Modest Changes, Revolutionary Possibilities: Distance Learning and the Future of Education

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In this essay, I take stock of the developments shaping distance learning and consider the implications for educational researchers and for the future of education. I proceed in four stages. First, I consider the constellation of forces leading to the development of distance education and the emerging shape of this part of the education sector. Second, I review the development of distance learning to date, a path of development based largely on the extension of and borrowing from existing educational arrangements and patterns in face-to-face education. Third, I explore developments at the leading edge of contemporary distance learning that depart in some more substantial way from patterns characteristic of face-to-face education. Fourth, I consider the implications for educational researchers as well as those for policy makers and educators.

Over the past decade there has been an explosion of interest and activity surrounding distance learning, most notably, online learning made possible by the development of the internet. Such activities have captured the attention of policy makers, educational researchers, educators, and the general public, particularly students. This rapid growth of distance learning suggests the need for educational researchers to understand how it may be re-shaping education in the present and what the continued rapid growth of distance learning might mean for the future of education.

The educational systems of modern nation states have been formed over the past several hundred years. The various elements of these systems have been shaped by the broader social forces that characterized earlier eras, and many have been solidified as evidenced by the difficulty of fundamental educational reform. In contrast to long standing and stable or slow-growing parts of the education sector, newly emerging and fast-growing parts of the sector may be more likely to show evidence of the effects of contemporary dynamics. Thus examining the growth and development of distance education may provide a glimpse of the type of educational system that would be formed from primarily contemporary conditions.
In this essay, I take stock of the developments shaping distance learning and consider the implications for educational researchers and for the future of education. I proceed in four stages. First, I consider the constellation of forces leading to the development of distance education and the emerging shape of this part of the education sector. Second, I review the development of distance learning to date, a path of development based largely on the extension of and borrowing from existing educational arrangements and patterns in face-to-face education. Third, I explore developments at the leading edge of contemporary distance learning that depart in some more substantial way from patterns characteristic of face-to-face education. Fourth, I consider the implications for educational researchers as well as those for policy makers and educators.

CONTEMPORARY DEVELOPMENTS IN DISTANCE LEARNING

Distance learning offers educational opportunities to students who for one reason or another are physically removed from the source of instruction, sometimes due to living in a remote location, sometimes due to issues of scheduling and other commitments, and sometimes due simply to learner preference. Distance learning delivered online via the internet is the successor to correspondence schools that operated by delivering print-based educational materials through the mail and to later television or video-based delivery of courses and programs.

The National Center for Education Statistics reports that during the 2000–2001 academic year, 56% of 2- and 4-year degree granting institutions of higher education in the U.S. offered distance education courses involving an estimated 3,077,000 enrollments. These institutions offered 127,400 different distance education courses. Degree programs were offered by 19% of 2- and 4-year institutions. An additional 12% of higher education institutions planned to begin offering distance education courses within three years (Waits & Lewis, 2003, p. iv).

The NCES report indicates that distance education courses most often employed the internet and two video technologies, with 90% of institutions reporting use of the internet for asynchronous course delivery, 43% reporting synchronous internet courses, 51% reporting use of two-way video and audio, and 43% reporting use of one-way video (Waits & Lewis, 2003, p. 11).

A survey from the Sloan Consortium indicates that about 1.9 million students were studying online in the U.S. in the fall of 2003 with the institutions surveyed predicting online enrollments topping 2.6 million for the fall of 2004. Schools responding to the Sloan survey expected online enrollment growth to continue to accelerate from a rate of 19.8% in 2003 to a rate of 24.8% in 2004. These rates exceed the overall rate of growth for the higher education student population (Allen & Seaman, 2004, p. 5; Collins, 2004).
Distance education also constitutes a large and growing dimension of the education sector on a global basis. Even by the 1990s a report from the World Bank indicated that distance education played a prominent role in a range of countries from the UK to South Africa to China. Delivered largely by open mega-universities with enrollments exceeding 100,000, distance education results in tens of thousands of degree graduates each year. By the mid 1990s China alone was producing over 100,000 graduates through distance learning programs, and more than half of China’s 92,000 engineering and technology graduates received their degrees through distance education (Potashnik & Capper, 1998).

Distance learning is also growing as a means of delivering training in corporate environments. The American Society for Training and Development has reported that as of 2001 the percentage of learning delivered through technology increased to 10.5% from 8.4% a year earlier (Yoon, 2003).

