The Integration of Instructional Technology into Public Education: Promises and Challenges

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Introduction

Will instructional technology (IT) ever be integrated into public schools? An interesting question—or rather a series of related questions of interest to educators and parents: What do we mean by "instructional technology"? What is integration? What is the current status of IT in classrooms? Are there constraints or barriers to integration? What are the effects of preservice teacher preparation and inservice professional development? How does one proceed with technology integration? How do we apply the lessons learned from "older" technologies to the "newer" technologies of the last two decades?

This article will address each of these questions in order to help us to grasp the prospects for the integration of instructional technology into public education as well as to consider the promises and challenges of such a venture.

Instructional Technology Defined

What is "instructional technology"? Is it merely a synonym for computers, or does its meaning transcend hardware and software to include both physical and intellectual facets in its domain?

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Let us start with trying to understand the concept of technology. Although *Webster's New Collegiate Dictionary* takes a sociological perspective in its definition of technology as "…the totality of the means employed to provide objects necessary for human sustenance and comfort" and " a technical method of achieving a practical purpose," the prevailing public definition based on current usage is "technology equals machinery." This limited focus on machinery at the expense of process ignores the true sense of technology as "the systematic application of scientific and other organized knowledge to practical tasks" (Galbraith, 1967, p. 12) and thus as a problem-solving process using human and other resources to seek solutions to human problems.

Within this broader sociological framework of technology, we find the terms "educational technology" and "instructional technology." Often used interchangeably, both share a common interest in the processes of human learning and teaching, with some variations in definitions and levels of complexity, depending upon one's personal viewpoint. For convenience and consistency, we will most likely blend elements of the two terms, but use "instructional technology" as our primary focus in this article.

Instructional technology may best be understood by reviewing several definitions culled from the writings of several scholars in the field:

> [Instructional technology] is concerned with improving the effectiveness and efficiency of learning in educational contexts, regardless of the nature or substance of that learning. …Solutions to instructional problems might entail social as well as machine technologies. (Cassidy, 1982, p. 1)

> The systemic and systematic application of strategies and techniques derived from behavioral and physical sciences concepts and other knowledge to the solution of instructional problems. (Gentry, 1995, p. 7)

> …the media born of the communications revolution which can be used for instructional purposes along side the teacher, textbook, and blackboard…[as well as]…a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communications, and employing a combination of human and nonhuman resources to bring about more effective instructions. (Commission on Instructional Technology, 1970, p. 19)

> …the application of our scientific knowledge about human learning to the practical tasks of teaching and learning. (Heinich *et al.*, 1993, p. 16)

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> …a complex, integrated process involving people, procedures, ideas, devices, and organizations for analyzing problems, and devising, implementing, evaluating, and managing solutions to those problems involved in all aspects of human learning. (AECT, 1977, p. 1)

> Instructional technology is the theory and practice of design, development, utilization, management, and evaluation processes and resources for learning. (Seels & Richey, 1994, p. 9)

Despite these more comprehensive viewpoints from the literature that instructional technology encompasses the broader processes of teaching and learning, the prevailing public perspective incorporates instructional technology as a synonym for computer technology. In other words, as noted above, technology means computers in the minds of many. That myopic view has generated some of the problems related to integration, in particular, the focus on access to hardware at the expense of effective pedagogy, as if one particular medium is the panacea for the challenges facing education. Isn't this a *déjâ vu* experience for the field of educational technology? Haven't most technological innovations in our past concentrated on hardware rather than the process? Think back forty years, if, like me, you've been involved in the field that long. Remember instructional television? Federal and state funding loaded schools with television sets, with very little attention to pedagogical processes and professional development for teachers. We cannot assume that, just because adequate resources have been obtained, integration would naturally follow.

However, since the challenges of integrating instructional design and other *technological processes* into teacher practices have been addressed adequately elsewhere (Branch, 1994; Driscoll, Klein, & Sherman, 1994; Earle, 1994, 1998; Reiser, 1994), the focus of our discussion here will be on aspects of the integration of new computer and communications technologies into schools.

