

**NORTHCENTRAL UNIVERSITY
ASSIGNMENT COVER SHEET**

Learner: **Steven Diaz**

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LTM5005

Dr. James Gamble

**The Connected Classroom: Curriculum
Development and Technology**

**Assignment 8: Teacher Technology
Standards**

Dr. Gamble,

Thank you for your support!

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Teacher Technology Standards

Steven Diaz

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Teacher Technology Standards

Recently, I shared a quote with my students that I remembered seeing from a presentation about goals setting: *If you do not have directions where you are going, you may end up somewhere you do not want to be* (Hopper, 2007). The essence of this quote describes the importance for having teacher technology standards. The advances in technology are constantly changing how we perceive and experience the world, and as McCain and Jukes (2001) recognized, it will cause unprepared people experience disorientation and discomfort that will make them relentlessly cling to ideas, routines, and views that they are familiar with. When unprepared people are teachers, they will also experience frustration and disempowerment for not connecting with their students in the learning process. These experiences could lead teachers feeling dissatisfied with their careers and possibly leaving the teaching profession, or it could lead teachers to prepare inadequately students for becoming productive members of a technological and ever-changing society; therefore, truncating students' chances to succeed. Definitely, the caring teachers do not want to end up dissatisfied about their vocation or disservicing their students' future.

Teachers are aware that technology has become the foundation in which almost everything is built on and how it has revolutionized the way people interact with each other and the world around them (Thacker, 2007). Therefore, most teachers recognize the importance of using technology in their professional responsibilities (Hayes, 2006) to educate students become active and involved citizens of our democratic society, where decisions will need to be made over many issues that are technological related (Texas Education Agency, 2001). However, teachers can easily become disoriented and uncomfortable with the constant technological changes, where new ideas or products become obsolete shortly after being introduced. Teachers can hardly keep

up with these constant changes to make informed decisions of how to use technology effectively in their classroom, in particular when they are already overwhelmed with the demands and responsibilities of their profession. Technology may do incredible and flashy things but if teachers do not know how to use effectively such technology in their practice then they will not be able or willing to spend time and energy to create innovative ways of teaching. These teachers will certainly continue relying on traditional instructional methods to cope with their discomfort levels of using technology that will isolate the learning experiences from their students' lives. Definitely, the dedicated teachers do not want to end up providing an irrelevant and disconnected type of education.

Unfortunately, the statistics are showing there are a considerable number of teachers who are reluctant using technology to enhance teaching and learning. Teachers' resistance or inability to integrate technology in their practice is creating additional issues in education. In 2003, Abbot found that at least 53% of the teachers who participated in a survey conducted by the Gates Foundation do not routinely use technology in the classroom (as cited in Zhao & Bryant, 2006). In 2005, CDW-G commissioned the National Teacher Survey, in which it was found that 80% of K-12 teachers use computers mostly for administrative purposes and just close to 50% have been integrating computers in their classroom practice (as cited in Zhao & Bryant, 2006). Lockard and Abrams stated that teachers often have access to technology but ends up being just an add-on that is barely connected to the lesson at hand (as cited in Kingsley, 2007). The significant variability of teachers' skills, knowledge, and disposition for using technology to enhance teaching and learning has resulted in a growing gap between the educational experiences of those students who receive instruction from tech-savvy teachers and those who do not (Bennett, 2000).

Definitely, the conscientious teachers do not want to end up worsening the injustices that are already happening in society.

Technology standards are essential for teachers to understand the constant changes happening right before them, so they have a direction of what needs to be done to synchronize education with the rest of society (McCain and Jukes, 2001). These standards should motivate teachers to reflect about those paradigms that are hindering their classroom practice become relevant and beneficial for their students. Technology teacher standards should serve as a plan of action on how teachers should integrate and harness the power of technology to enhance teaching and learning. Teachers should use technology standards as assessment tools to check and adjust their competency levels as a technological-literate teacher. Unfortunately, most teachers and college of education professors will not change their traditional classroom practices until they are required and trained to do so (Bennett, 2000). Therefore, technology teacher standards are imperative to equalize the technological competency levels of all teachers by requiring them to take the necessary steps for becoming technological-literate.

A new version of the National Educational Technological Standards (NETS) was recently released (i.e. June 2008), which according to the chief executive officer (CEO) of the International Society for Technology in Education (ISTE), Don Knezek, “The standards try to shift the focus from technology tools to raising academic achievement and preparing students for highly skilled jobs of the future” (as cited in Trotter, 2008, para. 2). McCain and Jukes (2001) emphasized that the only way schools can harness the power of technology to enhance teaching and learning is by letting go the Industrial Age mind-sets and embrace new and different ways of thinking typical of a Digital Age society. The new NETS for teachers are basically reflecting McCain and Juke’s key point by reprioritizing and restructuring the roles for educators.

