

# **Technology to Improve Learning: Strategies for Middle Level Leaders**

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## PREFACE

# Learning Through Technology

There is no turning back—technology is not going away. Nor will its use diminish in the near future—and it shouldn't. While some might long for a return to a “simpler time” when computers, mobile phones, the Internet, instant messaging, email and other elements of today's ubiquitous technological world did not exist, technology is increasingly finding a presence in schools. While its use may present challenges, it also provides exciting opportunities to enhance learning.

This title in the Middle Level Leadership Series is, therefore, particularly timely. Here leaders are provided with a framework for understanding technology and guidelines for using it appropriately. A positive and important theme for the entire book is heard in Topic Two, **“Learning—Keeping the main thing the main thing”**. No easy task. But author Mike Muir keeps us on track throughout, focusing on the major issues of leadership, strategies and tools, and supporting learning with technology—all of which will ensure that technology in schools will not just provide new and different gimmicks.

In each of these sections, readers will find an excellent rationale, sets of guidelines, focusing questions and specific strategies for making technology work to help us solve the increasingly complex problems we deal with in schools every day. This book provides guidance to help middle level leaders make difficult decisions about acquiring technology and integrating it in the ongoing school program.

Technology and middle level students are a particularly good match. This generation of young adolescents has grown up using technology. As middle level educators, it is our challenge to determine how we can best use today's various technologies to improve student achievement. To ignore the potent motivation and tremendous potential that technology introduces is to deny what the middle years have always been about—responding to young adolescents' needs.

—ENB

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## TOPIC ONE

# Learning With Technology

*In times of drastic change, it is the learners who inherit the future. The learned usually find themselves beautifully equipped to live in a world that no longer exists.*

—Hoffer, 1973

**Y**ou're reading this resource right now because you are interested in educational technology. Maybe your school already does a lot with technology and you want to see what this new book has to say about it. Or maybe you just want to make sure you are on the right track or want to get some new ideas. Perhaps your school hasn't done much with technology for learning and you want help in getting started. Maybe you are somewhere in between and want suggestions on where to go next.

Wherever you place yourself on this spectrum, this book should have something for you. It is designed for middle level school leaders—building administrators, classroom teachers, technology coordinators and curriculum coordinators—who are interested in using technology for learning.

## Examples of Technology for Learning

While some middle level teachers may still wonder how to make students learn more actively by integrating technology into the curriculum, others have been working on a vision of what such classes might look like. Imagine a classroom such as this:

A team of students from Mrs Bianco's class is researching the rainforest. Two of those students log onto a nearby computer, hop on the Internet, and post a note requesting information for their project. A video communication link is formed and the friendly face of a middle-aged woman appears on the screen. The students tell her about their

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## TOPIC TWO

### **Leading for Learning With Technology**

*For public education to benefit from the rapidly evolving development of information and communication technology, leaders at every level—school, district, and state—must not only supervise, but provide informed, creative, and ultimately transformative leadership for systemic change.*

—U.S. Department of Education, 2005

**L**eadership is a most critical component in successfully integrating technology into a school's program. In the US, the National Education Technology Plan (US Department of Education, 2005) lists "Strengthening Leadership" as its first goal, and the Maine Learning Technology Initiative, the first statewide learning with laptop initiative in that country, has identified strong leadership as the number one factor in successful schools. Also in the US, a national survey, *School Technology Leadership: Incidence and Impact* (Anderson & Dexter, 2000) found that leadership and student-computer ratio were the only two significant factors (of leadership, student-computer ratio, broadband Internet access, per student hardware expenditures, and per student software expenditures) in predicting the level of technology integration. Not surprisingly, leadership was the strongest predictor of all.

This chapter focuses on three specific strategies for leadership in learning with technology:

- Shared leadership
- Focus on the learning
- Building a shared vision for learning and teaching with technology.