In the U.S. online offerings for K–12 education have spread widely among states and districts. Education Week reports that 22 states have established a virtual school and that 16 states have established at least one cyber charter school as of 2004. Also in 2004 an average of 28% of school districts in the 50 states offered distance learning programs for teachers and 25% of school districts offered distance learning programs for students (Education Week, 2005).

The growth of distance learning can be explained by the conjunction of a number of factors that together create an environment in which conditions are propitious for continued growth into the foreseeable future. These factors concern both the demand for and the supply of education.

Much of the growth in distance learning can be explained by the growth in demand for education in general. U.S. Census estimates indicate that the cohort of traditional age college students between the ages of 20 and 24 will increase through 2015, declining thereafter, and the National Center for Education Statistics estimates 16% growth in college and university attendance over the next ten years (Jones, 2003).

Beyond the growth in the cohort of traditional age college students there is also likely to be continuing growth in the proportion of young people in the US viewing education as important to their future lives (Schneider & Stevenson, 2000) as well as growth in the numbers of people around the globe for whom education is essential if they wish to participate in modern political and economic systems (Friedman, 2005). Many of the individuals in the later category are in locations removed from established sources of educational services. In more highly developed economies, the population of individuals who are candidates for distance education is swelled by the proportion of the population engaged in occupations that demand greater education but that also prevent them from participating in educational programs offered on conventional schedules. These pressures that simul-
taneously push individuals to acquire more education while making it more difficult for them to do so through conventional means will only accelerate the growth of distance learning options.

Addressing the growing demand for education requires new strategies to enhance the supply of educational services. Distance learning enables several such strategies. First, perhaps most obviously, distance learning addresses problems in the distribution of educational resources through place shifting, or by making educational resources accessible to students at locations often far from the source. So, for example, rural high schools are able to offer foreign languages via distance learning in locations where there are no teachers with skills in particular languages available locally. Second, distance learning enables the time shifting of educational opportunities by making educational experiences available 24 hours a day, seven days a week. Such time shifting increases access to educational opportunities for working adults and others who cannot adapt their schedules to those of traditional educational institutions. Third, distance learning programs allow for resource shifting by reducing the costs associated with the creation of physical campuses and buildings to house teachers and students. This allows resources that might have been required for the creation of new schools and campuses to be devoted to the development of educational services.

With distance learning growing faster than other parts of the education sector, it offers a particularly revealing view of the forces shaping education now and in the near future. Some of these forces are working through current educational institutions and long-standing ways of operating; others are emanating from outside traditional educational institutions and promise substantial departures from past practices. In the next two sections I review both the modest changes occurring from within the education sector and the more radical possibilities that are on the horizon.

MODEST CHANGES

Many of the changes set in motion by the growth and development of distance learning can be considered modest. These changes involve the adjustments being made to business as usual in established K–12 and post-secondary education in the U.S. and around the world as educators and educational institutions become involved more substantially in online learning. These modest adjustments involve institutions, faculty, and pedagogies. Each of these reveals at least a bit about where we stand and how we may be affected by contemporary forces for change. I consider each briefly.

Educational institutions have moved to incorporate online distance learning into their set of educational offerings, often building on earlier existing efforts at correspondence style courses. Some colleges and univer-
sities have worked online courses into their regular programs and departments, others have added online programs to their continuing education divisions, and still others have created entirely new divisions or subsidiaries (Prestera, 2001). Some early stand-alone efforts at online education at Columbia, NYU, and Temple have already been suspended as failed experiments with the remnants rolled into existing divisions and programs (Carlson, 2003).

In some ways established educational institutions were relatively well-positioned to enter into online learning since they had already invested in networking campuses and providing faculty and administrative offices with computers, and they had at least begun to provide students with online access to core administrative and educational resources. In other ways, traditional institutions were not prepared for the investments required in specialized technical and support staff and for the cultural changes necessary to communicate to existing staff the importance of new distance learning initiatives. Moreover, slow moving established institutions were not accustomed to engaging in the swift responses necessary to take advantage of the rapidly evolving market for distance education (Levine & Sun, 2003).

Perhaps the most limiting aspect of traditional educational institutions as they approached the prospect of moving into distance learning was the lack of a well defined model or conceptual understanding of their own operations. Educational institutions have developed patterns of operating over the years, and these patterns are only weakly connected to their goals or the effects they hope to produce. Levine and Sun (2003) note that post-secondary educators assume a model of education with a community or family-like environment in which education requires an intimate relationship between faculty and students, though they are quick to note that such conditions are not common in post-secondary education except perhaps among elite doctoral programs. Even this model of education based on close relations between faculty and students is less a well-articulated institutional model and more the absence of one, with many of the key operational aspects of education left entirely to the discretion of individuals within the institution.