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The Current Status of Classroom Technology

A nationwide survey of teachers and superintendents commissioned by Jostens Learning Corporation (1997) indicated that the computer revolution has had a tremendous impact in the classroom. Surprisingly, however, the emphasis was on student access to information outside the classroom and improved student motivation, not on specific academic achievement. In fact, fewer than half of the teachers used computers for instructional purposes, rather than word-processing, spreadsheets, or graphics for personal productivity only. Differing priorities showed that teachers would rather see additional funding used to increase the number of computers in classrooms, while superintendents felt that teacher training would best improve computer effectiveness. A variety of other surveys (Bosch, 1993; Niess, 1991; Trotter, 1997), while reporting strong computer usage by teachers, actually indicated a lack of integrated use with the curriculum. In many instances, it has been a case of fitting the curriculum to the computer rather than the computer to the curriculum.

Let us begin with a comprehensive look at school technology in a series of articles by *Education Week* (1997), which shared several interesting facts about the state of computer technology in public education:

- "The dividends that educators can expect from this…unprecedented support for school technology…are not yet clear….There is no guarantee that technology improves student achievement." (Trotter, 1997, p. 6)

- 43% of respondents in a survey felt that the introduction of computers into public schools was not happening fast enough. (Trotter, 1997, p. 7)

- Despite the lack of research evidence, 74% of the public and 93% of educators agreed that computers had indeed improved the quality of education, teaching, and learning. (Trotter, 1997, p. 8)

- Research on the effects of technology on student achievement offers mixed results. (Viadero, 1997, p. 12)

- Placing computers and software in classrooms is not enough. Discovering whether technology "works" is not the point. The real issue is when and under what circumstances. Like any other tool, teachers have to come up with a strategy or pedagogy to make it work.

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(Viadero, 1997, p. 16)

- Wise use of technology takes adequate training, time, planning, support, and teacher ownership. (Viadero, 1997, p. 16)

- Money spent on school technology is wasted without an equal effort to help teachers with its use and integration into the curriculum. (Zehr, 1997, p. 24)

Is it possible that blasphemies are beginning to be heard outside the church of technology? Bronner (1997) posed this question and, in describing an "intellectual backlash" and feelings of skepticism about technology use, cited several educational sources to criticize the use of "glitzy toys" and "bogus stuff" in the middle of an "educational catastrophe" where children cannot read or write. Such a backlash will be productive if it makes us re-examine how we use technology in the classroom (Pool, 1997). Bronner's comment that "schools may be overwired and children undertaught" is cause for reflection for those who feel that "new media tools offer a great promise for a new model of learning—one based on discovery, participation…, learning partnerships, and learning cultures" (p. 4).

The promise is indeed real—as illustrated by recent studies showing that new technologies have indeed transformed classrooms for K–12 students and teachers. "Around the nation teachers are using technology to create exciting and creative learning environments where students teach and learn from each other, solve problems, and collaborate on projects that put learning in a real-world context" (*GLEF Blast Newsletter*, 2001, p. 1). In a meta-analysis of the value and use of technology in K–12 education (Valdez *et al.*, 2000), the North Central Regional Laboratory found that "technology innovations are increasing the demand for reforms in teaching and learning approaches that, in turn, are having a significant impact on technology use expectations" (p. iii). The report also found a very strong connection between appropriate teacher use of technology and increased student achievement.

> Technology offers opportunities for learner-control, increased motivation, connections to the real world, and data-driven assessments tied to content standards that, when implemented systematically, enhance student achievement as measured in a variety of ways, including but not limited to standardized achievement tests. (p. iii)

Working in an appropriately designed technology-rich environment has the potential of producing a variety of positive outcomes (Tiene & Luft, 2001): improved patterns of social interaction, changes in teaching styles, more effective teaching, increased student (and perhaps, teacher) motivation, and enhanced student learning. Achieving this potential, however, is the challenge, and it requires the correct vision of technology and its integration.

A Closer Look at Technology Integration

Definitions of both terms (technology and integration), whether broad or limited, drive the problem. Computer technology is merely *one* possibility in the selection of media and the delivery mode—part of the instructional design process —not *the* end but merely one of several means to the end. Integration does not just mean placement of hardware in classrooms. If computers are merely add-on activities or fancy work sheets, where is the value (Hadley & Sheingold, 1993)? Technologies must be pedagogically sound. They must go beyond information retrieval to problem solving; allow new instructional and learning experiences not possible without them; promote deep processing of ideas; increase student interaction with subject matter; promote faculty and student enthusiasm for teaching and learning; and free up time for quality classroom interaction—in sum, improve the pedagogy. Wager (1992) argued that "the educational technology that can make the biggest difference to schools and students is not the hardware, but the process of designing effective instruction" (p. 454), which incorporates computer technology and other media appropriately.

