

Cross-Reference of Online Teaching Standards and the Development of Quality Teachers for 21st Century Learning Environments

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Virtual schooling is a fast-growing option for K-12 students in the United States. As of 2009, 45 states had supplemental online learning programs or full-time programs, and some had both (Watson, Gemin, Ryan, & Wicks, 2009). Offering flexibility of time and place,

and guided, individualized, student-centered instruction (Watson et al., 2009), K-12 online learning suits the needs of many students.

Praised by school administrators in a 2008 public school district survey, online learning is serving individual needs of students and providing a “lifeline” of education to those students who are not able to partake in specific courses that will enable them to become global citizens (Picciano & Seaman, 2009). In that same report, 75% of responding school districts offered online or blended courses (this estimate increased 10% since their 2005-2006 study), 66% had students enrolled in online or blended courses and anticipated these enrollment numbers to increase, and the total number of K-12 students enrolled in online courses was projected at 1,030,000 (this estimate increased 47% since their 2005-2006 study) (Picciano & Seaman, 2009).

In addition to the public school district survey, a recent U.S. Department of Education meta-analysis compiled and analyzed online and blended learning literature. This report found that “classes with online learning (whether taught completely online or blended) on average produce stronger student learning outcomes than



do classes with solely face-to-face instruction" (p. 18). The meta-analysis also reported "instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction" (p. xv). As can be seen from these and many other reports, online and blended learning are becoming vital components in education across the United States and around the world. Online learning continues to grow exponentially, and by 2011, estimates show over eight million students will use some form of online learning (whether full-time or supplemental programs) (Greaves Group & Hayes Connection, 2006). As K-12 online learning continues to grow, so does the demand for teachers who are prepared to teach online. To prepare teachers to teach in these new learning environments, standards were created to ensure quality online teacher preparation practices. Many of these standards reference that teachers should be prepared to teach students twenty-first century skills (Partnership, 2009).

Twenty-first century skills center on three overarching topics, including "life and career skills," "learning and innovation skills," and "information, media, and technology skills." Within learning and innovation skills, students need to be able to learn and practice creativity, innovation, critical thinking, problem solving, communication, and collaboration. Under the umbrella of information, media, and technology skills, students need to be able to hone skills pertaining to information literacy, media literacy, and information and computer technology literacy. Encompassing the life and career skills, students will need to exhibit flexibility, adaptability, initiative, self-direction, social and cross-cultural skills, productivity, accountability, leadership, and responsibility. Students in the twenty-first century need to have a solid understanding of the core subjects, including English, reading, language arts, world languages, arts, mathematics,

economics, science, geography, history, government and civics (Partnership for 21st Century Skills, 2009). In addition, they need to have an understanding of the interdisciplinary application of these content areas when it comes to global awareness, as well as be literate in finance, economics, business, entrepreneurship, civics, and health (Partnership for 21st Century Skills, 2009).

In order to foster these skills in students, teachers need to learn how to cultivate a twenty-first century learning environment. The International Association for K-12 Online Learning (iNACOL) and the Partnership for 21st Century Skills partnered to write *Virtual Schools and 21st Century Skills* (2006) to emphasize how virtual schools have the potential to be twenty-first century learning environments. This report speaks to the need for educators to rethink education to align learning environments with real world demands. These learning environments are flexible and can be utilized at any time, anywhere. By taking part in twenty-first century learning environments, it is theorized that students will become more marketable for the careers they will be competing for in the future, many of which are yet to be created. Virtual schools are doing their part to empower students to be twenty-first century learners and global citizens, ethically and morally aware individuals who see how their actions and decisions affect the world around them (iNACOL & Partnership, 2006). Whether teaching these global citizens in an online or blended learning environment, teachers need to be ready to facilitate their students' learning in this twenty-first century education system (Wehling & Schneider, 2007).

The standards that guide the development of teachers to teach online and in blended formats include the International Society for Technology in Education's (ISTE) *National Educational Technology Standards for Teachers* (NETS*T) (ISTE, 2008), the Southern Regional Education Board's

(SREB) *Essential Principles for High-quality Online Teaching* (SREB, 2006), the National Education Association's (NEA) *Guide to Teaching Online Courses* (NEA, 2006), and iNACOL's *National Standards for Quality Online Teaching* (iNACOL, 2008).

Since their original release in 2000, the ISTE NETS*T standards have been adopted in all of the 50 states in addition to guiding the education policy in other countries (ISTE, 2007) and not only pertain to online instructors but also to brick-and-mortar teachers. iNACOL's *National Standards for Quality Online Teaching* (2008) were informed by a range of effective practices and research sources, as described by Ferdig et al. (2009). The iNACOL's standards have been adopted by states like Utah, Georgia, and Wisconsin. Table 1 contains a breakdown of the similarities and differences among these standards.