In the absence of a well articulated model, the prospects for a fast growing distance learning operation spurred by the rapid development of networked environments and computer technology threatened to remove the stable operational environments of physical schools and campuses where even the progress of students through programs is measured by “seat time,” that is physical presence. Under such conditions, distance learning initiatives threaten core values both by creating units based on principles different from those governing traditional programs and by increasing the chances that traditional programs themselves will be re-examined and reformed along the lines of the new initiatives. Interestingly, introducing distance learning and its rationalizing influences into K–12 institutions
appears to be less jarring because the K–12 sector is further along on the path to rationalizing its procedures thanks in part to the ongoing accountability movement (Wilson, 2002).

Not surprisingly, faculty have been sometimes apprehensive about the introduction of distance learning into the mix of educational experiences for which they are responsible. Years of teaching in face-to-face classroom settings have followed years of sitting in such classrooms as students, and the combined experience has led to rather stable expectations about what faculty life might be like for both K–12 and post-secondary faculty. The technologies of instruction in face-to-face settings are well known and most instructors have mastered them or at least made their peace with some acceptable degree of competence. Indeed, Conrad (2004) notes that experienced instructors engaging in distance learning for the first time rely heavily on their prior experiences in face-to-face classes.

The growing presence of distance learning in established educational institutions over the last decade has raised a set of faculty concerns that have been noted in multiple initial inquiries. Writing in the late nineties, Wilson (1998) identified a list of concerns that included: sufficient time to develop courses and materials, technical support, administrative support for engaging in distance learning—including credit for tenure and promotion, and sufficient time to interact with students. Rockwell, Schauer, Fritz, and Marx (1999) examined both incentives and obstacles to faculty participation in distance learning. Prominent incentives included the opportunity to engage in innovative instruction and a focus on teaching. Major obstacles included the time required, the need for technology skills, and the need for assistance and support. In a more recent review of studies of faculty participation in distance learning, Maquire (2005) identified a range of factors deterring faculty involvement in distance learning, including lack of time, lack of institutional support, lack of scholarly respect, lack of training, lack of standards for online courses, and the perceived threat of fewer full-time faculty positions with the advance of online technologies. A similar list of obstacles as viewed by K–12 educators was generated by Berge and Mui-ilenburg (2003) with time concerns topping the list.

These rather early reactions of faculty highlight the tensions in introducing a new activity into existing institutions with established roles. Some of the perceived barriers to becoming involved in distance education involve changes in institutional policies and practices, and some involve learning new skills and habits. Both of these types of barriers are related to the need to change behavior from already established patterns. The other major barrier, the lack of time, may be less difficult to address as distance learning develops (Lazarus, 2003). In general, the current barriers to faculty involvement in distance learning may be the result of the unsettled nature of pedagogy for distance learning efforts. It is difficult to move to
something new when the patterns of behavior required for success are not fully established.

In concept, distance learning, particularly online learning, holds the prospect for a pedagogy that is more interactive, more individualized, & more student-centered (Knowlton, 2000), or alternatively, more rooted in scientifically based instructional design (Merrill, Drake, Lacy, & Pratt, 1996) than classroom-based instruction dominated by faculty prepared lectures and presentations. In practice, of course, distance learning has often taken its form from classroom models with the dissemination of text-based or, less commonly, video-based, materials prepared beforehand by teachers and sent to students through the network. Educators and educational researchers have begun to examine some of the issues attendant to distance learning online with studies of things such as the use of discussion boards (Oliver & Shaw, 2003), synchronous chat (Chou, 2001), strategies to develop a sense of online community (Garrison, Cleveland-Innes, & Fung, 2004) or teacher presence (Richardson & Swan, 2003). And there have been various strategies suggested to break out of the classroom dominated models, including games (Gee, 2003), goal-based scenarios (Shank, 1997), and peer-to-peer learning communities (Divac-Krnic, Seeberg, & Steinmetz, 2003).

The overall lesson to be drawn from experience thus far with the online delivery of courses is that a consensus about a distinctive online pedagogy has yet to emerge (Levine & Sun, 2003). In the absence of such a consensus, much online instruction borrows from well established classroom models of appropriate teacher behavior and teacher-student interaction. This borrowing has pervaded all aspects of distance education from staffing to curriculum development to assessment.

