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Where Educators Stand in the Technology Revolution

By Jacqueline Keane

Information technology and the World Wide Web offer powerful teaching resources that provide educators with a treasure trove of information and shared professional practices. We teaching partners and I spent four years infusing instructional technology and online resources into our instructional curriculum. After four years of adjustments and discoveries to our teaching philosophy, we arrived at a middle ground where we continued using our constructivist teaching philosophy to create meaningful learning experiences for our students, giving them the opportunity to learn technological computer and research skills.

Our main teaching philosophy creates student-centered learning environments encourages a "constructivist" (Lynch, 2007) approach to learning, and implements interdisciplinary lessons, projects and inquiry-based labs. Our middle school employs a full inclusion classroom model, and we are successful in creating differentiated lesson plans for students with Individual Education Plans and/or Section 504 Behavioral Plans. Our teaching team encourages students to use the Harvard Medical School style of note taking. This style of note taking requires students to locate new information, describe different viewpoints and a highly systematic collaboration with one another to put the new information in their

own words, and graphically organize the information in designs that show their understanding of the new material.

Our students are required to create collages and posters that demonstrate their comprehension of the new material. These hands-on learning experiences give students the opportunity to build upon their previous knowledge, exchange information and construct new knowledge. Students are then assessed using authentic methods, such as learning journals, reading and writing portfolios, as well as more traditional grading procedures, such as multiple choice and essay tests. The major objective of our teaching philosophy is for students to practice higher-order thinking skills in addition to their basic reading, writing and arithmetic skills.

A Wealth of Online Resources

Without the use of online resources, it took numerous hours to develop, research and produce our lesson plans. But as the Web became more indispensable, we were able to use an abundance of online teacher resources to gather new ideas for our lesson plans and projects. Our main planning time is now for more productive lessons, rather than developing new ideas from scratch, we are now able to develop our lesson plans ideas from shared resources. As a result, we are able to focus our

more teaching time would be available for students to work on their own students' projects. We began using the Internet more extensively using the Web page to access additional information as required on lesson plans, notes, as well as allowing the students and classroom presenters, we have seen students more comfortable asking questions to seek their instructional needs for their own benefit.

We began creating research questions for our classes to explore using online search engines to find scholarly resources. Initially, our students found a wealth of information online, printed it out and handed it in to us without demonstrating any learning. We then shifted our focus to ask research questions that challenged students to demonstrate their understanding and new knowledge of the subject matter, as well as to teach students to evaluate material found on the Web. My language arts curriculum began to evolve as I started to realize the importance of teaching students how to search the Web effectively and evaluate a Web page and its author's credentials. Our classrooms promote information literacy by teaching students to judge and qualify the authenticity of Web pages by assessing (1) the address and identifying the Web page's host (eg, educational, governmental, etc.).

Revamping the Curriculum

Available on the Web, we began to enrich our curriculum with software programs such as Inspiration, as well as Microsoft PowerPoint, Publisher and Excel. We began using multimedia presentations to support our lessons and emphasize the required reading. While these applications added to our lesson presentations and efficiency, the greater value was achieved when we introduced these instructional tools to students. Now, students use Inspiration to develop their graphic organizers, create PowerPoint presentations about their reading assignments, use Publisher to design projects, and demonstrate their newly constructed knowledge and abilities that with Excel.

Introducing these applications to the students teaches them the basic details of the software, as well as presentations emphasizing publishing skills as a whole. The first iterations of student presentations involved the students merely reading their slides as they presented them, with many slides and graphics that were neither visible nor relevant to the topic. We soon discovered that our students' presentations did not demonstrate their expertise on the assigned topics. So, we began identifying ways to help our students create meaningful presentations by focusing on public speaking skills and

linking publishing techniques. After some practice, students showed great enthusiasm about their subject matter. And their class work significantly improved as a result.

As my students and I use instructional technology to enrich our learning experiences, we find there are many new skills that need to be taught. However, the primary objective in our classroom is to provide an environment where students construct new knowledge. While the skills educators must develop are changing with the advances in technology, the general teaching principles that have always been successful still apply. A modern classroom would not be complete without computers, software, Internet connections, projectors and a variety of other high-tech devices; however, it can still succeed in a traditional constructivist setting.

In my classroom I am still a facilitator rather than a dictator, and my expectations would have remained the same if these technologies didn't exist. I expect students to collaborate and brainstorm in groups, write and reflect on their new constructed knowledge, use graphic organizers to categorize new ideas, and keep writing portfolios and learning journals. While these principles are constant, technology has dramatically improved the quality and efficiency of our class time. Now, students can not only write and reflect on their new knowledge, they can also share ideas and feedback with students in the school or with experts worldwide via online communications. My students also take great pride in their learning journals and portfolios in which they showcase their best work through PowerPoint presentations.

Technology by definition is ever changing. While new instruments and capacities are constantly evolving, it is essential to keep emerging technologies true to their successful teaching principles. In addition to the impact in the classroom, instructional technology has also provided an immense impact on teaching with increased collaboration among educators. The Web has given us an opportunity to share with other teachers worldwide in identifying the skills we need to be teaching in our classrooms. It has also assisted us in developing lesson plans that reach our students these new skills. This sharing of cutting-edge technologies and professional practices is imperative to help educators rise to the challenge of infusing instructional technology into our schools. ■

Reference

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