

"We're Wired! Now What?"

A Holistic Approach to Technology Planning in High Schools

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Introduction

"We're wired! Now what?" is a question I heard frequently from K-12 school teachers during my tenure as a media and technology consultant in New York City during the late 1990s. Most, if not all, of the school funding for technology at that time was spent on wiring classrooms or acquiring computers. Little of the funding was directed at planning or professional development for teachers. Yet research suggests that technologies themselves do not cause substantial changes in schools (Hawkins, Panush and Spielvogel 1). Tremendous pressure still exists for teachers to learn how to use new technologies in some meaningful way, yet according to a report to the President on the use of technology in education, the network of support does not necessarily exist for teachers to integrate technology in ways that support school curricula (President's Committee of Advisors). Clearly, a new framework for technology must emerge before technologies such as computers (and more recently laptops and PDAs) can be used as anything other than attractive additions to otherwise dull curricula.

My work with ten New York City high school principals and review of numerous technology plans generated some key elements for principals and administrators to consider when creating a school-wide technology plan. The elements comprise a holistic view of technology planning and serve as a map to more specific and therefore meaningful uses of technology across the curriculum. Following an outline of technology planning, I offer a case study of school-wide technology planning that raises interesting challenges for principals, teachers, district leaders, technology coordinators, and professional developers as they try to connect with technology for purpose larger than the equipment itself.

Phase One: Standards-Based Goal Setting

Research suggests a relationship between teachers' educational goals and objectives and the ways in which they are able to integrate computer-based technologies into their classroom teaching (Honey and Moeller 12). A technology plan is born from a school's general vision for education (see Figure 1). There are many existing documents that serve as starting points for technology planning: Comprehensive Education Plan (CEP), national and/or state standards, school mission statement, Regents exams, and the immediate needs of the plans and other documents that may be available at district, state and national levels. The first phase of technology planning involves the principal meeting with a core group of teachers/staff to establish an educational goal or context for technology integration. As part of this initial stage, a committee might also consult an existing technology plan already in place. Although assessment is rarely thought of as part of the planning process, it is essential to establish benchmarks for both teacher and student success. Thus, the documents mentioned above also serve as assessment tools.

Most formal documents like those mentioned above tend to designate technology acquisition itself as an educational goal, rather than providing subject-specific standards for technology. The ideal is to achieve clarity and consistency about the educational vision that technology will support—at least for the first academic year of the technology plan. This involves weaving together an educational goal or objective with a specific subject area or even across multiple subjects. Rather than focusing on technological goals such as wiring all classrooms or acquiring laptops for all students, the primary focus here is a specific goal, such as getting all ninth graders reading at or above grade level. Increasing student reading scores could serve as the cross-disciplinary anchor for a year-long technology plan that would somehow utilize a new NT computer lab. Another approach might be to integrate a new English curriculum computer technology requirement. Both of these examples focus on the standards-based curricula with the technology in a subordinate role.

Figure 1. A holistic approach to school wide technology planning.

Phase Two: Marshaling Resources

It is common for technology planning to stall in technical talk about computers—the desire for newer and faster machines, the process of wiring a school building, or the need to acquire a particular piece of software. Thoughtful integration of technology requires a postponement of "tech talk" in favor of discussions about the medium itself and how it shapes teaching and learning. For example, conversations about computer hardware and wiring do not address why and how to use such equipment as part of instruction. A more holistic approach requires acknowledging a distinction between the equipment (technology) and the means (media) of communicating (whether professionally or pedagogically) at a school.

The technology planning committee at one New York City high school was initially consumed with technology acquisition. With the assistance of the school's computer coordinator, the committee was able to achieve consensus on the educational goal of reading and writing. The committee decided to define effective reading and writing across all departments and to use two existing computer labs as the main technologies to support the reading and writing goal. The committee spent several meetings addressing issues of technical support, lab upgrades and ways to maintain the labs—and very little time defining the actual goals for "effective reading and writing."

To open up the possibilities for technology as effective media for instruction, it is important that a planning committee consider all forms of technology available to their school—not just the computer. Common examples of forgotten resources include TV and VCR carts, overhead projectors, cameras, audio recorders, and video recorders. Creating a technology inventory list of all resources available widens the possibilities for effective planning. These planning sessions with the principal and his/her support team involve taking a snapshot of the whole system of the school and where specific (dis)connections among resources might occur. This conversation includes technical issues such as access, space, and programming, as well as immediate concerns about student test scores, professional development, classroom management and curriculum camcorders, magazines and books. In addition, it is important to figure out where, how and to what extent these resources are accessible to teachers and/or students.

Although I discuss professional development as part of the implementation phase, at this stage such needs and interests should be immediately addressed, particularly if there exists a felt need for initial technical exposure to resources that currently exist on campus to get a better feel for the

possibilities for technologically supporting the educational goal. This initial technical training allows teachers to gain initial exposure, ideally through a set of hands-on and experiences, to the possibilities and necessary skills required to use (usually the newer) digitally-based technologies. The relationship between professional development and the technology resources is a recursive one. Once a teacher experiments with a "new" technology, (s)he is more aware of what older technologies can be used to support classroom teaching and learning.

