

HOW DISTANCE EDUCATION IS CHANGING WORKFORCE DEVELOPMENT

Ryan Watkins

Nova Southeastern University

On March 12, 1933, President Franklin Delano Roosevelt gave his first "fireside chat" over the radio. He discussed topics and events that mattered most to Americans. Though earlier Presidents had spoken on the radio, FDR. was the first to use this technology to connect with the American people and explain his ideas to them.

Fast forward 66 years to November 1999, when President Clinton held his first "cyber-chat" utilizing the "new technology" of voice recognition over the Internet. Clinton's chat illustrates how far technology has come during the last century. Empowerment of the population is possible through the use of technologies when the development of a skilled workforce is the goal.

Since 1993, the number of computers connected to the Internet has sky rocketed to 56 million worldwide. But a troubling gap has emerged between the computer rich and the computer poor. A report from the U.S. Commerce Department called "Falling through the Net: Defining the Digital Divide," says that

families with incomes higher than \$75,000 a year are nine times as likely to have a computer as those with low incomes. Richer families are 20 times as likely to have Internet access and their schools are connected at a rate of 80% as compared to poorer districts. The department also says that 60% of all U.S. jobs require technological skills.

So how do we bridge the gap, not only between the rich and poor, but also between the technologically rich and poor? The Digital Dakota Network (DDN) will expand opportunities for residents of South Dakota in acquiring useful skills and knowledge for present and future employment security. There is an important distinction to be made between *job security* and *employment security*. While job security is commonly focused on providing the individual with the knowledge and skills necessary for continuing their current employment, employment security is focused on offering the necessary knowledge and skills for employment in current and/or future labor markets or business sectors. When properly

• **Ryan Watkins**, Ph.D., Instructional Technology and Distance Education, Nova Southeastern University, 1750 NE 167th Street, North Miami Beach, FL 33162; phone: (954) 262-8542, E-mail: rwatkins@email.com

organized and deployed, distance education can enable a far greater number of people to take advantage of educational offerings, at a pace and with a flexibility that will meet their other work and personal obligations.

INTRODUCTION

The development of and increasing reliance on information technologies by public and private organizations has significantly changed how state governments must approach the future. States offering their residents educational opportunities that provide them with useful knowledge and skills, as well as prepare them for active participation in the work force, will attract high-quality businesses and industries (those with large employment, high wages, and a large tax contribution, as well as those that do not risk the safety of employees, surrounding communities, or the environment). In the past, states without an immense educational system and infrastructure had a difficult time offering the necessary educational opportunities. However, the influence of educational technologies (specifically video conferencing and other distance learning technologies) has now evened the playing field, allowing even states with the most diverse of populations the freedom to extend learning opportunities to all residents.

Yet, the benefits from an effective distance learning network, like the DDN, require that the system promote use not only within the conventional classrooms, but in the delivery of workforce development opportunities as well. Effective, sustainable distance education requires a results-based system perspective and systemic approach that involves all stakeholders: the residents, taxpayers, learning content providers, educators, schools, community leaders, elected officials, employers, and others both inside and outside of South Dakota. Note that this is a *system* perspective and not a *systems* perspective. A system perspective begins and ends with the entire society as the primary client and beneficiary. A systems per-

spective focuses on each subsystem as a separate client and beneficiary, and thus only captures a small portion of the system perspective. According to Roger Kaufman (2000), successful distance education encapsulates both perspectives through application of a system approach.

In order for the residents of South Dakota to truly benefit from the implementation of the DDN, a purposeful, comprehensive, and cooperative effort to make useful distance education opportunities available to all residents, young and old, is essential.

THE ISSUES

As we enter the new century, preparing our nation's workforce has become increasingly important. The pervasive utilization of technology in most sectors of the economy has brought about new and escalating requirements for an expanded, knowledgeable, and skilled labor force. Coupled with the globalization of national as well as regional markets and economies, the necessity for changing how we as a nation approach workforce development and the continuing demands for lifelong learning is evident. And while the rewards of the new century are likely to be great, the continuing development of our employees is now, more than ever, an imperative.

