Beyond Workshops: New Technologies for Online Teacher Professional Development

A combination of social and economic forces has led to a dramatic increase in online learning in K-12 education. Fundamental worldwide economic changes, current state budget crises, and emerging new social patterns have driven the increase.

Teachers are increasingly expected to teach online, but many are unprepared to do so. They lack training in new technologies and the pedagogies of online learning. This has created a pressing need for training in online teaching. In addition, teacher effectiveness is under increased scrutiny since the No Child Left Behind Act. This has increased the focus on teacher professional development (PD) in a time of shrinking school budgets. Teachers currently face many challenges to career-long learning after completing their college pre-service teacher training.

Teachers need accessible, effective, and economical PD that will provide them with the skills they need to prepare students for lives in the 21st century. However, many are unsure of where to turn to learn the appropriate technologies and pedagogies.

This white paper examines the social and economic forces responsible for the increase in online learning. It then describes the pressing need for training in online teaching and the increased focus on teacher PD. Next, this white paper illustrates three new technologies for online teacher PD. This paper concludes by introducing readers to an innovative program in online teacher education and PD.

Dramatic Increase in Online Learning

The number of K-12 students enrolled in online courses has grown from 50,000 in 2000 to 1.5 million in 2010 (Watson et al. 2010). Currently, 39 states offer substantial online education opportunities for students. This was expected to increase to 48 out of 50 states by the end of 2010 (Watson et al. 2010).

Both social and economic forces have led to the dramatic increase in K-12 online learning. Fundamental world-wide economic changes have moved us from the Industrial Age of the 20th century to the Information Age of the 21st century. Schools must prepare students.
to thrive as information workers. Students must learn to collaboratively locate, evaluate, and synthesize knowledge to create and digitally communicate new solutions and ideas. This means that teachers spend less time imparting information to students and more time facilitating and guiding students' experiential learning activities.

Reduced state budgets are forcing school districts to use innovative approaches to provide high quality education with fewer resources. Online learning can produce higher student grades and test scores at lower cost to taxpayers, due to savings on infrastructure and transportation (Florida Tax Watch 2007).

Online learning improves student access to excellent teachers by removing geographic barriers to learning. Even students in remote areas can participate in Advanced Placement courses and study less-frequently taught subjects, such as physics. Online courses also provide access to students who are unable to attend classrooms due to illness or other reasons.

Conversely, online learning has increased career opportunities for teachers by allowing them to work remotely and telecommute, as workers in other fields are doing.

Students' lives outside of school are dominated by digital means of communicating, socializing, accessing information, and creating new content. This means that students are often more comfortable using new digital technologies than their teachers.

**Pressing Need for Professional Development in Online Teaching**

The rapid increase in online learning has produced an unprecedented demand for teachers who are trained to teach online effectively. The 2010 National Education Technology Plan recommends “develop[ing] a teaching force skilled in online instruction” in order to maintain high quality education in the United States (U.S. Dept. of Education 2010). However, few schools of education provide pre-service instruction in online teaching and few PD programs provide this training for practicing teachers (Dawley et al. 2010).

The lack of appropriate training means that many online teachers struggle to teach effectively and do not feel adequately prepared for the challenge (Rice and Dawley 2007). Teachers do not feel
equipped to keep up with rapidly changing technologies and are unsure of their proficiency in using them.

In order to meet the challenge of preparing students for lives in the Information Age teachers must receive appropriate pre-service instruction and on-going PD in online teaching. Teachers teach as they are taught, which makes online teacher training most effective when it is presented online.

In addition to learning how to use new technologies and software, online teachers must also learn effective online pedagogies. These include techniques for facilitating productive online interactions, motivating students, disciplining them when needed, interacting without visual cues, and adapting lessons to different learning styles and needs.

Appropriate online training must also be supported by standards and endorsements for online teaching. Although some states have developed these guidelines, they are far from universal. Currently, only Idaho and Georgia have online teaching endorsements for state teacher licenses (Dawley et al. 2010).

**Increased Focus on Teacher Professional Development**

No Child Left Behind legislation has increased scrutiny of teacher effectiveness. This makes the career-long PD required by most school districts more important than ever despite shrinking school budgets.

Online teacher PD offers many benefits over traditional workshop formats. In addition to providing skills that are in high demand online training simultaneously supplies invaluable real-world experience. Online PD is more accessible and economical than on-campus PD and is highly effective, scalable to any class size, and provides current information.

**Accessible:** Online teacher PD is far more accessible than other formats. The costs of commuting, child care, and travel time put on-campus PD out of reach for many teachers, especially in rural states and the sparsely populated West. Online courses give teachers control over their learning schedule while providing timely feedback.

**Effective:** Online teacher PD helps make good teachers better and reduces attrition by providing needed skills. The online atmosphere
allows greater interaction and more personalized attention than workshops and traditional classes. Most importantly, online teacher PD is enjoyable, which keeps learners involved and motivated.

**Scalable and current:** Online courses can accommodate any number of learners; courses are rarely cancelled due to low enrollment. Course materials are easily updated to provide current information on best practices and research- and evidence-based pedagogies.

Online teacher PD provides the training and experience teachers need most in a format that is compatible with their needs and resources.

**New Technologies for Online Teacher Professional Development**

Successful PD provides teachers with skills and experience using the technologies that will prepare their students for life in the Information Age. Training is most effective when carried out online, using the latest technologies and accompanied by instruction in the pedagogies of online teaching. New technologies that can enhance teacher PD include online personal learning networks, learning in virtual worlds, and mobile learning.

