

Technology in the Classroom

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A generation or so ago, the Internet, web browsing, and electronic mail were limited, both in versatility [what could be done] and accessibility [who used it]. Many people had heard the terms but only few understood the possibilities and capabilities that these innovations would afford the global population. Today, many teachers have not only been exposed to and trained in the use of the Internet—including features such as web page design and video conferencing—but many also have Internet access at home or at school; the newest and perhaps most exciting dimension of the technology being wireless accessibility.

In their attempts to use technological advances to facilitate their work of human resource development, more teachers and educators are making conscious efforts to integrate technology into the teaching/learning interaction. Perhaps the main reason for which the technology, specifically the Internet, is used is for research. Students have a wealth of information available to them, much of which might not be easily retrieved from books and magazines in a school library. In addition, new breakthroughs, findings, and discoveries in any part of the world can be accessed almost immediately using the Internet and various online resources. While this is a step in the right direction for teachers and students, the versatility of the technology extends far beyond research and reporting, and if properly adopted and infused into the classroom can be a dynamic and empowering teaching/learning tool.

For teachers, getting students excited about and participating in learning through technology integration is often not difficult, but sometimes teachers themselves are not sufficiently confident about their approach and they must first overcome their own reluctance and intimidation to make the strategy work. A simple project that could help both teacher and students to collaboratively engage with the Internet, while learning its features and capabilities, is website creation. Students, with the assistance of the teacher, could publish a website with information that students may have researched on a particular topic/topics or on information they may have personally created. Examples of what a page like this might include are temperature measurements over a period of time in a given locality and inferences about weather patterns in that locality, or student-created short stories and book reports, . Such a page could also provide a forum for students to share their ideas, views, and understandings of subjects and classroom issues. Many places offer free website creation facilities, for example, “Geocities,” where anyone can sign up and be allocated space to upload information onto a personalised web page.

Another way of integrating the technology into the teaching/learning process is through the use of commercially available software packages, which can be purchased through

the school or the respective departments. In science, for example, there are several user-friendly applications that allow students to engage in science learning by experimenting and manipulating variables in virtual laboratories. The concept of heat transfer by radiation is sometimes a difficult one to demonstrate in the classroom, and students often have difficulties making the distinction between heat transfer by convection and by radiation. “Heat Transfer Tools” is a software facility that uses modern numerical algorithms with enhanced color visualisation techniques and sound effects. It allows students to “see” the process occurring at the microscopic/molecular level.

Packages like this one have been finding great acceptance with science teachers, both at the primary and secondary levels, because they allow for simple, straight-forward user-input [so that variables can be easily manipulated], graphical output [which represent the end product of students’ work for each combination of variables], and thorough documentation at each step so that students [and teacher] can monitor progress and gauge understanding throughout classroom learning. Appropriate assessment tasks at selected points during and at the end of the learning are also built into the facility to provide feedback and insight.

The Internet and Internet-related technologies, with the increasing range of developmental possibilities that they offer, are here to stay. However, teachers ought never to forget that just “exposing” students to content via the technology is no guarantee that they will absorb or internalise the lesson. Lesson delivery is very important to move a lesson from the level of drill and practice or simple entertainment to the level of active metacognition. It is important, therefore, that whatever the choice of technology, teachers must spend as much time focusing on *how* they deliver instruction as they do on *what* they are delivering.

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