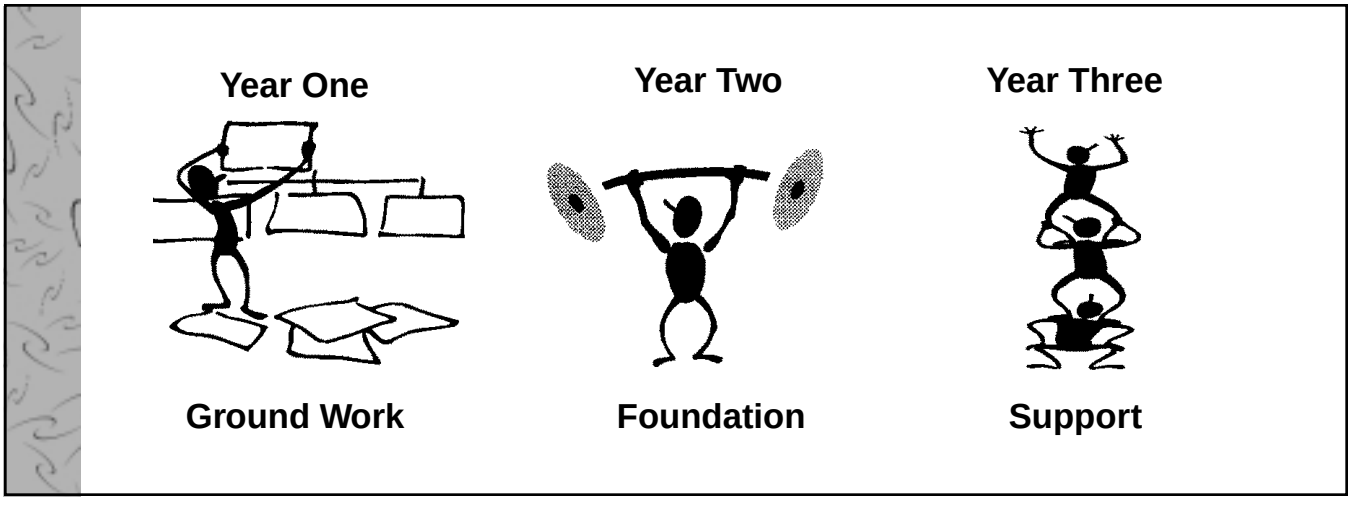
Integrating Technology into Subject Areas

Sharon Mayall

Like many other schools, a middle-years school in Swift Current underwent a series of upgrades in its computer technology during the 1990s. However, in spite of all the hardware, software and training provided, there were numerous indications that the technology was not being integrated into teaching and learning in the classroom. As the school's computer teacher and coordinator, Sharon Mayall realized that this situation was common in schools throughout Canada and the United States. From the literature, she gathered information about the barriers to using computer technology as a teaching tool and developed a Technology Mentoring Framework to assist teachers in integrating technology into subject areas.

Working with two other grade eight teachers in her school, Mayall set out to test and revise the framework she was developing. Through regular meetings, interviews, classroom observations, and informal conversations, she accumulated data about their and her experiences with computer technology. Data analysis yielded three main themes related to time, training and the availability of support.

Since teachers need time, training and supports appropriate to their level of computer skills, the Technology Mentoring Framework is based on a three-year professional development plan. Year one is full of ground-breaking achievements as the teacher engages in one or more computer-based projects with students with the assistance of a computer mentor. Each project moves through several phases: initial planning and training, project implementation, communication, evaluation, and reflection. In year two, the teacher and computer mentor still meet regularly to ensure a strong foundation of skills



and knowledge is constructed over the ground work done in year one. This year of practice and consolidation is followed by a third year in which the teacher works independently but may still receive support from the computer mentor on request. From her own experiences and those of her colleagues, Mayall identifies twelve guidelines for implementing the three-year framework successfully.

At the end of the project, Mayall was confident that "following the model will provide adequate support for the classroom teacher and an enriched experience for all". However, she also recognizes that developing a model for the integration of technology into subject areas does not answer some fundamental questions about the use of technology in schools. She notes:

> Many of the questions asked by the two participating classroom teachers revolve around the concern that technology takes more time. Training students and completing a project involves more planning and work periods for students. Teachers want to know if technology works. Does this extra training benefit the students? Does it result in higher test scores and better performance? Are we justified in taking up more time for computer instruction?

I found it very hard to justify taking up so much time to learn technology if the project didn't fit into curriculum objectives.

That's part of the problem with technology, it's easy to forget if you don't use it everyday.