**Online Personal Learning Networks**

Online personal learning networks, or communities of practice, are groups that share a common interest or activity and meet regularly online to help each other and share and develop knowledge. The 2010 National Education Technology Plan recommends that teachers use social media to create personal learning networks for career-long learning (U.S. Dept. of Education 2010). These groups augment online PD by providing a forum for developing and sharing best practices, participating in real-time problem solving, and collaboratively developing student learning resources (U.S. Dept. of Education 2010).

Personal learning networks overcome the isolation inherent in teaching and allow teachers to draw on the knowledge of experts and fellow practitioners around the world (U.S. Dept. of Education 2010). The supportive atmosphere online encourages discussions of challenging topics, which teachers may be reluctant to share with co-workers (Hur and Brush 2009). The lack of geographical barriers in online groups creates diverse networks with broad perspectives that support career-long learning.
Personal learning networks are one part of the online learning communities that link teachers, students, and parents with the information and knowledge needed to prepare students for their futures (Figure 1).

**Figure 1.** Online learning communities increase teacher effectiveness by connecting them with content, experts, technical assistance, and personal learning networks (U.S. Dept. of Education 2010).

**Learning in Virtual Worlds**

Virtual worlds are online graphic 3D worlds, such as Second Life, where participants interact through avatars. These social media provide a forum for rich personal learning networks and nearly limitless opportunities for entertainment and learning. Second World residents can take virtual field trips to libraries, museums, historical sites, and scientific laboratories.
Virtual worlds provide an excellent format for online teacher PD. EdTECH Island, in Second Life, (Figure 2) provides university courses in educational technology, plus speakers and conferences. Courses meet synchronously on EdTECH Island and learning continues in virtual learning networks.

Figure 2. Learning opportunities in virtual worlds, such as EdTECH Island in Second Life, make courses, speakers, and conferences available to a world-wide audience (Copyright Linden Lab).

Mobile and Quest-Based Learning
Mobile learning is expected to be the next growth area in online learning (Watson et al. 2010). Mobile devices, such as smart phones and personal digital assistants, are less expensive than computers to buy and maintain. These devices can expand learning opportunities outside the classroom as they are available to students anytime and anywhere. Mobile devices can play podcasts on relevant topics and are ideal platforms for quest-based learning games.

Quest-based learning games provide active experiential learning that can provide excellent learning opportunities. Quest-based activities are easy to personalize for students' skill level and learning style, provide immediate feedback, motivate learners by providing rewards, and make learning enjoyable, especially when the material may be tedious to learn in other ways.
Learning games teach complex analytical skills when students must locate information and use it in new ways. For example, TimeLab 2100 lets students travel in time to 2100 to learn what climates might be like in the future (MIT 2008). The students evaluate the effects of policy changes in current times on future climates by consulting online experts.

Mobile learning and quest-based learning are not just for K-12 students. Mobile devices and quest-based games are also expanding learning opportunities for teacher PD. For example, Boise State University offers a course presented solely on smartphones, which allows learners to participate from anywhere.

Finding the Right Online Teacher Professional Development Program

An online teacher PD program should provide high quality courses and instructors and use the latest technologies. Faculty members should be actively involved in teaching, conducting research, developing best practices, and guiding education policy. Look for the following when selecting an online teacher PD program:

- Curriculum includes both latest technologies and appropriate pedagogies
- Courses taught by professors, not simply facilitators
- Professors easy to contact, whether teaching synchronously or asynchronously
- Student body includes diversity of participants from around the world
- Online personal learning networks integral part of learning and throughout students' careers
- New technologies continuously developed, employed, and improved
- Technologies used to fullest capacity as integral part of courses
- Best teaching practices developed, used, and taught
- Research conducted into the use, techniques, and adoption of digital technologies
- Policy development an integral part of faculty's professional service
Focus On EdTECH: BSU's Educational Technology Department

Boise State University's EdTECH program is an international leader in the development of online learning. All courses are taught exclusively online, including some taught on smartphone platforms.

A diverse study body interacts through a variety of EdTECH personal learning networks and virtual worlds to learn through shared experiences. These learning networks do not end when students' graduate. Rather, they continue to participate in the networks as colleagues and career-long learners.

EdTECH faculty members are in the forefront of teaching, research, and policy development in educational technology. With guidance from EdTECH faculty, Idaho leads the country in standards development through online teaching endorsement for state teacher licenses.

Variety of Degrees

- integration course to pre-service teachers in all credential programs at BSU
- Online graduate education:
  - M.S. in Educational Technology - for working in research
  - Masters in Educational Technology - for working in schools and instructional design
- Graduate certificates:
  - Online Teaching - for K-12 and adult learners
  - Technology Integration Specialist
  - School Technology Coordinator

Entirely Online

- Students never required to come to campus
- Online student teaching through partner schools, districts, and virtual education providers

Diverse Student body

- Number of students more than doubled between 2004 and 2010
- 30% from Idaho, 58% from rest of U.S., 12% international
Innovative Courses

- YouTube for Educators
- Teaching and Learning in Virtual Worlds
- Mobile Learning
- Educational Games and Simulations
- Teaching Mathematics in Virtual Worlds
- Social Network Learning
- Online Course Design
- Interactive Courseware Design

Valuable Networks

- Faculty YouTube channels and blogs
- LinkedIn - professional connections
- Facebook, Twitter, and Moodle - 800 members
- AdobeConnect - monthly webinar series
- EdTech Island - 1,600 members attend courses, speakers, and conferences.
- ARVEL SIG - Ning site for research and development of 3-D virtual communities

Contact BSU EdTECH

BSU's EdTECH Department provides quality graduate degrees from a Metropolitan Research University of Distinction. An internationally recognized faculty and an exceptional staff wait to support your education.

Visit us online at http://edtech.boisestate.edu or contact the Educational Technology Department Office at (208) 426-1966 or edtech@boisestate.
References


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