

## Chapter XXXVI

# Using a Technology Grant to Make Real Changes

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### ABSTRACT

*This chapter traces one K-8 school over the course of four and a half years as it went from very limited technology through a three year period of implementing a \$300,000 technology grant, through the conclusion of that grant. It details the school's use of technology before, during, and after receiving the grant. The study supports the suggestion that merely having technology available does not insure that it will be used. It makes recommendations for school-wide technology applications and points out both those things that were done well at this school and those things that might have been done better.*

### INTRODUCTION

Is money and/or a dedicated technology coach enough to infuse technology into a school's curriculum? Both elements are important, but, as this chapter concludes, other factors also need to be present if technology is to become an integral part of the teaching and learning taking place in a school.

Johnson (2003) believes that when teachers have computers "wonderful, creative things can happen." (p.7). While that may be true for some teachers, not everyone sees technology in the same way. Ansborg, Caruso, and Kuhlenschmidt (2004) suggest that teachers approach technology

in instruction in one of four ways: excitement, consideration, interest for student's benefit, or rejection. Even for those who approach technology with excitement, other factors can affect its usefulness.

Russell, Bebell, O'Dwyer, & O'Connor's 2003 study suggests that teachers use computers several times a week to prepare lessons, but they are only used a couple of times a year for class instruction. This may be a result of teacher attitudes. Studies indicate that the teachers most willing to adapt and try new technologies are those who are most willing to reflect on their teaching and their beliefs about teaching and learning (Clark & Peterson, 1986). A study by Honey and Moeller (1990)

indicated that teachers with a student-centered philosophy toward teaching were more successful in integrating technology. Ullman (2005) found that many teachers view being asked to change their methods by incorporating technology as a criticism of their teaching. Several studies of teacher attitudes (MacArthur and Malouf, 1991; Marcinkiewicz, 1994; Albion, 1999) found that teachers' attitudes such as self-confidence and willingness to try new things were key factors in technology integration.

Another requirement for the use of new technology to be effective is adequate training. Ausubel et al. (1978) argues that instruction should help the learner link what he/she already knows to the new knowledge. However, research (Rosenfeld, Martinez-Pons, 2005; Clouse & Alexander, 1998) indicates that most technology training for teachers fails to do this. The training usually consists of a one-time training session with no follow-up and no discussion of integration.

In addition to teacher attitude and appropriate training, support and leadership are necessary if technology use is to become an integral part of the classroom. Studies (Szabo, 2002; Hardy, 1998) indicate that a lack of ongoing support; ignorance of school needs; and poor leadership, knowledge and support will adversely affect the continued use of technology.

## **COMPONENTS FOR SUCCESSFUL TECHNOLOGY INTEGRATION**

Successfully incorporating technology into the curriculum requires more than the good intentions of a few teachers. Robyler (2006) points out that effective technology integration requires four components: a shared vision, the financing necessary to make that vision a reality, well-trained teachers, and the ability to stay current and flexible. This chapter examines these four components in a specific school that received a three-year, \$300,000 technology grant.

The first requirement for successful technology integration is a shared vision. "Any lasting changes and reforms will need to be preceded by a vision of what future learning environments will be like." (Forcier & Descy, 2008, p 118) It is important for all members of the school team to support the shared goals of integrating technology. This means that teachers must be aware of what others are using and be able to build on that foundation from year to year, and the administration needs to support this use of technology. In the school under study, the shared vision was initially present. Teachers themselves initiated the process of applying for a grant to improve their use of technology in the school. Teachers, with the support of the school principal and the district superintendent, researched the grant requirements, created and conducted a survey to determine the present level of technology knowledge and use in the school, and determined how funds from the grant could best be used to support student learning.

Financing is the second requirement. Financing needs to be in place to purchase equipment and software as well as to keep it up-to-date and in good repair. A requirement for lasting change is "sufficient human, financial, and technical resources to launch systemic change with the knowledge that more resources will be required to sustain the effort" (Reiser & Dempsey, 2007, p 213). Prior to receiving the grant, the school had limited money to spend on technology. Over half of the teachers had 21<sup>st</sup> Century Workstations which consisted of a large monitor, teacher computer, VCR/DVD player; a few rooms also had printers and overhead projectors, and the school was wired for Internet access. Technical support was available from a single technology director located at the district's central office and charged with supporting all of the schools in the system. In general, technology and support were limited. Financing needed to pay for workshops and faculty incentives for learning and using the new tools was non-existent

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