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Integrating technology is not about technology—it is primarily about content and effective instructional practices. Technology involves the tools with which we deliver content and implement practices in better ways. Its focus must be on curriculum and learning. Integration is defined not by the amount or type of technology used, but by how and why it is used.

Successful technology adoption/integration requires concerted focus on the mission of improving education for all students. It grows from the mission. As an add-on or fad, it soon withers. It must be seen as an ongoing innovative process designed to meet instructional/ learning needs (Robey, 1992). Bernauer (1995) captured a significant insight when he stated that "it is not technology *per se* that has resulted in improved student outcomes, but rather how the technology was used and integrated into instructional processes" (p. 1). While noting increased student proficiency in using technology for learning rather than as technology for its own sake, he also attributed such achievements to teacher planning and expertise, recognizing that true success must be measured in terms of improvement in teaching and learning, not merely in the placement of computers in classrooms. Munoz (1993), who described herself as a technophile, emphasized the prudent, ethical use of technology and warned us to "resist the seductive force of technology to replace rather than enhance" (p. 49). She stressed that very human elements such as intuition, judgment, imagination, and creativity cannot be replaced and that technology may fail if it is viewed as change for the sake of change.

Dede (1997) reinforced this perspective by stressing that "unless other simultaneous innovations occur in pedagogy, curriculum, assessment, and school organization, the time and effort expended on instructional technology produce few improvements in educational outcomes—a result that reinforces many educators' cynicism about fads based on magical machines" (p. 13).

Fullan (2000), in a review of educational reform, reminds us that, since technology is ubiquitous, the issue is not whether, but *how* we contend with it. He stresses that as technology becomes more powerful, good teachers become more indispensable.

> Technology generates a glut of information, but it has no particular pedagogical wisdom—especially regarding new breakthroughs in cognitive science about how learners must construct their own meaning for deep understanding to occur. This means that teachers must become experts in pedagogical design. It also means that teachers must use the powers of technology, both in the classroom and in sharing with other teachers what they are learning. (p. 582)

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Initially, the real power of technology probably lies in the way its use causes teachers to develop different perspectives through rethinking teaching and learning (Riedl, 1995; Ritchie & Wilburg, 1994). Teaching with technology causes teachers to confront their established beliefs about instruction and their traditional roles as classroom teachers.

Forces of Change

Kurt Lewin's (1951) force field analysis theory illustrates the dynamics at work in the change process. Movement from the present level of performance to a desired level is facilitated by driving or encouraging forces, while at the same time, it is hindered by restraining (or resisting, discouraging) forces. The present situation usually represents a state of equilibrium or balance between these driving and restraining forces.

Driving forces for technology integration might include the power and potential of new developments, rapid availability, creativity, Internet access, ease of communication, or the promise of impact on learning. Restraining forces might include barriers and constraints such as technical support, teacher expertise, time for planning, or pedagogical applications.

So, how do we make changes? Do we increase the driving forces or decrease the restraining forces? The former, by far the easiest because of our control over such forces, proves to be the less effective, since all that results is an increase in tension with a quick return to the status quo. Senge (1990) has stressed that when innovators change one part of a system, the system almost always works to change itself back again unless those solutions move from a symptomatic to a fundamental change in the system. For technology to become an integral aspect of classrooms and curricula, the changes in teacher and student behaviors must, of necessity, be fundamental to the system rather than quick fix or Bandaid solutions which merely focus on the surface symptoms. Reiser and Salisbury (1995) have referred to this phenomenon as "straighten[ing] the deck chairs [while] the structure of the ship we are traveling on remains the same" (p. 232).

Covey's (1990) analogy provides a useful strategy for addressing change through the responses to driving and restraining forces:

> The question of whether to increase driving or decrease restraining forces is analogous to the question "If I'm driving a car and see the emergency brake is partly on, should I release the brake or put on more gas?" Accelerating may increase the speed, but it may also burn up the engine. Releasing the brake, on the other hand, would allow you to attain high speeds more efficiently. (p.

