

Critical issue
promoting technology
use in schools
education essay



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Although there has been a strong push to get educational technology into the hands of teachers and students, many obstacles to implementation still exist. Equipment may not be placed in easily accessible locations. Hardware and software often pose problems for teachers in the classroom, and just-in-time technical support may be unavailable. Teachers may lack the time and the motivation to learn technology skills. Professional development activities may not provide ongoing, hands-on training for

teachers or practical strategies for implementing technology into lesson plans. Initial technology funding may not be sustained and thus not capable of providing upgrades, maintenance, and ongoing professional development. Fortunately, these obstacles can be addressed and overcome. This Critical Issue provides practical information for promoting technology use in schools.

OVERVIEW: The push to provide technology in schools has been successful in recent years. According to Goldman, Cole, and Syer (2000), most schools have computer labs and many have computers in every classroom. More than 90 percent of all schools are connected to the Internet, and more than 33 percent of teachers have Internet access in their classrooms. Yet teachers readily admit that they are not making as much use of technology as they could. According to an Education Week survey, nearly 30 percent of teachers said their students use computers only one hour per week; nearly 40 percent said their students do not use computers in the classroom at all (Trotter, 2001). Although technology is more prevalent in the schools, several factors affect whether and how it is used. Those factors include placement of computers for equitable access, technical support, effective goals for technology use, new roles for teachers, time for ongoing professional

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development, appropriate coaching of teachers at different skill levels, teacher incentives for use, availability of educational software, and sustained funding for technology.

Placing Computers for Equitable Access

Access to technology is an important issue for teachers and students.

Although schools may have computers available, one factor that determines their use is where those computers are located. If computers are connected to the Internet but are not in a convenient location, the availability to students and teachers will be limited. Across the case study sites, there were five different strategies for allocating computers for student use:

- Distribution among the regular classrooms
- Computers in labs
- Mobile computer labs
- Incremental roll-out
- School-within-a-school

The standard computer lab is commonly used in schools. If the use of the computer lab is carefully scheduled, it will provide high equipment utilization; on the other hand, keeping the computers in one place may be a barrier to using them on a continual but intermittent basis as a part of the curriculum. Some schools prefer to place computers in the regular classroom. These computers often are distributed through incremental

rollout. In incremental rollout, technology is given to a limited number of classrooms at first and then expanded to an additional classroom each year. Sometimes the computers are distributed on a grade-by-grade basis with primary grades first and upper grades later receiving the most up-to-date equipment. This approach requires continual, yearly funding.

Some schools have chosen to start with their Internet connection in the school library. This location necessitates that the library-media specialist is aware of educational sites to supplement students' classroom activities. The library-media specialist also needs to work with teachers and the technology specialist to determine the best use of the equipment. In situations where software also is a limited commodity, the school library may house and catalog the software, as is done with other educational materials. This situation makes the software available to all teachers and allows teachers flexibility in assigning work to students.

Whatever decisions are made on allocation of equipment, it is imperative that all staff members are included in the decision making and that long-term plans are made for acquisition and upgrading of materials. Such collaborative decision making and planning helps ensure staff buy-in, equity of access, and effective use of technology in teaching and learning.

Providing Technical Support

Without continuous technical support, technology integration in the classroom will never be satisfactorily achieved (Bailey & Pownell, 2002).

Most teachers have heard horror stories about equipment failure, software complexity, data loss, embarrassments, and frustration. They don't want to <https://assignbuster.com/critical-issue-promoting-technology-use-in-schools-education-essay/>

be left hanging with 30 students wondering why nothing is working the way it is supposed to be. When teachers are trying to use technology in their classrooms and they encounter difficulties, they need immediate help and support.

Providing Time for Ongoing Professional Development

Learning the new roles and ways of teaching that go hand-in-hand with technology integration requires that teachers have opportunities to participate in an extended process of professional development. Teachers need time to acquire technology skills and develop new teaching strategies for integrating technology into the classroom. Except for occasional in-service programs, teachers often have no time built into the school day for their own professional development.

When professional development activities are conducted after school, teachers may not have the energy necessary for engaging in learning. Burgos (2001) notes, "The research on staff development tells us that it's least effective when it's done at the end of the school day." Some researchers suggest that the ideal time for teachers to participate in professional development activities is during the summer, when students are not a consideration and teachers do not have as many demands on their time. But teachers are more likely to apply new instructional strategies if they receive feedback and support while trying the new strategies in their classrooms.

Coaching Teachers at Different Skill Levels

A school may be home to educators with a wide variety of skill levels in technology: computer gurus anxious to put the capabilities of the newest hardware and software to use; moderate technocrats, who implement basic computerized tasks; and the technologically limited. The problem faced by administrators and professional development staff of such a school is providing adequate training to bring all teachers to an adequate level of technical expertise so learning goals can be met.