#### **Shared Leadership**

In any given school, there are a number of educators who have a stake in learning with technology and can help provide leadership in

integrating technology. The principal has overarching responsibility for the school's educational program, staff, budget and physical plant, and ultimate responsibility for the school's success with education technology. Classroom teachers are the curriculum and instructional leaders of the building who know and understand their students better than anyone else in the school. The technology integrator and computer teacher have the computer skills and ideas for teaching with technology necessary to support others with integrating technology. The technology coordinator has the responsibility for the hardware, software and network, not only acquiring and installing them, but also keeping them running and helping to meet teachers' needs with practical solutions.

A first step is to identify who your education technology leaders are in your school and region. Once identified, to harness their expertise and to apply their leadership to the success of your use of education technology, form a technology committee of those identified leaders. Also consider adding people to the committee from outside the school who might make valuable contributions. Parents know their children's interests and concerns and how they learn best, as well as being the school's most direct link to the community, and should be included. Community business people, likewise, should be represented on the committee; for they understand the workforce needed for the future and are powerful partners in creating effective schools. While it may be awkward or difficult at times to include students, it is critical that you do so. They have the most at stake and we can benefit from their expertise in an environment that is so natural to them.

The education technology committee would be responsible for working collaboratively to

- Build a schoolwide, shared vision for learning and teaching with technology.

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## TOPIC THREE

# Learning With Technology— Strategies and Tools

*...The true value of technology for learning lies not in learning to use technology, but in using technology to learn.*

—Educational Research Service, 2001

**O**ne of the most powerful strategies a school leader can embrace to assist with technology integration is to set an expectation that technology will be used—and used to improve learning. Three important aspects of expecting teachers to use technology, however, are knowing what to look for in classrooms as you move throughout the school, having strategies and tools that impact teaching and learning, and effectively integrating content, skills and technology across the curriculum. In this chapter, we focus on how teachers can effectively integrate technology for learning through a series of strategies and a variety of tools.

### **Effective Approaches to Learning With Technology**

Technology in and of itself will not be the key factor in bringing about success in technology integration. It is the additional potential for active learning that technology makes possible and that teachers make a reality. In other words, it isn't the technology skills that students learn that are of major importance; the prime goal is the knowledge and understandings acquired in maths, science, humanities, English, foreign languages, health, and other content areas. Further, you can't look primarily at the technology skills used in a lesson, but rather look carefully at the overall pedagogy (Sheingold & Hadley, 1990). Gooden (1996) discovered through her work with the Education Grants Program at Apple Computer, that technology skill isn't the most important ability to realising this

potential: “Most of the educators we hear from will admit that they had limited or no experience with computers when we met them. What they did have was something far more valuable: vision, combined with passion, commitment, and an unyielding drive to succeed despite the odds” (p. xxiv).

What should you look for when visiting or observing classrooms? Do the technology and activities engage students in learning, or are they just a lot of “flash”? Whether an informal “drop-in” or a formal observation, how do you know that you and the students aren’t being seduced by the technology? Technology is still sufficiently new and continues to be a bit of a mystery to many of us; we are too easily “wowed” by students making presentations, showing multimedia projects, working on videos, and making Web pages. When a project looks good and involves students’ using technology that teachers may not know how to use themselves, it is easy to overlook the quality and depth of the learning that has taken place.

So, what are some of the possibilities for reaching students through technology? What are effective uses of technology for learning the curriculum? I will highlight three excellent ones here:

- Project-based learning with multimedia
- eCommunication (electronic communication)
- Digital content and tools.

### **Project-Based Learning With Multimedia**

One approach that engages many students is the use of computers to drive multimedia (a combination of text, video, still images, music, clip art, sound, animation) and hypermedia tools (ISTE, 1990; Jensen, 1991; Ray, 1991). My own experience as a middle years technology integrator taught me that implementing activity-based projects using such tools allows all students to bring their own strengths and interests to a project and actively involves more students (Muir, 1994; 1997).