With established educational institutions more eager than able to move aggressively to implement distance learning, with faculty reluctant to give up the roles they know and for which they were selected for new roles that have not yet coalesced, and with the pedagogical model for distance learning in a networked world not yet formed, it is tempting to conclude that only minor adjustments in educational practice are in the offering, despite the already substantial technical developments and the accelerating pace of technological progress. However, there are signs that larger changes may be on the horizon.

REVOLUTIONARY POSSIBILITIES

At the beginning of the revolution in the production of cloth in the eighteenth century, most cloth was woven in small quantities in numerous cottages throughout the English countryside using limited technology and the surplus labor of small households. Cloth produced under these conditions was rather expensive. In the later part of the eighteenth century there was
literally a revolution in textile production that resulted in lowering the cost of cloth by 90% thereby making it accessible to a large proportion of the world’s population that could not afford it earlier. This revolution took place not because cottages became more productive, or because house- holders rushed to adopt new methods, or because new technologies found their way into English households. Indeed, if a scholar studying textile production had limited inquiry to what was happening in the cottages where cloth had been produced, the inquiry would have overlooked a rev- olution in textile production that was occurring in new institutions called factories with a new pool of labor, called frame workers for the frame-based machines to which their work and their livelihoods were increasingly tightly tethered, using a set of new technologies that were improved rapidly and repeatedly (Randall, 1991).

The question for consideration in this section is whether something sim- ilar might be underway in the education sector today, driven by contem- porary forces of change and most apparent in developments surrounding distance learning. I will sketch the prospects for such revolutionary change here, leaving until a later section discussion of the type of inquiry necessary to provide confirmation and monitoring of such a major transformation. Although some of what I review in this section is based on events that are currently unfolding, much is necessarily speculative. However, there has already been substantial speculation voiced and caution raised regarding a potential revolution in education (e.g., Bowen, 2001, Duderstadt, 2001; Lenzner & Johnson, 1997), and I will attempt to include a bit of each in what follows.

There are at least suggestions that four fundamental types of change may be underway that together could bring about a revolution in the education sector. First, the traditional and established packaging of education may be shifting. Second, the teacher or faculty role may be changing. Third, capital may be more available to invest directly in the technology of education. Fourth, there may be a major re-mapping of the education sector as new entrants become very substantial players in a global educational market. I will consider each of these.

Much of the early discussion of the opportunities afforded educational institutions through distance learning has focused on the prospects for reaching new groups of students and expanding the populations served. For in- stitutions whose leaders view growth as key to their success, these new student populations represent new possibilities to enhance their position in the edu- cation sector. However, acquiring new students is only one type of oppor- tunity presented to existing educational institutions through distance learning.

There are some early indications that the traditional means of “pack- aging” education may be subject to substantial changes. Educational insti- tutions have operated by acquiring and packaging all of the necessary
inputs (faculty, curriculum, assessments, etc.) of their educational offerings. Such inputs have been assembled and delivered under conditions (e.g., seat time, program, degree, residency, and student performance requirements) set by the same educational institutions. They have also combined these inputs into outputs such as courses, programs, and degrees that they defined and controlled.

The emerging distance learning technologies of communications and computing offer new opportunities for educational institutions in the creation and management of educational services. Post-secondary educational institutions are well along the path of outsourcing less central parts of their services (Gose, 2005), and some have even outsourced the management of their outsourcing arrangements (Fain, 2005). Among K–12 institutions, in recent years there have been various moves to engage outside service providers and private management companies in the operations of schools (Richards, Shore, & Sawicky, 1995; U.S. General Accounting Office, 1996).

All components of the educational offerings (e.g., instructional staff, curricula, courses, libraries, [Dillon, 2005], services for students) might be acquired from any source on the globe at the lowest cost. With outsourcing experience and more readily available means of connecting to various providers, educational institutions may be poised to shift from developing their own resources and services to aggregating resources and services developed and provided by others.

With courses developed for online delivery, there are new opportunities for educational institutions to purchase courses from other institutions and integrate them into their own offerings, opportunities that some institutions are already pursuing (Carnavale, 2004). This early example suggests a range of new sourcing arrangements that will be possible as institutions seek to enhance their offerings while containing their costs. For some institutions, distance learning, or the provision of educational services to students at a distance, has been joined by distance teaching, or the securing of instructional services from faculty at a distance. This opens up a world of new staffing possibilities for K–12 and post-secondary education, and threatens to shift the balance of power on many post-secondary campuses from faculty to management. It also offers educational institutions opportunities to shift from full-time faculty to a variety of part-time arrangements that will lower the costs of delivering educational services.

