

# Introduction

## Introduction to the TF/TL Standards

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In fall 2001, the International Society for Technology in Education (ISTE) partnered with the National Council for Accreditation of Teacher Education (NCATE) to publish the Technology Facilitation (TF) and the Technology Leadership (TL) standards.

The TF standards are designed for lead teachers or instructional technology specialists who facilitate technology integration at the building level. The TL standards are designed for K–12 coordinators, specialists, or directors who lead technology programs at the district, regional, state, or national levels.

Many educators who fill these facilitation and leadership roles hold professional positions with the word *technology* in their titles (i.e., technology lead teacher, technology coordinator, technology specialist, or technology director). In other cases, technology facilitation and leadership functions are assigned to educators with more traditional instructional and administrative titles (McLeod, 2003). For example, when full-time technology coordinators are not assigned to a school building, other educators such as technology-savvy teachers, math/science coordinators, media specialists, literacy coaches, and instructional lead teachers often assume the unofficial roles of technology facilitators. Similarly, district-level technology leadership roles are often added on to existing roles assumed by the curriculum director or even the chief financial officer.

Regardless of what titles educators hold, these standards are designed for those who not only use technology effectively themselves, but also help other educators integrate technology into daily practice. To accomplish their work, technology facilitators and leaders provide their colleagues with high-quality professional learning. They also ensure that other essential conditions for successful technology programs are in place.

## Importance of the TF/TL Standards

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Like the NETS•S, NETS•T, and NETS•A, the TF/TL standards were intended to influence university preparation programs, district/state policies, and inservice professional development in the field (Conery, 2005; Roblyer, 2003; Thomas & Knezek, 2002). However, the TF/TL standards address unique objectives related to improving K–12 technology programs that other national technology standards do not. The following is a list of the most important of these objectives:

### **Recruiting and training future technology facilitators and leaders.**

One of the primary purposes of the TF/TL standards is to enable high-quality university preparation programs for technology leaders and facilitators. Because the NETS•T standards are prerequisites to the TF/TL, most preparation programs for technology specialists occur at the graduate education level and yield add-on endorsements for master's, specialist's, or doctoral degrees. Because the TF/TL standards are approved by NCATE, they provide university faculty with the framework they need for designing curriculum, evaluating candidates/programs, and securing accreditation from NCATE. In fact, the first ISTE publication on the TF/TL standards was designed to help university staff complete these tasks (Twomey, Shamburg, & Zieger, 2006). For these reasons, university faculty and graduate students may be the most familiar of all audiences with the TF/TL standards.

### **Improving the performance of current technology facilitators and leaders.**

Although university preparation and certification programs are important, ongoing professional learning in the field is also necessary to maintain a prepared workforce. Because technology facilitation and leadership roles are rather new in education, many practicing technology professionals have had little or no formal preparation for their roles. Even for those who are formally trained, the dynamic nature of the field amplifies the need to keep pace with emerging technological knowledge. To address these needs, the TF/TL standards provide practicing technology facilitators and leaders with a framework to reflect on their own performance and identify areas where they need professional development. The standards also provide a framework for the development and delivery of new inservice professional learning programs for technologists. The standards should be especially beneficial to district technology leaders who must provide professional learning for technology facilitators on their local teams. University outreach centers, intermediate service agencies, and not-for-profit organizations should also find the standards especially valuable as they attempt to provide comprehensive professional learning programs for practicing K–12 technologists.

### **Validating the role of K–12 technology professionals.**

Formal positions for technology facilitators and leaders in education are relatively new when compared to other, more established educational roles, such as principals, teachers, media specialists, and curriculum directors. Although many support positions for technology have been established in schools and districts, other educators, board members, and community stakeholders may not understand the full range of what technology professionals do or why technology facilitation/leadership is a critical component to school improvement. This lack of understanding is common when new roles emerge in an organization. In these instances, educating stakeholders is an important first step to formalizing, justifying, and securing new types of positions in the local system. Increased understanding is also important to ensure that technologists are awarded professional

activities. New technologies foster new social practices for teachers and students. Even when technology-related changes are positive and promising, they can raise questions for teachers. How do I manage student access to computers? How do I manage student safety on the Internet? How can technology be used to implement differentiated instruction and to accommodate students with special learning needs? How do I know the students are learning when they use computers? Answering these questions requires the formation of new practices, policies, procedures, and norms of behavior in the classroom.

### The Challenge of Facilitating and Leading Instructional Change

Although the challenges previously mentioned are formidable, they pale in comparison with facilitating and leading instructional change. Theory and research suggest that technologies with a high degree of alignment to current practice have a greater chance of being adopted and used by practitioners (Fishman, 2005). Yet many new educational technologies are not designed to reinforce traditional practice—especially because scholars and educational leaders are calling for a shift away from those practices to more student-centered, inquiry-based instructional models in classrooms. The work of school technology professionals is therefore more complex than simply helping teachers support traditional, teacher-centered instruction with new technologies. Instead, technology facilitators and leaders are likely to find themselves in the most difficult type of change initiative—one that challenges teachers’ long-standing beliefs about teaching and learning.

From the onset of large-scale instructional technology programs, scholars have cautioned educators about the complexity of their tasks. Means (1993) clearly categorizes technology integration efforts as systemic change initiatives aspiring to shift instruction from a conventional to a reformed paradigm (see Table 2.2).

