



New Technologies in Fiscally Restrained Times



This article recounts a bit of recent history in the Sudbury Public Schools, a K-8 district in eastern Massachusetts that has four elementary schools and one middle school. As this chronology unfolds, it reveals a sequence of events that led to the adoption and implementation of a successful technology model that promises to have a very positive impact on teaching and learning throughout the district. The Sudbury Schools, as is the case with many cities and towns in the state, have undergone financial struggles to keep itself reasonably whole in light of stagnant state funding, legislated taxation limits, and increasing costs for staffing, resources, transportation, and utilities. How can improvements in educational technology come about in a climate of cutbacks and competing priorities? Perhaps there are some thoughts worth sharing in what follows.

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In 2005, a small district team took on the task of updating its district-wide Technology Plan. Although the planning was strategic and multi-year, the process deliberately did not engage a large number of administrative, teacher, and parent representatives. There were other areas of planning within the district that were already consuming human resources, time, and energy. A nimble process in which a core of knowledgeable staff developed a draft plan that would be reviewed and responded to by larger constituencies was put in place. No assumptions were made about simply renewing what already existed or about what models should be automatically sustained. The updated plan was a practical document, not proposing what was financially unreasonable nor assuming staff readiness for any shifts in direction. Implementation of new or replacement equipment was designated in phases rather than years. Thus, if funding were significantly less or greater than predicted, the plan would still be valid as the plan proceeded through various phases of implementation.

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A major component of that 2005 plan was the establishment of a set of pilot initiatives through which the district tested, supported, and evaluated three distinct models for expanded technologies. These were (i) use of interactive whiteboards, (ii) deployment of mobile labs to travel among classrooms, and (iii) use of iPod technology in reading and other language-based areas. Teachers interested in these pilots were encouraged to submit a proposal for their use. Selections of pilot sites were based upon the quality of the proposals with some consideration of how that technology addressed

other curriculum/ technology issues or gaps in schools. Training and ongoing support were provided to participating staff by the district's lone Technology Integration Specialist. The Director of Technology evaluated the effectiveness and scalability of each pilot effort at the end of a year of deployment. It was determined that the technology model yielding the most impact on teaching and learning was the use of Activboards with an accompanying laptop computer in the classroom.

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Other objectives of the technology plan included ongoing maintenance of the computer labs in schools and the gradual retirement of classroom computers. The classroom units were the oldest computers and, from observation, there seemed to be little more than recreational use associated with these rather than strong goal-oriented use. Writing and other project-based activities were mostly done in the labs during pre-scheduled times for an entire classroom at once. As the labs continued to be well maintained, replacement equipment for these labs freed up older computers to replenish some of those retired classroom computers. Teachers were, in some instances, not pleased to lose their classroom equipment, but the long-term possibility of gaining an Activboard with accompanying laptop seemed exciting and promising.

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The outcomes of the pilot efforts were well publicized in schools, at school open houses, and at a school committee meeting. Teachers who piloted the Activboards and had training provided by Promethean were enthusiastic presenters who well communicated the benefits of the technology through real-life applications that they had developed. Excitement around the Activboard model built rapidly. It was clear to all that these were engaging and motivating to students at a level far beyond what current or prior technologies could match. The Vision Statement in a subsequent update of the technology plan in 2007 specified an Activboard and laptop computer for every classroom. Where might financing to expand the use of Activboards come from? The promise of reaching a critical mass of installations in anything but a number of years seemed remote.

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The wheels began to turn. Special Activboard presentations were conducted at several schools with a focus on actual classroom applications demonstrated by teacher-users. Parents immediately understood the value and energy that Activboards brought to

instruction and were especially interested in bringing this technology to their schools. The district established an agreement with each Parent Teacher Organization by which the district would, for a short window of time, match any funding for Activboards provided by the PTOs. This encouraged each school to focus and prioritize its external resources to acquire as many units that the school felt it could comfortably deploy. Importantly, the schools in the district had reasonably equitable levels of resources; that is, no school had a disadvantage due to a lesser capacity to fund the initiative. Although schools did have varying levels of receptivity to this offer based upon competing priorities and size of the school, a substantial number of Activboards were brought into the system to fill the planning gap.