There are significant barriers that traditional education institutions would have to overcome to reposition themselves by changing the sources of inputs into their educational operations and the conditions under which education is delivered. Existing educational institutions struggle to maintain their brand identity in a sector where their offerings are easily duplicated by competitors, and they are likely to tread carefully down any path that diminishes that identity by introducing inputs and conditions drawn from
elsewhere. Existing educational institutions that have concentrated on developing their own resources may lack knowledge of appropriate external sources of educational resources and so be poorly positioned to form relations with quality suppliers. Existing educational institutions will also be slowed in the move to use new inputs for the educational process by existing sources of external support such as grants and gifts that presume a certain well-established organizational model. Of course, new entrants to the education sector may have none of these limitations.

Chief among the barriers to more expansive sourcing options is the resistance that will come from faculty whose position within educational institutions will be challenged in numerous ways. Noble’s discussion of the prospects of digital diploma mills is a prominent early example of this reaction (Noble, 1998), but others will be sure to follow. Interestingly, those institutions with the strongest faculty roles in governance and where faculty are most closely connected to the creation and maintenance of a brand identity may be least able to move quickly to take advantage of new possibilities in the education sector.

The most destabilizing pressures for the reconfiguration of education may be connected, not to the sources, methods, and conditions of education under the control of educational institutions, established or new, but rather to the demands of students that may drive the growth and development of the education sector in a way that they have not done in the past. Distance learning and its associated technologies open a range of new possibilities. At both the K–12 and post-secondary levels, existing educational institutions have established rather standard bundles of educational services using components such as courses, credits, curriculum requirements, certificates, diplomas, and degrees. All of these have been organized around rather standard notions of a student career through the educational system and its various levels.

Student control over these aspects of the educational experience has been rather limited, though some institutions have made sharing control with students a distinctive feature of their approach whether it is through the lack of specific curriculum requirements at traditional institutions such as Brown University, the awarding of credit for life experience at institutions such as Thomas Edison State College, and or the tailoring of education to career demands at institutions such as the University of Phoenix.

Student control may be extended and expanded even as demand for education increases on a global basis as new technologies associated with distance learning offer new choices to address an increasingly diverse set of student needs. Initial distance learning offerings have sought to offer anytime, anywhere learning, but the forms and formats have been rather traditional courses and degree programs with relatively small differences among them. However, innovative providers of education seeking to attract
students may offer education in new forms ranging from games and simulations (Prensky, 2001) to online communities (Johnson, 2001) and journals (Natriello & Rennick, forthcoming) to entire libraries (Hernandez-Serrano & Jonassen, 2003; Natriello, 2003) oriented as support mechanisms for disciplines, interests, and careers. These distance learning components have yet to emerge in robust forms, but the possibilities can develop well beyond anything offered in campus-based settings because the potential global marketplace will justify much more substantial investment than can be contemplated by most existing educational institutions. Of course, once again, there will be forces that resist substantial change, and these will come from both outside and inside of the educational establishment.

In addition to an unbundling and reconfiguration of education, the advance of distance learning has already shown signs that point to an unbundling and reconfiguration of the faculty/teacher role. In typical K–12 and post-secondary institutions teachers are responsible for most aspects of the delivery of education within their classrooms or instructional groups. Teachers have had a large role in developing the curriculum, determining the methods of instruction, setting social arrangements within the classroom, specifying what is most important for students to learn, and for managing assessments to determine the degree of mastery. Teachers manage all of the related information on students and their performance throughout the year or semester of the class. Faculty “own” the core instructional activities of most existing educational institutions, a fact dramatized by the battles that emerged early in the development of online learning over the ownership of course materials (Twigg, 2000).

Recent developments in distance learning and related technologies have started to change this self-contained instructional model as faculty come to rely on technical support staff to maintain the systems for online delivery as well as instructional designers who provide support in re-structuring courses for the online environment (Thomas, Carswell, Price, & Petre, 1998). These services are typically provided by staff internal to the institution, but once they are separated from faculty, there is no limit to who can provide them and where they can be located as long as there is a network connection. Other elements of the instructional program that might be unbundled from faculty include course development and materials development offered by publishers for whom such services are only one step beyond the production of textbooks and elaborate ancillary materials. Indeed, as noted earlier, some colleges are already acquiring entire courses from other institutions for use with their own students.

