
The Death of Distance: Documenting the Effects of Distance Education In South Dakota

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ABSTRACT

South Dakota has arguably the most technologically advanced educational system in the United States. The state boasts a population of approximately 750,000 residents, distributed across an area measuring approximately 250 by 400 miles. South Dakota is experiencing a shortage of specialist teachers and university faculty, and the vast geographical distances prohibit the physical sharing of educational resources. To begin to address these issues, every school, college and university in the state has recently been connected with wide band communications cable, and equipped with specialized telecommunications suites. The use of public television broadcasting, videoconferencing, Internet based resources and distance learning methods has been introduced in a rationalized attempt to overcome the vast distances between schools and communities across a predominantly rural state.

There is also a high percentage of Native Americans living in the state, located in tribal reservation areas as well as integrated within the general community. Because of social, economic or technological effects of any significant changes often have a detrimental effect on indigenous populations. The effectiveness of distance education and technology supported learning then, is a hotly contended issue.

A major evaluation project was set up between 2002-2003 to measure the success rate of the new technology based learning approaches, and the extent to which the 'tyranny of distance' could be overcome. Surveys and interviews with key instructors and administrators across the state were conducted, which yielded a rich vein of data. In this paper, the authors document the broader effects that the introduction of the technical infrastructure has had on the general population of South Dakota.

Keywords: evaluation, evaluation project, distance education, certificate program

INTRODUCTION

Distance education is not a new concept. In 1840 Sir Isaac Pitman set up the first organized correspondence courses in England. He used the technologies of the day to bridge the geographical distance between teacher and student-print media and the newly introduced penny postal service (Moore & Kearsley, 1996). Others soon followed on both sides of the Atlantic, putting the contemporary technologies to work, and testing their limits. As new technologies were introduced and penetrated society to a depth where the early majority began to adopt them, so the distance educators capitalized on them. In the early 1960s as broadcast television took hold of the western industrialized nations, first the University of South Africa (UNISA) and then the Open University of the UK (UKOU) came into being. Soon there were Open University systems in every country of the world, and as each lowered the entry gates, thousands of students with few or no qualifications poured in to register as part time learners. These were the universities of the 'second chance'-a tacit form of resistance against the institutionalization of learning. Later, in the 1980s where networked computers began to be widely available, teleconferencing and computer mediated communications (CMC) were being used to connect teachers and students over greater geographical and temporal distances.

The inception of the open or mega-universities (Daniel, 1996) heralded a new era of higher education - now anyone who wished to study for a degree could at least enroll and start the journey. The distance that had once marginalised many people from a basic human right that was education had ostensibly been overcome. Higher education had become to all intents and purposes, an equitable and inclusive practice fulfilling the liberalist educational vision of Charles Wedemeyer (1981). However, the tyranny of distance remained. As new technologies were introduced, so new techniques and methodologies were devised in attempts to harness their potential. Some of these practices were industrialized, reducing the teaching and learning process to activities akin to factory manufacturing, representing division of labor, economies of scale and a conveyor-belt mentality (Peters, 1979; Holmberg, 1989). This industrialization of learning has been criticized for its reductionism and depersonalization of the student (Smith, 1979). Moreover, Open University style degrees were frowned upon as second class by many of the established higher education systems.

However, distance education has become established as a potent force in recent years. An entire battery of technologies is now available for the distance learner, including videoconferencing and interactive television, satellite transmission, audio-conferencing, and of course online learning. In many studies there is evidence of reluctance by students to engage in technology supported learning due to perceptions of unreliability, lack of experience with the use of computers or a perception that online learning simply cannot replace the face to face experience. Regardless of these issues however, student satisfaction in distance education does not appear to be diminished (Allen, Bourhis, Burrell & Mabry, 2002). The study of adoption of distance education in South Dakota focused on wider issues than the above, as we detail later in this paper.

THE SOUTH DAKOTA CONTEXT

South Dakota is a predominantly rural mid-western state with a population of approximately 754,000 residents. Over half of these reside in the two largest cities, Rapid City in the West, and Sioux Falls in the East of the state. The state is divided by the Missouri River, which also demarks a time zone change, with the western side of the state on Mountain Time (GMT + 7 hours) and the eastern side of the state on Central American Time (GMT + 6 hours). The river also divides the prairie lands and 'Badlands' in the west from the verdant farming communities of the east.