As can be seen from Table 1, these standards can be broken down into five categories: (1) qualifications, professional development, and credentials; (2) curriculum, instruction, and student achievement; (3) management; (4) evaluation; and (5) character.

The single standard that all four of these organizations share is that online teachers must have the prerequisite technology skills to teach online. Many standards are shared by three of these organizations. These include the ability for teachers to specify learning objectives and design activities and assessments around those objectives, the commitment to individualize instruction for all learners, the knowledge that student success is extremely dependent on the teacher and his or her design of the course, and the desire to collaborate with everyone in the community, school, and profession to promote culturally and globally aware citizenship. Some of the standards were highlighted as being important to two organizations, and these included the need for online teachers to meet state teaching standards and secure academic credentials, design for active

learning, demonstrate high-quality communication skills, promote collaborative learning, build a community of learners, share information regarding student progress, and model and teach legal, safe, and healthy technology use.

A few specific standards came from single organizations. ISTE, for example, expects teachers, online, blended, and traditional, to contribute to the profession, school, and community by exhibiting leadership in integrating technology into the curriculum. In addition, ISTE finds importance in teachers evaluating and reflecting on educational research and teacher practice to maintain their continued focus on student success and using effective tools to achieve that. In order to keep up-to-date, ISTE suggests teachers participate in learning communities, both locally and globally, in order to find unique ways to increase student learning. ISTE encourages individualization and personalization of activities and assessments based on students' learning styles as well as promoting student reflection for deeper, analytical understanding. Teachers that meet ISTE standards are innovative thinkers who engage students with real-world issues and who encourage students to think outside the box by finding authentic, creative ways to solve problems using digital tools.

SREB wants teachers to make students feel comfortable and supported. They expect online teachers to monitor and facilitate online interactions between students and provide appropriate standards for students to meet regarding these interactions, ensuring that students feel comfortable interacting with one another. SREB states that online teachers should request assistance from others in order to better support student learning. In addition to other support, SREB feels that online teachers should assess students prior to beginning instruction. Security of student data and work is important to SREB as well, and so is monitoring academic honesty. Online teachers under SREB standards are

Table 1. Cross-reference of Online Teaching Standards

	Standards	Organizations			
		ISTE	SREB	iNACOL	NEA
Qualifications, professional development, & credentials	• Has prerequisite technology skills to teach online, uses content management system	✓	✓	✓	✓
	• Meets core professional-teaching standards as designated by state licensing agency, with necessary academic credentials		✓	✓	
	• Contributes to effectiveness, vitality, self-renewal of profession, school and community; exhibits leadership, demonstrates vision of technology infusion, participates in shared decision making and community building, and develops the leadership and technology skills of others; evaluates and reflects on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning; participates in local and global learning communities to explore creative applications of technology to improve student learning	✓			
	• Experienced online learning from the perspective of a student			✓	
Curriculum, instruction, and student achievement	• Completed professional development specifically geared to teaching online				✓
	• Specifies learning objectives, designs activities to measure mastery of the stated objectives	✓		✓	✓
	• Uses fair, adequate, authentic, appropriate, multiple and varied methods, both formative and summative, to assess students	✓	✓	✓	
	• Complies with Americans with Disabilities Act by incorporating adaptive technologies to meet individual student needs		✓	✓	✓
	• Uses online resources effectively to deliver instruction	✓	✓		
	• Plans, designs and incorporates strategies to encourage active learning	✓		✓	
	• Demonstrates high-quality communication skills		✓		✓
	• Adapts web-based course to meet students' needs; promotes student participation and interactions; provides students with timely feedback, prompt response and clear expectations		✓	✓	
	• Promotes collaborative learning to deepen learning experiences and build community			✓	✓
	• Customizes and personalizes learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources; promotes student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning and creative processes; promotes, supports, and models creative and innovative thinking and inventiveness; engages students in exploring real-world issues by designing authentic problems using digital tools	✓			

(Table continues on next page)

Table 1. (Continued)

Standards		Organizations			
		ISTE	SREB	iNACOL	NEA
	<ul style="list-style-type: none"> Makes clear to students his/her availability and willingness to support them; facilitates and monitors appropriate interaction among students; provides and enforces appropriate standards for student behavior; requests others' assistance in supporting students' learning; assesses students before beginning instruction by pre-assessing frequently; ensures students know one another and feel comfortable interacting online 		✓		
Management	<ul style="list-style-type: none"> Understands that student success is an important measure of course success, uses data and assessments to modify instructional methods and content to guide student learning Shares and communicates information about student progress with mentors, principals and parents Models, guides, and encourages legal, ethical, safe and healthy behavior related to technology use Ensures that students' work and data are secure; monitors students to ensure academic honesty; helps students with technical issues; coordinates and assists students in understanding course requirements and procedures for working online; guides and monitors students' management of time 	✓	✓	✓	
Evaluation	<ul style="list-style-type: none"> Accepts and follows policies and procedures to monitor courses; ensures that students participate actively in the course Exhibits student-centered and flexible characteristics while maintaining high standards 		✓		✓
Character	<ul style="list-style-type: none"> Collaborates with students, community members, peers, parents, and student support staff, including other teachers by modeling the behavior to further student participation and success in the online course in a culturally aware manner Possesses a sense of humor and is able to project their personality through developing an "online voice"; exudes motivation and self-initiative by working effectively and efficiently without constant supervision 	✓		✓	✓