The assessment of student competence may also be handled less expensively and perhaps more expertly by external assessment service providers, and at least some aspects of assessment are already being handled outside the countries where the assessments are administered (BBC News, 2005).
Course related services can even extend beyond those currently handled by faculty. Columbia University’s aborted fathom.com initiative was designed to market individual courses from select institutions to a new audience of potential students using strategies far more sophisticated than the campus flyers posted by faculty seeking to generate sufficient enrollment to offer a class.

Levine and Sun (2003) have argued that a pedagogy of online learning has not yet emerged, and it is hard to argue differently in view of the diverse set of cobbled together approaches and techniques that now pass for such pedagogy (e.g., discussion boards, chats, video clips). Perhaps more challenging for the current teacher role is the question of the degree to which teachers will actually be involved in whatever pedagogy finally comes to dominate distance learning in online environments. Already, observers have pointed to the shift from faculty being front-and-center to being “on the side” in distance learning, perhaps as designers and organizers of the learning environments that will be experienced by students (Duderstadt, 2001; Newman & Scurry, 2001). The networked environment serves to connect students to a set of learning resources larger and more varied than those typically commanded by an instructor, and this may explain why some campus-based students find it compelling to be online while in class and others prefer to avoid the classroom entirely and use the campus network to access course lectures and other materials.

Dramatic changes in the faculty role associated with distance learning and related technologies mean changes not only for faculty themselves, but for educational institutions. Faculty may find their current responsibilities and some additional ones parceled out to multiple specialists while they search for a new pedagogy to teach students who may not want to be exposed to one. Institutional managers may find that they suddenly have new institutional responsibilities for managing a range of tasks that had heretofore been managed by individual faculty in ways not apparent beyond the individual level.

A third major development that could signal revolutionary change concerns the availability of resources to invest in the technologies to render the delivery of educational services more efficient. Societies around the globe are committing ever greater levels of resources to their education sectors, but these resources typically fall short of meeting the demands for education in both quantity and quality. Distance learning offers an alternative path for public and private investment in the education sector. The prospects for the delivery of education via new communications and computing technologies coupled with a growing focus on the outcomes of education offer several opportunities to redirect resources. First, the use of distance learning strategies reduces the necessary investments in physical facilities in which to locate education activities. Second, the promise of more powerful technologies to support education may allow resources to be shifted from
labor to capital in the form of technology investments as a way to achieve
greater efficiency in the education sector. Taken together, these possibilities
hold the promise of an investment path more closely related to the direct
delivery of education, and one which would seriously undermine all current
labor-intensive models for the delivery of educational services.

The fourth major development that suggests a revolution in the edu-
cation sector is the reconfiguration and realignment of the entire sector as
existing educational institutions are transformed, organizations previously
not in the sector enter it, and entirely new entities emerge as major par-
ticipants. These changes appear to be largely driven by the development of
distance learning and related technologies in computing and communica-
tions and by the emergence of a global market for educational services.

These forces are clearly having an impact on traditional postsecondary
educational institutions (Burbules & Callister, 2000; Lawn, 2001; Raschke,
2002) as they consider their core activities as well as partnership and other
opportunities. Also important is the growing participation of organizations
not previously in the education sector, including publishing, testing, and
media organizations (Blumenstyke, 2003). Although a good deal of this ac-
tivity concerns post-secondary and life-long education, the world-wide in-
terest in privatization of K–12 education may also result in new entrants at
that level. Entirely new organizations are also being launched into the ed-
ucation sector to pursue the opportunities posed by the rapid development
of distance learning (Gravois & Fogg, 2005), and these new organizations
have the potential to reshape the entire education sector over the long term.

A major dimension of all of these mechanisms reshaping the education
sector concerns the emerging global character of distance education (van de
Wende, 2002; Carnavale, 2005). Although education has developed over
the last several hundred years largely as the result of efforts by nation states,
the global marketplace holds the promise of diminishing the impact of
nation states over the long term.

IMPLICATIONS FOR EDUCATIONAL RESEARCH,
POLICY, AND PRACTICE

Spurred by advances in computing and communications technologies, dis-
tance learning, as indicated, is growing rapidly accompanied by modest
changes in existing educational organizations and revolutionary possibilities
in the sector overall. In this section I consider the implications of these
developments for educational research, for policy, and for practice. I begin
by taking stock of what seem to be the key aspects of the development of
distance learning.

