

Inform, Solve, Create

Why Use Digital Technologies in the Classroom?

Across the developed world, most adults integrate digital technologies into their personal and professional lives without a second thought. Notwithstanding the dark side of social media, digital technologies have provided enormous benefits to us, as demonstrated by our recent experiences of COVID-19, where web-based technologies have enabled many of us to remain productive and reach out to friends and families in ways that would have been impossible just a decade or two before. Given these obvious benefits, why does the integration of digital technologies into the classroom sometimes seem like a difficult and even unpopular task?

Teaching is, of course, a unique profession, in that heavy expectations and responsibilities are placed on it by the rest of society. After all, educating new generations is building the future. Changing how we teach and learn is often seen as risky, despite the obvious shortcomings of traditional methods developed in a different age. It is important, however, that we take up the challenge. As Seymour Papert wrote in his 1983 book, *Mindstorms*, “Technology and computational ideas can provide children with new possibilities for learning, thinking and growing emotionally as well as cognitively.”

How, then, can teachers make sense of the world of digital teaching and learning? Perhaps a good place to start is to take a step back and think about what types of digital technologies we use in the world beyond the classroom, and why we use them. Think about it in these three purposes:

1. Inform - Finding Information

There are many ways in which we use technology to find the information we need, whether we are reading the news, trying to find out more about a particular person or topic, or finding out how to perform an unfamiliar task by watching online tutorials. Each of these types of information gathering works at different levels, from knowing exactly where to go to find what we want, to very broad searches on Google, to targeted searches of particular sites such as YouTube. Of course, finding information is only the start. On top of this are essential critical thinking skills about what sources to use and how to interpret the information that is provided.

Students need to be given opportunities to inform, solve and create, preferably in integrated activities that address all levels of learning.

2. Solve - Performing Tasks With the Aid of Technology

Both at work and at home, we frequently turn to specific applications to perform important tasks. These might include using a word processor to write a document, purchasing items from an online shopping site, using a mapping app on a mobile phone to travel to a location, using a video calling app to host an online conference, or using a very specific tool for one’s profession such as a software developer writing code. The list is endless. What is really happening here is that we are using particular tools to solve specific problems.

3. Create - Using Technology for Creativity

There are, of course, no boundaries to using digital technologies for creativity. In the professional world this might involve creating music using MIDI technology, making digital movies, creating marketing infographics, building mobile game apps, or any of thousands of other applications, not only in the creative industries but across all areas of professional and personal activity.

Inform, Solve, and Create in the Classroom

How might we relate these three digital activities to the classroom? The revised Bloom’s taxonomy for teaching and learning begins with the foundation layers of “remember” and “understand” (inform). Above these come “apply,” “analyse” and “evaluate” (solve). “Create” comes at the very top. According to this taxonomy, the most important



thing that learners can do is to create new products, ideas or perspectives.


In Practice

Let's take as an example a group of students being tasked to organise an event at their school.

First, they would need to inform themselves about how to do this. They would need to use digital tools such as web browsers, collaborative documents and communication tools to gather, share and organise relevant information and communicate with important stakeholders.

Then, they would need to select and use appropriate tools to solve the problems of running the event, perhaps using project management tools like Trello, spreadsheets for budgeting, and mind mapping tools to capture the big picture.

Finally, they would need to create materials related to the event, perhaps a website, marketing videos, social media posts and email campaigns to advertise the event, as well as multimedia for the event itself.

In summary, to successfully integrate digital technologies into the classroom, we should be aware of how we are aiming to address the different levels of learning in each activity. Students need to be given opportunities to inform, solve and create, preferably in integrated activities that address all levels of learning. 



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