The exciting new times that are coming on the heels of a decade of unprecedented economic development demands new skills and knowledge that leave many not fully prepared to participate in the "new" economy. While in this election year we have witnessed increased rhetoric concerning the reinvestment of tax dollars into primary and secondary education, the same enthusiasm has not been shared with the continuing development and education of the adult workforce. Employers in many sectors are now reporting difficulty in finding qualified skilled workers and requesting the reduction of immigration limitations. Like at other points in our nation's history, we are cur-

rently at a time when continued economic prosperity requires an educated and skilled labor force. Unlike in the past when "job security" was the only concern, the skills and knowledge required to be effective must be constantly updated in order to maintain *employment security*.

Although distance education in the United States has gained acceptance and popularity only in recent years, it is well—rooted with an extensive history in many other countries. Distance education has evolved over the past 160 years from correspondence courses, to educational radio, one and two-way teleconferencing, educational television, video conferencing, and to computer assisted/web-based interactive learning opportunities. And, during this same period, most conventional education and training institutions have been developing traditional instructor-led courses, but with few cooperative projects linking the two domains of educational opportunities. To be truly successful, the Digital Dakota Network (DDN) will have to bridge these gaps not only for K-12 education, but for the development of the state's adult workforce as well.

WHAT THE LABOR MARKET IS TELLING US

According to Laurie Bassi (1999) in her paper for the U.S. Department of Education, over the past 25 years, two conspicuous trends have dominated all others in the labor market. First, real (i.e., inflation-adjusted) wages have fallen for the majority of workers, and second, dispersion of wages—both within and between

gender and education groups—has increased. Her work suggests that "the combined effect of the increase in wage dispersion, along with the decline in real wages has been most pronounced for males. The real hourly earnings of men with less than a high school education, for example, fell by 28% between 1973 and 1995. This decline has been most pronounced for young men. The only groups that have enjoyed increases in real earnings are women with at least a college education and men with advanced degrees. . . ." (see Table 1. For data sources and references please see the original manuscript available at www.ed.gov/pubs/Competence/).

These shifts in earnings patterns have been occurring at the same time that the average education level was increasing quite sharply. For example, between 1975 and 1994, the percentage of adults (age 25 years old and over) who had graduated from high school rose from 63 to 81% with the corresponding figures from college being 14 and 22% (U.S. Bureau of the Census, Statistical Abstract of the United States 1995, p. 157). In other words, the supply of educated workers increased. Since the relative (and in the case of women, the absolute) wages of college graduates rose as the supply rose, demand for educated workers must have risen even faster than supply; otherwise the wages of highly educated workers would have fallen.

To offset this increasing demand for educated workers, the DDN users should have to focus on the increased access of educational opportunities for both those seeking high school and college diplomas as well as those wishing to increase their skill base through

TABLE 1
Percent Change in Real Hourly Wage by Education: 1973-1995

<i>Education Level</i>	<i>Men</i>	<i>Women</i>
Less than high school	-28	-7
High school	-19	-3
Some College	-15	-1
College	-4	+8
Advanced Degree	+12	+6

job—specific workforce development programs. In a cooperative project, the State of Ohio and the union representing a large portion of state agency employees are working together to find alternative delivery systems for offering an array of workforce development programs to the bargaining unit members via distance education. The initial focus, and entry point, of the pilot program has been within the tuition reimbursement program that enables bargaining unit members to take courses in areas of their choice at community colleges, local universities, and now distance education institutions throughout the country. This type of innovative partnership will hopefully slow the wage dispersions that have been witnessed over the past several decades by providing the job skills necessary for increased wages and employment security to bargaining unit members with minimal formal education.

But what kind of knowledge and skills are required? Surveys of employers, according to Bassi (1999), consistently find that computational and problem-solving skills are among the most serious “hard” skill deficiencies for nonmanagement applicants, although inadequate writing and verbal skills are also reported as problems. Insufficient interpersonal skills, poor attitudes toward work, and difficulty “fitting in” are, however, consistently reported as serious among entry—level workers.

In the paper to the U.S. Department of Education, Bassi notes “the results of a recent survey sponsored by the Society for Human Resource Management (SHRM)... suggest[s]

that employers are experiencing a fair to moderate degree of difficulty in filling entry level jobs, and somewhat more difficulty in filling higher level jobs that require specific skills”¹ (see Table 2).

