

Redefining Teacher Education: K-12 Online-Blended Learning and Virtual Schools

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The Issue: Teacher Preparation for Online Learning

The exponential increase in online learning in both regular and virtual classrooms is driving the need to incorporate new pedagogical content knowledge and strategies in preservice and inservice teacher education. Compared to many countries, the United States is behind in preparing K-12 teachers to teach online. Very few teacher education programs in the U.S. offer a curriculum for online teaching, leaving districts, states, and virtual schools to train online teachers. This approach creates inconsistencies in training outcomes across programs, and organizations must expend additional resources to provide professional development (PD) that classroom teachers would normally receive through other channels, such as a university. New models of teacher education are evolving as a result of the strong demand and slow response to this need. The disconnect is growing wider between traditional teacher education programs and the skills,

pedagogical content knowledge, and dispositions required to teach online. Although several states have adopted online teaching standards and created new areas of endorsement in response to the demand, there is a need for a wide-scale call to integrate online teaching requirements into teacher development across all levels, and to explore new models of collaborative teacher PD.

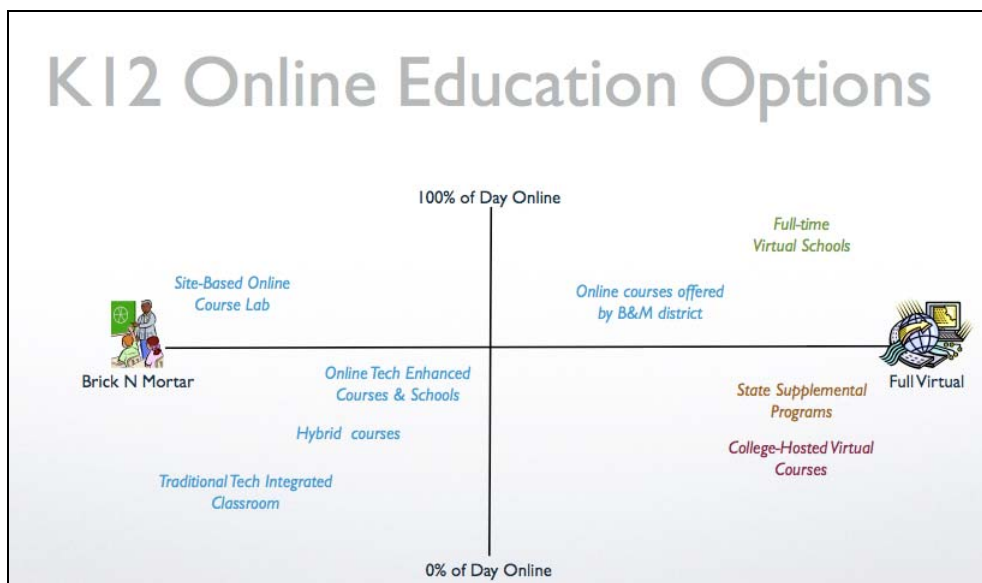
Background, Considerations & Trends

Online learning is a solution to close achievement gaps, improve student progress toward proficiency, increase graduation rates, and improve the distribution of high-quality teachers for students, regardless of geography or distance. According to a 2008 Sloan Consortium report, more than 75% of schools and districts say they need online learning to offer courses not otherwise available. Systemic challenges in K-12 education support the need for online teaching and learning as a central strategy for reform to address teaching shortages and to increase access to college-prep curriculum. Only 40% of high schools offer Advanced Placement courses. The most valuable and often scarcest resource in education is good teachers. For example, in the State of Georgia, there are 440 high schools, but there were only 88 highly qualified, licensed physics teachers in the schools in 2007. The Georgia Virtual School was created as the only way to address large-scale systemic needs for changing the distribution of licensed teachers, by providing physics to every high school online.

Online Learning Growing Rapidly

Online learning has grown 30% in the past decade. K-12 online learning has grown from 50,000 enrollments in 2000 to more than 2,000,000 enrollments in 2009. According to the Sloan Consortium, 70% of school districts offer students at least one online course. In higher education, one in five college

students takes an online course with an estimated four million online course enrollments. Blended K-12 online education options are also expanding (see figure below), with students participating in site-based online labs, hybrid courses, and part-time and full-time virtual options offered by a variety of providers, including charter schools, districts, state supplemental programs, corporations, and colleges.



The growth in online learning is also creating new professional opportunities for teachers unbounded by geography that mirror the rest of the 21st century workforce, including telecommuting and part-time professional job opportunities.

Research Shows Online Instruction is More Effective

Online learning is an innovation with an evidence-base of effectiveness in improving student achievement and educational outcomes for K-12 students. In May 2009, the U.S. Department of Education released a meta-analysis of over 1,000 controlled studies comparing online and face-to-face instruction. The conclusion was clear. "...on average, students in online learning conditions performed *better* than those receiving face-to-face classes." These

findings also held true for blended learning conditions compared to face-to-face. The reasons for the increased performance included increased learning time, innovative curriculum and pedagogy, opportunities for collaboration and reflection, and learner control over interactions with the media.

Global Strategies in K-12 Online Teaching

The World Future Society predicts that virtual learning is one of the top ten breakthroughs that will transform life around the world in the next 20-30 years (changing which populations have access to the highest-quality education and teachers worldwide). Today, many countries are training new teachers in Colleges of Education to teach online. In an international survey of K-12 e-learning, conducted by the International Association for K-12 Online Learning, Patrick and Powell found that Singapore trains every preservice teacher to teach online, including blended learning models in the classroom, and 100% of secondary schools use online learning. Since SARS in 2005, Singapore has used e-learning for continuity of learning—and has during the recent H1N1 flu pandemic—ensuring that teaching and learning continues for healthy students and faculty during physical school shutdowns.