Hence, focusing on reducing restraining forces would appear to be a more productive use of our energy. So let us attempt to identify these forces and consider their nature.

Constraints and Barriers: Identification of Restraining Forces

Despite the general sense that the computer revolution of the last decade has had a major impact in schools, the nature of this impact seems to be limited to access and information retrieval rather than improved teaching methods or revitalized school and classroom structures (Hativa & Lesgold, 1996). Did we overpromise and fail to deliver? Was it a matter of unfulfilled expectations? Were there unexpected outcomes, constraints, barriers, or contextual considerations which were overlooked or underestimated?

What are the restraining, resisting, or discouraging forces that affect change efforts in teacher practices, especially related to technology? The following constraints and barriers have been acknowledged by a number of scholars (Pelgrum, 2001). What would it take to convert these barriers to facilitating factors in technology integration? Often it seems to be a fine line between the two perspectives. It is in this arena that we should expend the bulk of our energy.

- Access to hardware and software as well as funding (Hope, 1997; Lan, 2000; Leggett & Persichitte, 1998; Lumley & Bailey, 1993).

- Time for planning, personal exploration, online access, and skill development (Duffield, 1997; Hope 1997; Lan, 2000; Leggett & Persichitte, 1998; Sheingold & Hadley, 1990).

- Technical and administrative support and resources (Leggett & Persichitte, 1998; Schrum, 1995).

- Training and expertise (Cafolla & Knee, 1995; Hope, 1997; Shelton & Jones, 1996).

- Resistance, passivity, school cultures, and traditions of teaching (Beacham, 1994; Cafolla & Knee, 1995; Cohen, 1987; Cuban, 1986; Ertmer, 1999; Hope, 1997; Lumley & Bailey, 1993).

- Vision and leadership (Cafolla & Knee, 1995; Ely, 1995; Hope, 1997; Lan, 2000; Lumley & Bailey, 1993).

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- Support for integration of technologies into instruction and the curriculum (Cuban, 1986; Hancock & Betts, 1994).

Ertmer (1999) grouped these barriers into two categories: first-order barriers extrinsic to teachers (access, time, support, resources, training) and second-order barriers intrinsic to teachers (attitudes, beliefs, practices, resistance). She asserted that "even if every first-order barrier were removed, teachers would not automatically use technology" (p. 51) and in fact, rather than being eliminated completely, such barriers will "continue to ebb and flow throughout the evolutionary integration process" (p. 52).

Teachers and Technology

Tucker (1992) advocated "unleashing the full potential of technology" by "letting the genie out of the bottle" (p. 50)—as if, by allowing this powerful force to roam into schools, something magical will automatically happen and all our wishes will be granted. Although many of us strongly believe in the great promise that technology holds for both learners and teachers, we also need to remember that, first and foremost, technology is a communication tool. "It is not the silver bullet that will solve all of our education problems, but it is certainly a useful tool that enables us to link various learning communities together in new and different ways" (Taylor, 2000, p. 4). It is not about what technology by itself can do, but what teachers and learners may be able to accomplish using these tools.

In labeling technology as the "great siren song of education," Kearsley (1998) argued that "educational technology [has become] primarily, if ironically, a distraction (on a grand scale) from what matters most—effective learning and good teaching" (p. 47). By focusing merely on how to use computers, technology training has failed and has caused us to miss the forest for the trees by not addressing how to teach students more effectively using a variety of technological tools. Kearsley further lamented the lack of technology preparation for teachers (too little and too late), stressing the realistic need for extensive and sustained practice over years, not one-day workshops (p. 49). What teachers need to know most is how to teach content more effectively. Because of our quick fix mindset in education, we myopically "teach people how to use specific types of technology [rather than] how to solve educational problems using technology when needed and appropriate" (p. 50). A recent survey by Jostens Learning Corporation (1997) and the American Association of School Administrators reported that teacher training,

while readily available, focuses merely on basic computer operation and fails to address helping teachers use technology to teach more effectively.

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Even though Gardner (1991) has expressed the view that "a well-trained and effective teacher is still preferable to the most advanced technology, and that even excellent hardware and software are to little avail in the absence of appropriate curricula, pedagogy, and assessment" (p. 223), he nevertheless admitted that "immersing oneself in a problem using the latest technology…can make a significant contribution to student learning" (p. 223). For him, the most important question is "whether such technological prosthetics actually improve classroom performance and lead to deeper understandings" (p. 223) and become "helpful handmaidens in the [learning] process" (p. 233).

