ability to store, deliver, and help manipulate a variety of symbol systems: visual, acoustic, textual, and numerical. As a tool, the computer (or the computer appliance or system provides humans with new ability or greater power, allowing people to do things they could not do before, or to do familiar things more easily" (Papert, 1980). Technology opens education to a new world of possibilities that teachers are even still learning about. In addition, technology allows teachers to have a more hands-on approach in the classroom. For example, instead of watching a video on force and motion, the students can use a website to simulate the various forces and motion to better understand the concept. According to Moersch (1998), "Computer technology is employed as a tool that supports and extends students' understanding of the pertinent concepts, processes, and themes involved when using databases, telecommunications, multimedia, spreadsheets, and graphing applications. Traditional verbal activities are gradually replaced by authentic hands-on inquiry related to a problem, issue, or theme."

One particular tool that has been extremely helpful in the classroom is Google. In addition to their search tools, they have also began developing various "Apps for Education" to help teachers in the classroom. One of the many apps they have developed is Google Classroom. According to Google (2015), "Google Classroom is designed to help teachers create and collect assignments paperlessly, including time-saving features like the ability to automatically make a copy of a Google document for each student. It also creates Drive folders for each assignment and for each student to help keep everyone organized." By utilizing these tools, teachers have an open road map to use technology. The 21st century technology allows for endless possibilities in the classroom.

On the other hand, with the growing use of technology in the classroom, it is also critical that teachers educate the students on responsibility and digital citizenship. It is crucial that students and parents sign release forms in order to use technology in school. This shows the students the importance of using technology properly as well as ensuring the parents that personal information should not be given out. In addition, not only for their own safety, but they should also be educated on the responsibility to not plagiarize. This is something that teachers need to be proactive to ensure the students are not doing and reiterate that it will not be accepted.

In order to effectively implement technology, educators must teach students how to use it properly and in a respectful and ethical manner. Teachers must encourage students to use the tools available, but to use them properly. If used properly, technology can be a beneficial tool in the 21st century. It allows students to collaborate as well as gaining knowledge through redefinition of educational experiences.

Teachers will need to be responsible in regards to implementation as well. Technology is an outstanding feature that continues to improve the overall capabilities. If teachers continue to educate themselves on the various tools available, they will also be able to better utilize them in the classroom. Technology can spark interests in students that would not normally be available in a traditional setting. In addition, it allows lessons to be more engaging to all students. Students can use various tools to complete assignments and be creative in their development. Technology can be a captivating tools for students in the classroom.

It is critical to recognize the growing capabilities of technology in our society as well as for educational purposes. Classroom lessons will never be the same as we once remember. This can be a beneficial effect as long as the students and teachers are responsible to use it properly and in an ethical manner. The tools available can inspire students and encourage their curiosity. It is also a positive tool to reach students of all ability levels as well as bridge the gaps in learning. If teachers continue to educate themselves on the various tools, technology will allow students to maximize their learning and spark new interests.

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