First, despite the rapid growth of distance learning and what appears to
be substantial demand, many existing educational institutions have moved
only hesitantly for reasons already discussed. Not surprisingly, more substantial movement has come when institutions have focused on distance learning as a core activity. Nonetheless, from the perspective of those within established educational institutions, the development of distance learning thus far can easily seem tangential to core institutional activities.

Second, the core technologies of distance learning have yet to emerge and stabilize. Most distance learning draws on patterns borrowed from classroom-based learning and much of the effort to develop distance learning is centered around achieving classroom-like or classroom equivalent conditions as a source of legitimacy. This borrowing has highlighted the less than fully developed nature of educational technique that characterizes campus-based or classroom-based education at both the K–12 and post-secondary levels.

Third, distance learning and the associated technologies have begun to influence established educational institutions to re-examine educational practices in campus-based and classroom-based offerings. This may contribute to the growing effort to rationalize educational organizations more fully, an effort driven also in part by mounting demands for accountability.

Fourth, relatively new entrants into the education sector have used distance learning as a competitive advantage to gain enrollments by focusing on this fast growing segment. These new kinds of educational institutions are developing in ways optimized to support the growth and development of distance learning. The continued growth and success of these new entrants can reshape the education sector in very substantial ways.

Fifth, the role of teachers in modern educational systems, a role that has been relatively stable for at least a century, is being subjected to powerful forces for change. The teaching role is being unbundled and reconfigured, and the results of these processes are not yet certain.

Sixth, an education sector that has been dominated by national, or in some cases such as the United States local, systems is being subjected to the same forces of globalization now affecting other major sectors. While the shape of the new education sector is not yet clear, what is clear is that it will be substantially different from the pattern that has prevailed since the industrial revolution.

IMPLICATIONS FOR RESEARCH

Distance learning and its attendant technologies demand greater attention from educational researchers if they are to develop a more complete understanding of the limitations and possibilities. An initial interest in distance learning from those whose work has been most closely connected to technology in education is giving way to broader participation by scholars with more basic interests who view distance learning not as a technology, but as a
new venue for the organization and provision of learning experiences. Most of this work has concerned the kind of distance learning developments discussed above as modest changes, that is, efforts to develop distance learning offerings within established educational organizations.

Continuing and accelerating this trend will be important for developing a robust research base to guide further efforts to expand and improve distance learning initiatives. Distance learning, particularly network-based learning, offers a new venue for the development of education, and that development will be more successful if it can be guided at the outset by the results of powerful educational research. The rapid growth of distance learning does not offer educational researchers much time to become fully versed in key questions so they can set about planning and executing new families of studies. Once the basic patterns for the development and delivery of distance learning become established, it will be more difficult for research results to have an impact.

In addition to research on the efforts of existing educational institutions to develop distance learning projects and programs, it is equally important that educational researchers begin to examine the more radical possibilities made more likely by new communications and computing technologies. The development of a global market for educational services and the reconfiguration of the set of institutions devoted to addressing the needs of that market have only begun to receive attention from serious scholars. Studying such fundamental changes presents special challenges to scholars who must begin to develop new data sources and develop new theoretical perspectives to guide inquiry. Perhaps even more challenging is the sheer difficulty of maintaining an open perspective on the possibility of radical change when the change at hand is likely to destabilize the conditions under which much scholarship is currently conducted. The fundamental social transformation that attended the industrial revolution resulted in the development of the modern social sciences that serve as the bases for much of our inquiry into education today, and there is at least the possibility that entirely new intellectual traditions will emerge once again in the wake of changes of the magnitude that might be on the horizon for the education sector.

IMPLICATIONS FOR POLICY

The challenges posed by distance learning for educational policy and policy makers are no less than those posed for educational research and researchers. Policy makers have already been engaged in early questions generated by the growth of distance learning, and there have already been adjustments in regulations to enable distance learning efforts to develop more rapidly.

In some sense the fundamental questions of how to achieve quality and equity in education will not change, but the policy levers available to address
those questions will be reshaped substantially if the revolutionary transformations suggested earlier come to pass. Instead of focusing on controlling and funding government schools to achieve educational, political, and economic goals, local and national policy makers may also find themselves trying to regulate global educational enterprises that operate only partially within a single nation state. Moreover, these enterprises will operate in a complex environment of incentives and market forces that differ from one political venue to another. Ironically, the most effective educational organizations, that is, those most highly regarded by learners in the market place, may be those most difficult to regulate along lines desired by policy makers with national interests.