With the new standards, teachers are compelled to take advantage of the emerging technologies to create authentic learning experiences by interconnecting information and knowledge from other subject matters and real-life events. Simpson (2008) stated that a successful curriculum involves multiple subjects areas, which will inspire students to own learning and their achievement will be a natural by-product. These authentic experiences will require teachers to focus on higher-order thinking skills when using technological tools with their students. In addition, teachers are compelled to become partners of the learning process with their students, in which students' knowledge, experiences and contributions are as valuable and necessary as theirs. Making partnerships with students imply teachers do not have to be in total control of the learning process; instead, they become facilitators who encourage and guide students to take risks for exploring their individual intellectual curiosities and interests and connecting these to the whole class learning experience. In summary, the new standards are defining the guidelines of how teachers can develop the new skills that McCain and Jukes (2001) identified to significantly change disabling paradigms for teaching and learning: educators as futurists, process instructors, learning guides, knowledge experts, models of thought processes, and lifelong learners.

The new NETS for teachers consist of five standards providing a roadmap for teachers to prepare and transform their classrooms into a *digital learning portal* (as cited in Trotter, 2008), where technology is always seamlessly present, not only to be used as productivity and efficiency tools, but to also be used as tools for enhancing cognition (Provenzo, Brett, and McCloskey, 2005). The five standards are *Student Learning and Creativity*, *Digital-Age Learning Experiences and Assessments*, *Digital-Age Work and Learning*, *Digital Citizenship and Responsibility*, and *Professional Growth and Leadership*, which reflect the competencies

educators need to thrive in the 21st century and become models of productivity and innovation for their students. However, the *Professional Growth and Leadership* standard is the most critical standard since it is the one that initiates the process of preparation and transformation on how to apply the other standards. If teachers do not know how to maximize the power of technology to enhance teaching and learning then they will not model (the most repeated action verb in the standards!) 21st century skills. If teachers do not see concretely the standards in action then they will lack the understanding to apply the standards in their practice. Zhao and Bryant (2006) did a study to investigate the impact of state mandated technology integration training and found that teachers acknowledged how training is crucial for inducing them to think about technology and to make attempts using technology in their classroom. Kulik emphasized that teachers will use technology to foster higher-order learning once they are trained to embrace new technologies and blend them intelligently into their instruction (as cited in Brown & Warschauer, 2006). If teachers are not engaged in professional growth and leadership then they will interrupt the transition of schools for becoming Digital Age places of learning.

Teacher technology standards have significantly influenced educational institutions to consider the importance for training teachers to integrate technology in their classroom practice. Teachers have now more opportunities than ever to attend technology workshops, seminars, and/or conferences paid by schools, the district or the state. The federal government has been funding several programs that train teachers to use and integrate technology based on teacher technology standards. However, teachers are often finding these trainings inadequate to effectively use technology to enhance teaching and learning. In 2000, Duhaney reported that the majority of the teachers who participated in a national teacher survey attended technology trainings; however, only 20% indicated feeling comfortable using technology or understanding

how technology can enhance teaching and learning (as cited in Oh & French, 2004). eSchool News (2008) recently reported the results of a study (i.e. Access, Adequacy, and Equity in Education Technology) released by the National Education Association (NEA) and American Federation of Teachers (AFT) in which it was found that only 46% of educators feel adequately trained to integrate technology in their classroom practice. The same study also found that 3 out of 5 educators were required to participate in technology trainings but these were focused more on administrative tasks (eSchool News, 2008). Di Benedetto found that teachers who attend training often gain a positive disposition to use technology and use it more than the untrained teachers; however, the trained teachers did not demonstrate frequently integrating technology in their practice and more student-centered learning approaches (as cited in Zao & Bryant, 2006). If educational institutions want to make the transition from Industrial Age to the Digital Age places of learning then they must start re-designing their training programs to reflect the new standards, in which teachers will learn the same way students will learn in their classrooms: actively engaged and authentic learning experiences.

McCain and Jukes (2001) stated that young people are the first ones to grasp the potential of emerging technologies. For such reason, Bennett (2000) suggested that the most effective approach to change the education system from the Industrial Age to the Digital Age is by fundamentally changing the colleges of education, in which new teachers will easily become proficient with the technology standards since they are confident using technology and already know how to use new tools. Unfortunately, pre-service teachers are coming to the schools as unprepared with integrating technology as the in-service teachers are too. Shaw stated that the typical first or second year teacher does not have much edge than those veteran educators when assessing their own high-tech readiness (as cited in Stanford & Reeves, 2007). Brown discussed

how pre-service teachers see minimal modeling of effective uses of technology in the classroom practice during their teacher education courses (as cited in Brown & Warschauer, 2006).

According to Brown and Warschauer (2006), pre-service teachers experience a peripheral role of technology during the teacher preparation program, in which technology is relegated to a low priority due to the workload pre-service teachers have for acquiring other teacher competencies such as planning, testing, classroom management, and others. Brown and Warschauer (2006) also identified that pre-service teachers have insufficient exposure to technology integration during their technology courses and field experiences, in which higher-order learning and collaboration uses of technology were not emphasized. Stanford & Reeves (2007) stated that students cannot depend on a single course to prepare them on how to effectively integrate technology in the classroom; instead, technology should be integrated across the whole program. If colleges of education want to prepare qualified teachers with 21st century skills then they must start modeling the new standards, so pre-service teachers learn by example.

Teacher technology standards will help teachers to overcome their paradigm paralysis about education. These standards are the catalyst for reflection and transformation to embrace innovative ways of teaching and learning. Teachers are always looking for ways to renew and reinvent their practice to stay relevant for their students. The teacher technology standards are showing the way.

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