Postman (1992) has warned us that new technologies alter "the things we think about…, the things we think with…, and the arena in which thoughts develop" (p. 20). Hence, technology has become a serious arena for academic work (Mollgaard & Sides-Gonzales, 1995). This is the promise and the potential. It is also the challenge. The questions to be addressed are: "Who is in charge? Who is the driving force?" The answer should be the teachers who use the technology well. It cannot be the technology in and of itself.

A review of research studies and reports compiled in the early years of the past decade (Sivin-Kachala & Bialo, 1995) demonstrated the value of technology in enhancing student achievement, improving students' attitudes about themselves and about learning, and changing the learning environment. However, these authors emphasized that "the decisions made by well-trained educators [necessarily] determine the computer's ultimate instructional effectiveness" (p.17) and that "the most important determinant of student attitudes when using technology is the teacher" (p. 24).

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Lessons from Our Technological Past

The future belongs to those who respect the past, acknowledge the present, and grasp the future (Gustafson, 1993, p. 31).

In our past attempts at educational reform we have always looked for *new* solutions to old problems, equating "change" with "newness," and "ineffective" with "old." People just like the idea of newness. That's what grabs their attention. New for old. Not effective for ineffective. Not efficient for inefficient (Earle, 1992).

Focusing exclusively upon the newness of computer technology alone, independent of teaching and learning processes, may cause us to repeat technological history without reaping the potential benefits of this remarkable technology. We may unintentionally succumb to the malady of "data, data everywhere, but not a thought to think" (Theodore Roszak, in Rhee, 2000).

Our infatuation with the promises and possibilities of technology as hardware at the expense of technology as a process has overshadowed key lessons which we have learned from prior experiences in the field of educational technology: There is no one best medium; the medium is the means, not the end; and the medium is not the message. Snider (1992) reminds us that focusing exclusively on technology as a panacea for improving schools has been somewhat fruitless across decades of technological innovations. "From lantern slides to language labs, from closed-circuit television to microcomputers, attempts to improve American schools with modern machines have been something less than a resounding success. Beginning with the magic lantern and the stereoscope of 1900, machines in the classroom have generated some promise, a fair amount of controversy, and a great deal of hype. During these 90-plus years, however, the basic acts of classroom teaching have changed very little despite sporadic efforts at research and reform—with and without machines" (p. 316).

Callister (1992) has added his own historical insights to our current dilemma in order to remind us of yet another lesson from the past: the power of the teacher in technology integration.

> Inventions from Edison's phonograph and the blackboard to audiotape and instructional television have all been pressed into service to make up for the perceived deficiencies of the ordinary classroom teacher. But efforts to replace teachers with technology have uniformly failed. Inventions intended to take over teaching come and (mostly) go; what happens in classrooms looks pretty much the same.

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> Why? Because technology enthusiasts continue to forget a basic fact: Machines are tools, valuable only when a human intelligence organizes their use in a productive way. In the classroom, that human is the teacher, who controls the nature of the environment and what happens there. Good classroom tools extend the teacher's power to create a rich learning environment. If the teacher does not know what to make of the tool, or fears it, or misconstrues its uses, it will be used badly or not at all. If the teacher perceives the machine as a master, not as a servant, its potential will never be realized. (pp. 324-325)

Principles of Integration

Instructional technology does, indeed, hold a remarkable promise for changing the quality of teaching and learning in our schools. It is the catalyst for transformation—but this does not mean that we merely need more computers in our classrooms. Technology also involves *process*. Too often our efforts to improve education have resulted in our unrealistic isolation of technological processes. Remember my earlier reference to our experiences with educational television? We expended our resources on installing equipment, which soon began to gather dust because we neglected the process components—learning, teaching practices, and curricula. Technologies are valuable resources, but only when used in a systematic process for developing human competence (Earle, 1992).

Questions about technology integration often center around schools and classrooms. Such questions fall short of the target. It is relatively easy to "place" technology in physical locations. The real question must focus on integration into teaching practices, learning experiences, and the curriculum. Integration (from the Latin *integrare*, to make whole) includes a sense of completeness or wholeness and incorporates the need to overcome artificial separations by bringing together all essential elements in the teaching and learning process—including technology (as *one* of the elements, not the sole element).