**TABLE 2.2** ■ Comparison of conventional and reformed approaches to instruction

CONVENTIONAL INSTRUCTION	REFORMED INSTRUCTION
Teacher directs	Students explore
Instruction is didactic	Instruction is interactive
Students receive short blocks of instruction on a single subject	Students perform extended blocks of authentic and multidisciplinary work
Students work individually	Students work collaboratively
Teacher is knowledge dispenser	Teacher is facilitator
Students grouped by ability	Students grouped heterogeneously
Students who have demonstrated mastery of the basics work on advanced skills	All students practice advanced skills
Students assessed on fact knowledge and discrete skills	Students assessed on performance

Source: Means, B. (1993). *Introduction: Using technology to advance educational goals*. In B. Means (Ed.), *Technology and school reform: The reality behind the promise* (pp. 1–22). San Francisco: Jossey-Bass.

## case study

*Technology Facilitator Cathy Greenwald*

### PODCASTS AND MORE AT THE ELEMENTARY LEVEL

#### Reflective Decisions about Web 2.0 Technologies at Willowdale

Willowdale Elementary is part of the Millard School District in suburban Omaha, Nebraska. Teachers at this school regularly use Web 2.0 technologies to add new dimensions to teaching and learning. This small elementary school is perhaps most famous for Radio WillowWeb, an ongoing series of podcasts for kids by kids. MP3 files of individual Willowcasts are available on WillowWeb ([www.mpsomaha.org/willow/radio/](http://www.mpsomaha.org/willow/radio/)), or iTunes. Regular listeners can also subscribe to Radio WillowWeb via RSS feeds. In addition to audio podcasting, the teachers and students also use blogs and video to create and publish original products on the World Wide Web.

Cathy Greenwald, part-time technology specialist and part-time reading teacher at Willowdale, says that since the advent of the World Wide Web, Willowdale has been attracted to the possibilities of the media for enhancing teaching, learning, and home/school communication. “What the Web does is provide a way to implement our language standards to write for real audiences for specific purposes. Because we are an ELL site for our district, this is very important to us,” Greenwald explains. “Web 2.0 technologies simply make publishing the content easier for us and accessing the content easier for readers.”

Greenwald also notes that online publishing has positive effects for students, parents and other family members. She explains, “While student writing could be turned in to the teacher or students could do presentations in front of the class, Web publishing takes it a step further by writing for a broader audience. Students have more of an investment in that. Even if just parents see it, that’s great. One of our younger students realized, ‘My dad can see this at his office!’ Grandparents also love it. Since we have English language learners, we often have grandparents in another country, like China or Vietnam, and I’ve had parents tell me how much it means to them to be able to feel a part of the student’s life. Even just for parents who miss a Halloween party or a guest speaker, being able to read a student’s account of the event or see a picture is important to them.”

However, Greenwald admits that the public aspects of their site also require staff to be reflective about online safety. “Since Willowdale has received a lot of attention for our use of Web 2.0 technologies and Radio WillowWeb is on iTunes, we’ve come to realize that we are really out there! We aren’t just a little school website anymore! Everyone—everyone in the world—can see us! While that’s great from a publication standpoint, it’s also kind of overwhelming. It’s a big responsibility to think about that.”

Greenwald explains that she and the staff at Willowdale implement many policies to make sure students are safe. First and foremost, the school lets parents decide whether or not their child’s photos or original work will be published online. Second, the school only uses first names on author bylines and does not use children’s names in photo captions. Third, the staff only publishes work with a specific purpose and

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## case study *(Continued)*

a link to the curriculum. Finally, all Web content is proofed by a teacher before publication. Students cannot publish directly online without a teacher, and outsiders cannot post to the school blogs. Greenwald believes that the policies and the reflective use of technology by professionals are what make parents comfortable. According to Greenwald, about 99% of parents sign the consent form, which she describes as a standard media release form modified to incorporate Internet use and publishing. “It is a parent’s choice, and we need to be very conscientious and respectful of that. Sometimes it is online safety and sometimes it is other reasons, but whatever it is, we make sure to honor the parent’s wishes and not make the child or the parent feel uncomfortable.”

Of course, modern students do have the desire for more interactive communication as well, so Greenwald explains that students have e-mail accounts, set up by the district, in which they can only e-mail other students in specified grade levels—for example fourth- and fifth-graders are allowed to e-mail each other. Greenwald, the principal, and teachers are also able to view any e-mails sent or received by their students. More interactive blog environments are also used for book talks and other curriculum discussions, but these are only available to the students and their teachers on the school’s local area network. “The key is adult monitoring and decision making,” explains Greenwald.

Although Greenwald maintains that her role in keeping students safe is simply following district policy, her stories also illustrate how she monitors the local environment and participates in reflective decision making when new situations arise. For example, last year two students had an inappropriate e-mail conversation, which Greenwald read during routine monitoring activities. She immediately notified the teacher, and together, Greenwald and the teacher talked to the students and their parents about the situation. She also participated in a decision not to go to video podcasting right away, either. “When we watched some of the earlier WillowCam broadcasts we’d done about five years ago, we noted that students were identifying themselves by first name. Somehow to publish video podcasts on the Web and have them use their first names doesn’t seem quite right, and so we are holding off and rethinking what we want to do. I know we’ll go there, but we’re just taking our time,” she explains.

Greenwald notes that the decisions she has had to make have made her more reflective. “Many of the staff and I used to have our family websites out there with our kids and our dogs, and now I have scaled back. I am not so sure I want all of that out there without a strong purpose. I love what the Web can do for learning, but I’m just more reflective.” She also would like to think that the students would be more thoughtful about online use because of their experiences at Willowdale—even though she notes that the students currently in their care are very young and their future will also be shaped by many other influences along the way. “I am a parent of four, so I understand that the message children receive at home is what can really make the difference. Our students still have to navigate middle school and high school, but the parents will be with them all the way through their teen years.”

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