Implementing Technology Standards in Educational Leadership

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Abstract

Traditional views of school leadership have emphasized managerial and operational functions. But leadership today focuses on qualities of principals and administrators in the effective harnessing of technological facilities to enhance classroom activities. Knowledgeable and effective school leaders are extremely important in determining whether technology use will improve learning for all students. According to Brockmeir, Sermon, and Hope (2005), “without a thorough understanding of the computer technology’s capabilities, principals will not be ready to provide the leadership in technology necessary to restructure schools. Principals who are prepared to act as technology leaders are central to computer technology’s integration into teaching and learning and for achieving technology’s promise”. The future of Education will be influenced by instructional technology applications such as broadband Internet access, open-source software, wireless Internet access, online collaboration. To meet these technical challenges, effective ways in preparing future teachers and administrators should be evolved. It should be ensured that future administrators and teachers are trained to enter tomorrow’s schools prepared to use technology-infused methods. Traditional views of school leadership have emphasized managerial or operational functions. Administrators and principals were expected to serve as efficient managers, directing the day-to-day operations of the school. Possessing positional and command authority, school leaders directed the operations at the school site with business management techniques.

This industrial model of school leadership, which emphasized the uniform and efficient delivery of resources, was the dominant view of school leadership earlier. It clearly indicated that educational leaders could not just be managers but were expected to be leaders in curriculum, instruction, and assessment. The Information Age demands transformational initiatives. The pursuit of technological transformation in education has become widespread around the globe with the extensive pervasiveness of global networks like the Internet. The increasing importance of technology in the workplace and daily life makes it meaningful for students and critics in Education. Studies also show that students with access to either computer-assisted instruction integrated learning systems technology, simulations and software that teach higher-order thinking and use collaborative networked technologies show positive gains on researchconstructed tests. (Schacter, 1999).

Knowledgeable and effective school leaders are extremely important in determining whether technology use will improve learning for all students. Administrators have the responsibility to integrate computer technology into the teaching and learning process. They can serve as role models by demonstrating a commitment to use computer technology. According to Brockmeir, Sermon, and Hope (2005), “without a thorough understanding of the computer technology’s capabilities, principals will not be ready to provide the leadership in technology necessary to restructure schools. Principals who are prepared to act as technology leaders are central to computer technology’s integration into teaching and learning and for achieving technology’s promise”. Administrators see a major role for technology in maintaining and analyzing data, accessing data and information, completing research, integrating teaching and learning, publishing student work, creating independent learning, as well as a number of administrative applications.
There are several reasons why education leaders are expected to know and utilize instructional technology, especially those technologies related to computer use for accessing and finding information and for creating and communicating new knowledge. These reasons include the following:

- the need to prepare students to function in an information-based, Internet-using society
- the need to make students competent in using tools found in almost all work areas
- the need to make education more effective and efficient. School leaders need to help
- students become technology literate, as outlined in *enGauge® 21st Century Skills: Literacy in the Digital Age* (NCREL & Metiri Group, 2003).

School leaders also need to consider increasing educator technology effectiveness and modeling it after nationally accepted guidelines, such as the *National Educational Technology Standards for Teachers* (International Society for Technology in Education, 2000). School administrators and teachers can take the following steps to ensure effective technology use in schools.

**School Administrators**

The *Collaborative for Technology Standards for School Administrators* (2001, pp. 6–7) suggests the following technology responsibilities for school administrators:

- Inspire a shared vision for comprehensive integration of technology and foster an environment and culture conducive to the realization of that vision.
- Ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching.
- Apply technology to enhance their professional practice and to increase their own productivity and that of others.
- Ensure the integration of technology to support productive systems for learning and administration.
- Use technology to plan and implement comprehensive systems of effective assessment and evaluation.
- Understand the social, legal, and ethical issues related to technology and model responsible decision-making related to these issues. Additional technology leadership responsibilities may include the following:
  - Indicate support for technology use by word and deed; value and model technology use.
  - Understand and acknowledge that teachers need time and support to learn effective uses of technology.
  - Provide sufficient technology to make the use of technology viable; provide the technical support necessary to keep the technology operational.
  - Pay attention to inequalities in technology access and use that exist in the local communities, and compensate to the extent possible.

**Teachers**

In *National Educational Technology Standards for Teachers*, the International Society for Technology in Education (2000) suggests the following technology responsibilities for teachers:

- Understand and support the importance of students learning to use information technology tools as an important component of their preparation for further education, work, and life in general. Demonstrate support of technology use by developing skills, knowledge, and strategies necessary to model effective uses of technology.
• Learn and use effective ways to integrate technology into the curriculum, and use technology in ways that enhance instructional opportunities and successes for all students.
• Learn uses of technology that provide assessment feedback to parents, students, and teachers about how well students are learning and then use that data to improve learning productivity.
• Understand and instill into their students the social, ethical, legal, and human issues surrounding the uses of technology.

Implementation Pitfalls

Implementation pitfalls that are factors in other change efforts also may affect the success of educational technology leadership. Failure to have a shared vision, clear goals, and objectives with defined measurable outcomes can doom a change effort right from the beginning. A poorly designed implementation plan that fails to define tasks, responsibilities, and ongoing benchmarks also will result in the change effort failing. Administrators who do not communicate with teachers and principals about successes and challenges also dramatically increase the risk of failure. In addition, some pitfalls unique to technology leadership may require special attention. One of the most significant is the need for professional development for both administrators and teachers. Because they often may have not received adequate preparation for technology use in their preservice experience, many educators have had to learn at the same time as they try to use the technology. Technology use, if it is to be successful, needs to be implemented systemically rather than in isolation. Failure to tie technology use to the required curriculum may result in technology being perceived as an instructional add-on. Teachers may be frustrated when they realize that to use technology effectively, they will need not only to learn technology use and integration but also to modify their instructional and assessment practices. Administrators need to share the change process, beginning with why the change is necessary, what the benefits expected are likely to be, and what the consequences are of not making any changes, with respect to the emphasis on providing a full education to all students. Administrators need to encourage and support professional development opportunities related to technology. Because some teachers are less comfortable with technology than with other aspects of their teaching, they need constructive feedback that will enable them to take risks using technology in even more ways.

Lack of appropriate technology infrastructure and support also can cause implementation problems that can be most fatal. Teachers and students should not be expected to be experts in technology infrastructure and support. The equipment should be dependable and easily accessible. They should not have to worry that their planning efforts and schedules may be frequently impossible because of equipment failure or unavailability. A few negative experiences will lead teachers to believe that technology use is more problematic than helpful and will likely reduce their technology use.

The future of Education will be influenced by instructional technology applications such as broadband Internet access, open-source software, wireless Internet access, online collaboration. To meet these technical challenges, effective ways in preparing future teachers and administrators should be evolved. It should be ensured that future administrators and teachers are trained to enter tomorrow’s schools prepared to use technology-infused methods.

References