After the teachers' skill levels are identified, administrators, teachers, and the technology specialist can brainstorm to determine what support and resources teachers need to advance to the next stage. Teachers can develop personal plans for professional development that include goals for using technology. These professional development plans can be competency driven, identifying specific areas where technology can be used effectively; they can specify outcomes to be achieved using technology, such as implementing specific projects with students; and they can list software applications that should be mastered by specific dates. " By putting individual goals in writing, these plans formalize teachers' commitment to using technology in the classroom," states Tenbusch (2002).

Choosing Appropriate Software

One barrier to technology integration is the difficulty many teachers face in finding and using appropriate software for instruction (Glenn, 2003).

Teachers at novice or apprenticeship stages of technology integration may need guidance in locating multimedia software and Internet sites to support the school's learning goals, either because they are unfamiliar with these

media or because they feel overwhelmed by the profusion of software on the market and sites on the Internet. Lack of time and experience to make good decisions about what particular products or sites have the potential of fostering learning goals can make technology integration a frightening prospect. Glenn (2003) succinctly summarizes the challenge: “ Problems exist with finding and using appropriate software or courseware for instruction. The number of high-quality curriculum materials has increased, and there is a wider variety; however, creating innovative learning opportunities for all students remains a fundamental challenge and elusive for far too many teachers.”

GOALS:

- The school’s technology plan clearly identifies learning goals to be achieved through technology.
- Technology supports the instructional learning goals. It is integrated into instruction in meaningful ways so that it contributes to the attainment of high standards by all students.
- Technology is used for challenging, long-term projects that promote students’ higher-order thinking skills instead of merely for drill-and-practice programs to improve basic skills.
- All students have opportunities to use a variety of technologies to support their work on authentic tasks.
- All technology is in operable condition and is being used effectively and to the maximum extent possible.

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- Just-in-time technology support is available for teachers and students.
- There is a flexibility in managing the technology to ensure that all students and teachers have equity of access.
- Professional development is considered an important part of the technology plan and the technology budget.
- The professional development component of the technology plan ensures that every teacher has allotted time throughout the school year for professional development relating to technology and its integration into the classroom.
- Professional development in technology is directly applicable to the classroom situation.
- A diverse portfolio is in place to ensure that funding is available to support technology and ongoing professional development.

Administrators:

- Pursue funding strategies to provide the necessary technology, professional development, technical support, equipment upgrades, and equipment maintenance to achieve educational goals.
- Develop strategies for ensuring equitable use of education technology for all students and teachers.

- Acknowledge the benefits of plugging educators into technology improved student performance, increased student motivation, lower student absenteeism, and higher teacher morale.
- Understand the implications of preparing teachers for the Digital Age.
- Ensure that the school is providing professional development for effective technology use.
- Determine expectations for teachers in regard to their use of technology in their classrooms. Develop strategies for teaching the teachers and eventually winning teachers over.
- Read about technology implementation strategies in Teachers and Technology: Making the Connection.
- Provide all teachers and administrators with an Internet e-mail address. Use e-mail for all school announcements.
- Provide a networked computer on the desk of every teacher and administrator.
- Provide all teachers with on-site training in technology use. Ensure that teachers have adequate time to practice new skills, explore software, and become proficient with the school's technology.
- Involve teachers in identifying and pursuing technology professional development that is appropriate to their needs and skills.

- Encourage teachers to set their own technology integration goals as part of their individual professional development plans.

- Ensure that adequate technical support is available.

- Address any problems that arise with new uses of technology in the classroom quickly and efficiently.

- Use a variety of time and monetary incentives as well as job requirements that encourage teachers to use technology in their classrooms.

- o Provide release time for teachers to participate in technology professional development activities during the school day.

- o Pay for additional professional development activities, such as outside conferences and workshops that address specific classroom technology issues.

- o Pay teachers to act as technology mentors for teachers with novice technology skills.

- o Provide classroom-embedded mentoring, tutoring, and follow-up activities.

- o Financially reward teachers for designing good instructional uses of technology.

- o As an additional incentive, offer technology for classroom or personal use: laptop computers, technology equipment, and software.

- o Make teachers' base pay contingent upon participation of technology professional development.
- o Include technological competence as one aspect of teacher evaluation.
- o Tie job security to technology professional development by adding technology competence to teacher evaluation, requiring technology-related professional development for contract renewal, or making technology professional development a requirement for re-certification.
- Periodically visit classrooms to determine teachers' technology needs and to observe and encourage their integration strategies.
- Provide opportunities for teachers to observe effective technology use in other classes or schools.
- Recognize teacher successes with technology. Share these stories with the school and the community. Encourage teachers to share their successes with colleagues at conferences.
- Participate in professional development programs, study groups, and other technology activities with teachers and other staff members.