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Change starts with the individual teacher, who, upon catching the vision, is willing to take risks, to experience Christopherian confrontations or encounters (Gardner, 1991) in rethinking teaching and learning, and to model for and be a mentor to peers. Just as Christopher Columbus confronted the intuitive impression that the earth is flat with the conception of a spherical earth, so teachers must grasp the opportunity to reconsider established practices and rethink teaching and learning. Conversion to a theory, practice, process, or approach, such as technology integration, is a very personal process. It involves *preparation* of the teacher (building relationships of trust, helping teachers feel and recognize the power of teaching with technology, personalizing training, and finding out teacher needs, interests, and concerns), *commitment* by the teacher, *following-up* on that commitment by the support team, and *resolving teacher concerns* arising during the change process. Teachers more through at least three levels—confidence, competence, and creativity. It is a process of gradualness as they progress from learner to adopter to leader. At first they utilize existing practices, then adapt to their own needs, and finally design their own integrated experiences. Such teachers "face their own fears and struggles with technology and change by taking the time to reflect on their own role and professional practice in this process of integration" (Norum *et al.*, 1999, p. 202).

It is important to remember that technology is not a subject (Duffield, 1997). The focus of integration is on pedagogy—effective practices for teaching and learning. Teachers need to be able to make choices about technology integration without becoming technocentric by placing undue emphasis on the technology for its own sake without connections to learning and the curriculum. For both preservice preparation and inservice professional development, this means providing experiences, primarily in instructional design, media selection, modeling exemplary technology practices, clinical activities, resource sharing, and extensive and sustained training and practice. Ertmer (1999) explains that "teachers need opportunities to observe *models* of integrated technology use, to *reflect* on and discuss their evolving ideas with mentors and peers, and to *collaborate* with others on meaningful projects as they try out their new ideas about teaching and learning with technology" (p. 54).

The curriculum must be the vehicle for technology integration. Just as reading is content-free (i.e., incorporates all subject areas), so is technology. We must weave technology into the fabric of learning, or as Cuban (1986) admonished: Fit the computer to the curriculum, not the curriculum to the computer.

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Exemplary practices reported in professional journals such as *Educational Technology*, *Tech Trends*, *Technology and Learning*, *Educational Leadership*, and *Learning and Leading with Technology* have showcased individuals, programs, and schools that have successfully taken on the restraining forces listed above. Such efforts show us that reducing these forces is the key to overcoming the obstacles and breaking down the barriers to the meaningful integration of technology into teaching and learning. Converting these restraining forces to facilitating factors is essential. Take any of the restraining forces listed above—access, time, support, training, leadership, or resistance—and one can see that it is much easier to remove the barrier by resolving and reducing concerns than to attempt to use additional force to plow through the barrier—the former approach is facilitative and constructive while the latter is divisive and destructive. The solutions are many and varied depending on local conditions (Leggett & Persichitte, 1998; Lumley & Bailey, 1993).

Final Reflections

Any innovation is fraught with promises and challenges. Involving key stakeholders is often the way to achieve the potential promises while addressing and overcoming the related challenges (Waddoups *et al*., 2001). Hence the need to focus on the teacher and the learner and not the technology—through the curricula and practices which bring teachers and learners together. Contrary to critical comments about the sparseness and poor quality of technology research, Margaret Honey at the Education Development Center recently testified before the U.S. Senate that one can find ample empirical evidence that technology does have a positive impact *when the right conditions are in place* (Honey, 2001). She concluded that, if technologies are to be used to support real gains in educational outcomes, six factors must be in place: leadership, solid educational objectives, professional development, adequate technology resources, time, and evaluation (Honey, Culp, & Carrigg, 2000). Additionally, Norris, Smolka, and Soloway (2000), in a convergent analysis of technology studies, have identified their set of critical conditions as access to technology and time on task, adequate teacher preparation, effective curriculum, supportive school/district administration, and supportive family. In other words, establish appropriate conditions by converting restraining forces to facilitating factors.

Such remarkable interactive technologies deserve the opportunity to deliver on their promises and meet (or even exceed) their potential. Let us truly learn from our technological past and grasp the future by addressing

today's realities so that we can reap tomorrow's possibilities. □

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