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Guidelines for distribution within a school were needed to deal with the influx of newly available interactive whiteboards. Several options were considered. One option was to provide Activboards to teachers based upon a mini-proposal submitted for their use, as in the pilot. District level staff could oversee the process of awarding the equipment to avoid any claims of favoritism within a school. An advantage of this approach would be that the equipment would be placed in the hands of teachers who were proactive and eager to receive it. A second option proposed locating Activboard installations according to a grade level prioritization plan. Elementary schools would locate the units starting in grade five. When all classrooms in a grade level were fully equipped, the next lower grade level would then be equipped, and so on. At the middle school, installation would begin in grade six and move upward. The advantage to this approach was that teams of teachers would be similarly equipped so that sharing and training would be expedited. The second option, that of providing equipment on a grade-level basis, was decided upon to ensure equitable access to students within grade levels across schools and also to establish a fully objective strategy for deployment. All schools would be expected to comply. Although some schools were slightly ahead of others in working through the grade levels in acquiring the boards, they were nonetheless all moving in the same direction. Future targets for funding were clearly defined and this provided incentive and direction for additional fundraising among the PTOs. The district's 2007 Technology Plan had indicated no immediate purchases of interactive whiteboards for about two years due to budget cutbacks. Parents recognized that if Activboards were to be brought into the schools, it would need to be the result of a strong effort to obtain external resources. Subsequently, some elementary schools conducted auction nights for the purpose of raising funds for Activboards. These immediately became the most successful fundraising events in recent history of the schools. As a result, all elementary schools have funded Activboard installations in all grade 3 -5 classrooms. With all schools having a shared goal, purchase levels enabled quantity discounts from the vendor. Importantly, the school district established the guideline that all Activboard donations would include complete delivery and installation costs as well as a contribution to

professional development support to ensure that schools would not inherit unbudgeted or unanticipated costs as result of the hardware donations. The district is at a point in which PTOs have been asked to temporarily delay additional Activboard funding until current installation issues are complete and sufficient teacher training for acquired equipment has been accomplished. The PTOs are focusing funding on acquisition and support of auxiliary tools, such as Activotes, Activexpressions, Activslates and Activwands.

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An important cornerstone for teacher professional development efforts was participation in Promethean's "Train the Trainers" model. The first of these events accommodated five of Sudbury's teachers and was hosted within the school district. A second "Institute" was conducted less than a year later and accommodated an additional five teachers. These staff members have provided a level of ongoing support within buildings during early release afternoons and in formal course offerings during the summer. School principals have been very supportive in providing ongoing opportunities for collaboration on the effective use of the Activboards. At least two years of focus and dedication are needed for high levels of success to be expected. In Sudbury, three years of Activboard Study groups have been sustained. The most recent group had 17 teachers participating. Staff receive no compensation for attending or leading these user groups, but PDPs are awarded for a specified level of participation.

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Teachers soon came to recognize the potential of Activboard technology to almost reinvent teaching in some areas. Resources that staff were previously comfortable with needed not be abandoned but rather were brought together in an exciting way. Discovery Learning video materials that had been used could easily be built into lessons and stored for large screen projection in an immediate and timely way. Segments of PowerPoint presentations can be added to the mix. Electronic graphics and text materials from publishers that had previously been on hand were highly accessible as needed. Students, through Activotes and Activslates, can respond individually to teacher queries, the results of which were instantaneously reviewed by teachers and the class. Lessons are being constantly upgraded, expanded, and shared among grade level colleagues. Students create and present their individual and/or team efforts in the development of audiovisual projects. Technology is no longer an appendage to the lessons, but a delivery mechanism that enables teachers to refine their pedagogical skills and communicate with all students in a way that matches the power of media that students are being exposed to outside of their school experiences.

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When we reflect on the important steps that enabled this innovation to be brought into the Sudbury Public Schools so rapidly and purposefully, despite extreme financial difficulties, we see the following:

- Clear, practical planning in which the district opened itself to consideration of new models of technology deployment.
- Establishing modest pilot efforts that were closely monitored and evaluated.
- Broadly communicating to all constituencies a clear vision for classrooms and schools based upon the planning and pilot process and building consensus around that vision.
- Demonstrating to all stakeholders the potential of new technologies to bring the vision to life as a way to garner support.
- Encouraging granting foundations, potential donors, and PTOs to contribute to an established plan and helping that plan evolve more quickly than the schools are able to support.
- Ensuring, as needed, that contributions include delivery and installation costs as well as contribute to professional development activities.
- Having a clear objective strategy for deployment of new equipment that eliminates struggles and positioning within schools and among staff.
- Building a cadre of teacher trainers so that each school will have appropriate staff within the building to coordinate and deliver formal and informal support for new teacher users.
- Encourage grade level and discipline specific sharing within schools and across the district.
- Communicating regularly with the school community about the progress being made with technologies in meeting the needs of the students.

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