Phase Three: Supporting the Process

Once a technology committee has identified the educational goal and identified the resources available, the next phase is identifying the structures that will support the technology plan when it is implemented. Ultimately, implementing the technology plan requires foundational efforts in the areas of leadership, professional development, community support and communication at multiple levels. As Figure 1 indicates, setting goals and marshaling resources comprises at least half the process and requires considerable effort. Of equal importance are the supporting structures that will sustain the implementation of technology in the curriculum.

Leadership Roles

What are the roles of the principal, teachers, administrators and staff in implementing a school-wide technology plan? It may be helpful for principals to think of their role(s) in terms of archetypes: Are you like a CEO of a corporation? President? Orchestra leader? Coach? Whatever the leadership style of the principal, it is important for those involved with the technology planning process to feel supported and valued individually as well as collectively.

Technology is a topic that evokes a variety of emotional responses among teachers and administrators. Combine this with the plethora of meetings that teachers and administrators are required to attend regularly, and what results is quite challenging. Despite the reputation that technology planning sessions have for being non-productive, it is imperative that a technology planning committee commit to meeting regularly during the course of the school year. This type of commitment requires external support, which may (or may not) originate from the school principal. Examples of support are per session, release time, or equipment (i.e., laptop computers), for example. As with most committees, the individual members need to feel valued in order to value the collective process. Supporting the planning process is essential.

Available resources that are often overlooked yet can provide much-needed support for school-wide technology integration are human resources within the community and within the school structure. These include enrolled students, alumni, local college interns, parent volunteers, school administrators, (on-call) district technologists, on-site professional developers, private/public corporations, and local and district leaders.

Professional Development

When it comes to technology integration, professional development is often thought of as an afternoon or even all-day training session on how to use a computer. However, professional development might instead be thought of as a carefully planned series and/or combination of experiences (some of which are hands-on) through which teachers come to an understanding of how certain technologies affect them personally, professionally and pedagogically. Teachers can also meet for an extensive period over time in a collaborative effort to map out specific curricular goals, what strategies will support those goals, and finally what technologies will best support those strategies. This phase of staff development often leads teachers to discover additional and more focused needs for technical training.

Successful technology integration requires a school structure that supports teachers throughout the *entire* process of technology integration. Teachers require not only technical training but also training in how specific technologies can be integrated into ongoing curricular activities (Hawkins 12). More than just learning the tools, thoughtful technology integration implies a process of curriculum design, implementation, assessment and redesign. Unfortunately, this type of professional development is often seen as a luxury that school budgets cannot afford. Coupled with all the administrative tasks teachers are responsible for, it is not surprising that tackling the complex and sometimes painful task of using technology to support (and not detract from) classroom teaching is a low priority. Depending upon the culture of the school, principals might support ongoing professional development through program-scheduled class visitation, per-session compensation for after-school planning sessions, and release from administrative duty. The ideal is to establish a network of teachers that will continue to expand as they share with one another their successes and failures with using technology in the classroom.

Communication Structure

Technology planning and implementation requires a clearly outlined structure for communication. A technology planning committee ideally consists of a representative group of participants who are knowledgeable about the school culture as well as the available and incoming media and technology resources, standards/assessment, school communication, ongoing support, staff development, and leadership. In addition, the principal should attend these meetings because (s)he can often answer burning questions related to funding, school planning, and intradepartmental issues that can move the planning process along more rapidly. An alternative to attending the meetings is for the principal to select a proxy who attends the planning meetings and regularly consults him/her about pressing issues. A common example is for a principal to establish a Technology Committee or task force that reports to an AP or the principal. In this case, what departments, interests, needs are represented by this committee? What are the communication structures between and among instruction, administration, departments, technicians, other schools, and district leaders? Just as the principal needs to shape the planning process, the planning committee needs to shape the forms of leadership and support that it needs, through constant communication with the principal.

Summary & Reflection

A technology plan is born from an educational vision. Depending upon the immediate needs and concerns of each principal, technology planning may require simultaneous integration of all three phases outlined above. Thus, the phases represent benchmarks rather than chronological indicators of the planning process. A technology plan is essentially a living document that outlines in detail how media and technology resources will support a specific instructional goal for a particular school year. Ideally, it serves as both a catalyst and a map outlining specific projects individual teachers can realistically implement in the classroom for that particular school year. Whether this technology planning map is used at whole school or departmental levels, the usefulness of the document lies in 1) locating the interconnectedness among resources and educational goals in the context of a specific curricular environment and 2) articulating as a committee specific needs and desires within each of the six planning areas.

The technology plan itself (as a document) is of relatively little use to principals. However, its function as a tool to structure ongoing and consistent communication among teachers and administrators is

extremely valuable. In other words, it is the active process of “planning” rather than the technology plan itself that will be of most benefit to principals in integrating technology across the curriculum.

Works Cited

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