Much of the attention of educational policy makers may shift from managing government schools and guaranteeing the delivery of education. Instead, policy makers may be engaged in managing the availability of resources for education in light of demand to create a climate that will drive innovation at faster rates, and then crafting regulations to address special concerns of the state such as internal political stability and national security. With some nations likely to become net suppliers of education and others net consumers, policy makers may become concerned with new issues of educational dependency.

IMPLICATIONS FOR PRACTICE

Of all the effects of a radical restructuring of the education sector, those that might impact teachers may be the most difficult to anticipate. The advent of computing and communications technologies and other developments in distance learning will surely reshape the roles of teachers in the reconfigured education sector. The elements of teaching may be redistributed across a range of specialists, and some of them may be subsumed by emerging technologies. All of this leaves open the question of what shape teaching and the teaching career might take as well as the more general question of how educational institutions will ultimately be staffed.

It is possible to envision scenarios in which teaching is diminished as an element of the education sector with many functions once performed by teachers now shifted to advanced information and communication technologies or at least to lower cost instructors far from the site where education is actually delivered. This, indeed, is the nightmare that causes many educators to avoid distance learning and all that it portends.

It is equally possible to envision scenarios in which teaching is elevated as a profession supported by a range of new technologies based on an enhanced understanding of learning and the conditions that sustain it. This is the picture of the teacher as a powerful professional able to deliver desired results on a predictable basis whenever well understood conditions are at-
tained. This is also the vision of the educational enterprise as more varied and complex with many of the less demanding tasks necessary to support learning shifted to technologies yet to be invented.

Of course, the changes in the role of teachers will mean substantial changes for schools of education that now prepare them. The most readily apparent changes will be those related to the actual preparation of teachers, a preparation that will need to include expertise in the both the use and creation of educational technologies. The necessary changes are likely to affect the recruitment of students into schools of education, the curriculum to which they are exposed, and the models of instruction in which they are asked to participate.

Schools of education might also tackle another even more demanding challenge if they are repositioned to take the lead in research and policy formulation designed to shape the major transformation that is just beginning. This will require new leadership, new institutional agendas, and perhaps entirely new institutions.

CONCLUSION

It is both tempting and comforting to dismiss the changes associated with the growth and development of contemporary distance learning as minor adjustments within the broader field of education. Indeed, that is one of the conclusions that have been drawn already from the so-called dot-com bust and the demise of some early experiments by major educational institutions. Some educators and leaders of educational institutions, as well as some of those contemplating entry into the education sector have returned to business-as-usual thinking.

But the conditions for revolution remain – growth in world-wide demand for education, rising costs and limited government resources, and new technologies to support and enhance learning. We should squarely face the prospect of the radical, revolutionary changes ahead for education, realizing that educators will not escape the forces of developing technologies, globalization, and process rationalization that are washing over all other aspects of life in the post-industrial era. Moreover, we should attempt to shape them to achieve our educational goals and values. Perhaps the most important question deriving from the development of distance learning is whether we can go this distance.

References


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Distance education is no more than attending school without leaving your home or place of work, getting an education without a face-to-face contact with teachers and classmates, and studying when you can, if you wish. It simply means getting an education at your own pace. Traditionally, distance learning was getting educated through correspondence courses where schools and students corresponded only by post. With the regular addition of more courses and the current possibilities of obtaining higher qualifications like PhD and MSc, distance education is the future of education - global, seamless, cost-effective, and flexible. Advantages of an Online Education. Distance education is continually evolving. Because geographical and temporal separation is no longer considered an obstacle to course delivery thanks to the Internet and other information technologies, an increasing number of individuals are now able to partake in this new educational opportunity. [5] Natriello, G.: Modest changes, revolutionary possibilities: Distance learning and the future of education. Teachers College Record 107(8), 1885–1904 (2005). [6] Petracchi, H.: Distance education: What do our students tell us? The concept of traditional education has changed radically within the last couple of years. Being physically present in a classroom isn’t the only learning option anymore not with the rise of the internet and new technologies, at least. Nowadays, you have access to a quality education whenever and wherever you want, as long as you have access to a computer. We are now entering a new era the revolution of online education. Online education enables the teacher and the student to set their own learning pace, and the added flexibility of setting a schedule that fits everyone’s agenda. As a result, using an online educational platform allows for a better balance of work and studies, so there’s no need to give anything up.