China is expanding their online course offerings in K-12 education in the next 10 years by training teachers to teach online, with the ultimate goal of reaching 100 million more students. Mexico trains every new teacher to use digital curriculum. The International Baccalaureate (IB) program began offering an IB Diploma Programme Online in 2008, training “master” teachers to teach online and offering “gold standard” online IB courses to students in 125 countries. Other countries are using online teaching and learning as a central strategy for modernizing their education system and increasing access to the best courses and teachers.

The United States is falling behind, with few programs providing preservice training for online teaching and the new pedagogical approaches made possible through virtual learning. While universities have a long history of providing online courses and preparing faculty, most Colleges of Education (COE) are not scaling this innovation within their teacher education programs or providing curriculum for preparing teachers to teach online. The rapid pace of scaling and technological innovation can make it difficult for COEs to remain responsive to trends because their work is framed by federal and state policy, professional, and content standards and accreditation, and because they operate within the administrative confines of higher education.

National Quality Standards for Online Teaching

Teacher preservice education and professional development has historically been a main mission of higher education (NFIE, 1996), with Colleges of Education operating in response to state and national standards. In 2008, the International Association for K-12 Online Learning released National Quality Standards for Online Teaching, completing a literature review and research survey and endorsing the Southern Regional Education Board's Quality Standards for Online Teaching. The quality criteria highlight good teaching practice skills and methods (both online and blended with face-to-face) and are used as an overall evaluation tool in these areas: 1) academic credentials; 2) information technology skills; 3) interactive and collaborative strategies; 4) online classroom management and communication skills; 5) legal and ethical issues in online learning; and 6) experience in online learning. In 2006, the National Education Association (NEA), the nation's largest teachers union, published the *NEA Guide to Teaching Online Courses* that states that Colleges of Education should train every new teacher to teach online and reads, ". . . now that online education holds out the promise of quality instruction on a range

of diverse subjects to even the most remote locales, the absence of required preservice training in online teaching skills must change...Preservice teachers should also take at least one required online course on pedagogy and practice in online courses.” The online teaching quality standards from iNACOL, SREB, and NEA are guiding teacher education programs to develop curriculum for online teaching. Yet only 50% of virtual school administrators at this time report using PD guidelines developed outside their own organization.

Going Virtual! Research Series

Over the last three years, Rice & Dawley have surveyed over 1,000 K-12 online teachers, trainers, and administrators to examine the national status, needs, and challenges of teacher professional development specific to virtual learning. Current K-12 virtual teachers are very experienced teachers, with 73% reporting six or more years of teaching experience. They also report a broad continuum of online teaching PD opportunities. Some had very limited training to meet short-term needs (less than 10 hours of training, 22%), while others had more opportunities and resources and, as a result, had more transformational forms of training (45+ hours of professional development, 46%). It is a core tension reported in evolving PD models.

In the current context, schools and organizations involved in the management and delivery of virtual programs have developed or outsourced PD programs designed to meet specific needs of their particular teaching context. These contextual factors might include philosophical beliefs about how teacher training should occur, situation-specific needs of the school or program (such as a full-time or part-time program), and the use of state or self-developed guidelines. Less than half of respondents (42%) reported taking college

coursework in online teaching, the majority of training falling upon the hiring organization.

This approach to PD can also create inconsistencies across programs and schools, thus potentially affecting teacher quality, student and parent satisfaction, and learning outcomes. These evolving and varying contexts imply that standards and state policies for online teacher PD need to be broad in scope to allow for individualization according to contextual needs. The majority of administrators reported they did not follow national standards and guidelines in online teaching, implying the need for administrators to have awareness, input, and access to national standards. For other detailed findings from this research series, see <http://edtech.boisestate.edu/goingvirtual/goingvirtual.htm>.

Case Studies

Boise State University is experiencing strong enrollment growth and demand with its College of Education program to train new teachers to teach online, and is working with the Idaho Digital Learning Academy, the state virtual school, to design a statewide teacher training portal. Boise State University also prepares all of Connections Academy teachers nationwide to teach in a full-time virtual school. American University is partnering with K12 Inc. to train new virtual teachers across the nation. University of Central Florida has a teaching internship program with the Florida Virtual School to allow pre-service teachers to student teach in online courses. Michigan State University is providing online internships in partnership with Michigan Virtual High School. The Education Development Center (EDC) is working with several state virtual school programs to provide online and blended professional development on online teaching to new and in-service teachers.

Bellwether State Policies

Thirty-four states have state virtual schools employing online teachers. Twenty-one states allow full-time virtual schools. Forty-eight states have policies or programs for K-12 online learning and virtual schools. Both Idaho and Georgia have “online teaching” endorsements, either approved or in the legislative process, for teacher licensure through the State Education Agency. Teachers in these states have new professional opportunities and as more districts use online learning and blended teaching models—the “best of both worlds”—the demand for colleges of education to gear up the methods to manage a new instructional model that takes advantage of these innovations will continue to grow.

Key Questions

1. How we can create meaningful online teaching standards that are broad enough to cover the wide range of needs in various virtual learning contexts?
2. What supports are required for Colleges of Education to redefine teacher education by adopting standards and preparing all new teachers for online teaching and virtual learning professional opportunities?
3. What emergent forms of teacher education are evolving as a result of the shift toward school-based, blended and online training, and how can Colleges of Education partner with organizations to enhance these efforts? In other words, how can Colleges of Education step outside the box to rethink quality teacher education, and support it new ways?