expected to help students with technical issues, assist students in understanding course requirements, and guide students with their time management. To do this, they must monitor courses and ensure that students participate actively. iNACOL developed their online standards based on the SREB standards and added specifically that the online teacher needs to have expe-

rienced online learning from the perspective of a student.

The NEA standards emphasize the need for online teachers to complete professional development specific to online teaching. The online teacher should also maintain high standards for his or her students while creating a learning environment that is student-centered and flexible.

NEA also feels that online teachers need to be self-starters who are motivated to do work with little to no supervision. They should also possess a sense of humor along with a voice that is “heard” by their online students.

Learning to teach online has been stressed as absolutely necessary for all teachers (Patrick, Murphy, & Revenaugh, 2009). Because of this, several preservice teacher education programs and in-service teacher professional development initiatives have used the standards mentioned above to develop teacher preparation specifically geared to K-12 online teaching. For instance, Iowa State University started Teacher Education Goes Into Virtual Schooling, or TEGIVS, which was established using a Fund for the Improvement of Post Secondary Education (FIPSE) grant (Davis et al., 2007). This program offers guidance to teacher education programs across the United States and around the world when it comes to developing a quality preservice teacher preparation program specific to preparing teachers to teach online. Their website includes detailed outlines and demonstrations on how to include curriculum for learning effective online pedagogy, guidelines for developing rich virtual school field experiences (Compton, Davis, & Mackey, 2009), and procedures for introducing various models of virtual schools (TEGIVS, 2010).

In addition to TEGIVS, the Going Virtual Series sponsored by Boise State University (BSU) and iNACOL is making strides to help preservice and in-service teachers see the merits of virtual and blended learning environments (Rice & Dawley, 2007, 2008, 2009; Rice, Dawley, Gasell, & Florez, 2008). Their degree and certification programs’ curriculum includes courses on technology integration, web design, program evaluation, multimedia development, online course design, online teaching, educational gaming and simulation, and instructional design (BSU, 2010).

Some teacher education programs, in addition to offering online pedagogy and instructional design curriculum, have begun to offer field experiences in virtual schools. Included in these programs are the University of Central Florida (UCF) (Prabhu, 2009) and the University of Florida (Kennedy, 2010). In these programs, preservice teachers are paired with a virtual school teacher at the Florida Virtual School and immersed in the online learning environment for 4 to 7 weeks. The chair of the Teaching and Learning Principles department at the UCF College of Education said, “We want to be thinking ahead of where the education industry is now. This program will give our students an edge, because they will not only know how to teach a traditional class, they will know how to do it virtually” (University of Central Florida Newsroom, 2009, p. 1).

Some virtual schools have started offering professional development initiatives to in-service teachers. For example, VHS offers COVE, a Community Of Virtual Educators. COVE provides five best practices courses focused on teaching K-12 teachers how to use Web 2.0 tools in their courses, whether the course is online, blended, or traditional (Wortmann et al., 2008). In addition to VHS’s COVE, the Florida Virtual School (FLVS) offers their Teaching Online Series, “filled with best practices specific to the virtual school environment” (FLVS, 2010). Courses in the FLVS series provide teachers with an introduction to online teaching and a variety of special topic courses to target specific situations, such as assisting struggling readers.

These programs and schools, and others like them, are using the SREB, iNACOL, NEA, and ISTE standards to prepare both current and future teachers to be effective online instructors. Sharing various similarities and differences, these standards ensure a quality learning experience for the students that online teachers serve. The standards indicate what future teachers need to be able to do in order to pro-

mote meaningful learning in online and blended learning environments. These standards are important to many constituents in the virtual school community, including but not limited to state departments of education, who are responsible for drafting policy regarding teacher development guidelines; teacher education programs, who need to prepare teachers who are able to teach in online and blended learning environments and who are responsible for providing twenty-first century learning opportunities to their K-12 students; K-12 schools, both virtual and blended, who are in charge of developing and mentoring new teachers to be effective online and blended instructors; and K-12 students, who deserve both high-quality teachers and the chance to become tomorrow's globally responsible citizens.

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