Unfortunately, skill deficiencies of nonmanagement applicants are not situations to which American businesses currently commit large percentages of training resources in rectifying. According to the American Society for Training and Development’s (ASTD) 2000 *State of the Industry Report*, organizations that lead in training expenditures spend less than 7% of their training budgets on basic skills and communications training (although these two areas were identified as skill deficiencies of 38 and 41%, respectively, of nonmanagement applicants). This apparent inconsistency may lead to one of several conclusions. First, organizations overstate skill deficiencies and would expend greater resources in closing those deficiencies if they presented a substantial problem. Second, organizations do not hire applicants with deficiencies in those skill areas, thereby not requiring larger training expenditures and depending on the states’ educational system to train qualified applicants. Third, the necessity for cooperative workforce development programs is the only option for organizations and states.

Through useful application of the DDN technologies and cooperative partnerships, South Dakota can lead the nation in the use of distance education that provides an adult workforce with the necessary knowledge and skills to meet the demands of employers now

TABLE 2
Percentage of Firms That Rated Competencies as “Weak” among
Nonmanagement Job Applicants

<i>Competency</i>	<i>Percent</i>
Dealing with Change	44
Problem Solving/Reasoning	43
Creativity/Innovation	42
Communications	41
Basic Skills (reading, writing, math)	38
Interpersonal/Team Skills	37
Work Orientation	37
Technical/Business Skills	36

and in the future. The unique opportunities available in South Dakota, because of the DDN, offer an ideal opportunity to serve not only the K-12 educational community, but the workforce and adult communities as well. By offering life long educational opportunities, residents who take advantage of the DNN will benefit from a collateral advantage by entering (or returning to) the workforce as experienced distance learners.

According the ASTD, those organizations that lead in training expenditures forecast that 30.3% of employees' training time will be facilitated by learning technologies by 2001. This is substantially increased from an estimated 18.3% of training time in 1998. Leaders and decision makers should be aware of this increasing demand by American businesses for a labor force that has a demonstrated ability to learn outside of the traditional educational and training classroom.

WHERE DO WE GO FROM HERE?

In 1999, responding to a request by Vice President Gore, the 21st Century Skills Leadership Group offered the following recommendations for realizing America's potential in the years to come:

1. Deliver education, training, and learning that are tied to high standards, lead to useful credentials, and meet the labor market [requirements].
2. Improve access to financial resources for lifelong learning for all Americans, including those in low-wage jobs.
3. Promote learning at a time and place, and in a manner that meets the workers' [requirements] and interest.
4. Increase awareness and motivation to participate in education, training, and learning.

Without a doubt, the DDN has the opportunity to meet and lead the nation in the accomplishment of these recommendations.

However, this cannot be done without a significant commitment to the value of partnership projects of the DDN with those groups that are involved in workforce development (e.g., unions, management, the South Dakota Workforce Development Council) as well as with the local communities in which the DDN will operate.

QUESTIONS

1. If the DDN is the solution, what is the problem?
2. Is the State of South Dakota and the DDN committed to offering *useful* educational opportunities to all residents of the state, young and old?
3. Will partnerships and cooperative projects with both private and public sector organizations be promoted or buried through bureaucratic red tape?
4. How can the initial design of the DDN characterize cooperation among private and public organizations?
5. What role, if any, should trade unions play in the design and development of a useful DDN network for all residents of South Dakota?
6. How will the DDN and South Dakota determine if the DDN system is successful in offering useful educational experiences?
7. Are the necessary systems for longitudinal evaluation in place to determine the success of the DDN and related programs?

AUTHOR NOTE

The section "What the Workforce is Telling Us" is largely based on the paper "Are Employers' Recruitment Strategies Changing: Competence Over Credentials?" by Laurie J. Bassi (available at <http://www.ed.gov/pubs/Competence/>). The National Institute on Post-secondary Education, Libraries, and Lifelong Learning (PLLI) of the U.S. Department of

Education commissioned paper and held a workshop in September 1997 on computer-based learning and its implications.

NOTE

1. Bassi suggests that “the range of tools that employers use to help them select among job applicants are summarized below in Table 4 (based on SHRM survey). As is typical in this type of survey, the response rate was low—12%. The total usable sample was 1,700. No analysis was presented of differences between respondents and non-respondents, but it is clear that large firms are over-represented in the sample. As a result, it is likely that the respondent firms are more sophisticated in the human

resource policies and strategies than a representative sample of firms” (Bassi, 1999).

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