South Dakota is a fairly large state, measuring approximately 400 miles wide by 250 miles deep. Many of the connecting roads are single lane rural interstate highways, and travel time between the major communities is lengthy. There is also a growing teaching shortage in South Dakota, which holds the unenviable record of the lowest pay for teachers in any U.S. state (Argus Leader, February 18th 2002). Teachers are leaving the state and the authorities are discovering that the outward flow of human resources is hard to stem and even harder to replace. Further, there are currently 175 school districts in South Dakota. As a result of consolidations due to teacher shortages, in 2003, 173 school districts were planned (Bauck, 2002, personal communication). Other districts are facing severe budget cuts (Argus Leader, April 2, 2002). Lack of specialist teachers means a reduction in curriculum scope across all levels of education. These problems are nothing new, as Jordahl highlighted over a decade ago:

'Declining rural populations along with flagging economies and mounting teacher shortages have forced smaller, more isolated school districts to exclude from their curricula all but the most basic subjects'. (Jordahl, 1991: 72)

Similar situations prevail in Canada and other large area countries as documented by Ryan-Nicholls (2001) and others.

In 2003, the incumbent State Governor viewed distance education as a vital means of creating an empowered work force, revitalizing industry and thereby maintaining the State's most valuable resource - its youth.

In order to better understand the effects of distance on learning, and the nature of resistance to technology supported approaches to learning we must first familiarize ourselves with three tensions seen in distance education. We shall examine each in turn.

Tension 1: Globalization v. Individualism

Globalization is defined as an increasing interdependence of world society (Giddens, 1991: 520). The effects of globalization are being felt around the world. It is a force that affects our economy, exchange of goods and services, access to information, communication, health provision, education delivery and even the way we have begun to reconceptualise the world about us. According to some observers, we have in effect attained

the idealism first suggested by Marshall McLuhan. McLuhan, in mapping the effects of communication and the 'electric age', had suggested that we would all one day be living in a 'global village', where the concept of 'togetherness' would take on an entirely new set of meanings (See Toffler, 1971: 444). The key implication of this was that as a homogenous 'group' of consumer-actors, we would all adopt a common identity, as we were subsumed into an ever shrinking world.

To a certain extent this has happened as predicted. Wherever we travel in the world, transnational commodities are awaiting us. We can eat in the seemingly ubiquitous McDonalds restaurant, whilst wearing Nike trainers and drinking Coca-Cola. Microsoft has become the killer application for computer users worldwide, VHS is the standard analogue videotape format, and the digital versatile disk (DVD) format is quickly replacing it. Any self-respecting hotel chain guest room comes complete with news updates courtesy of CNN, whilst the latest Ford car has probably been assembled in one or more than over a dozen countries (Dicken, 1986: 304).

Homogeneity, it seems, rules. Yet the effects of globalization are by no means as clear cut as Toffler and McLuhan could have anticipated.

Alain Touraine offers an alternative perspective on the effects of globalization when he states:

"Our world appears to be integrated as a world market, but the counterpart of this globalization is the more and more aggressive defense of personal and collective identity. Instead of living in a cosmopolitan world as some pretend we do, we live in a dualized world in which not only North and South are more and more distant from each other, but where rich and poor districts in cities are more and more separated universes and in which most individuals are split between their participation in a globalized world and their consciousness of individual and collective identity." (Touraine, 1995: 46)

Touraine is arguing that the sense of personal (and collective) identity is more robust than the seemingly all-powerful forces of globalization and that individuals and communities tend to resist these forces naturally. In this context, it is perhaps easier to understand how resistance to technological forces comes about. At Massachusetts Institute of Technology (MIT) Marvin Minsky, has argued that intelligence is to be found in the collective behaviour of large groups of interconnected machines (Minsky, 1987). Nicholas Negroponte, Minsky's MIT colleague, applies this connectivist analogy to human behaviour and argues that the process of 'decentralization' (also referred to as 'atomization'¹) is becoming the antithesis of globalization. He concludes that it probably has a great deal more power (Negroponte, 1995: 157-159).

Using this framework in a contemporary context, it is clear that resistance to technology in general, and technology supported learning in particular, may be rooted in the collective and individual identity of those the

technology has the potential to affect. The indigenous tribal communities of North America and other countries then, with their long histories, sense of place and being, and strong cultural identities, are prime candidates for a study in resistance.

Specifically, Native American communities seek to strongly protect and preserve their cultural identities, and resist the stereotypical images imposed upon them by other more dominant groups. These include lack of consistency in employment, laziness, drunkenness and other negative attributes.

There is also a danger, in the provision of distance education, to unintentionally marginalise some minority groups. Distance educators, particularly those who conduct synchronous learning sessions, must ensure that parity of experience is offered to all students. This is not only pertinent to those affected by the so-called digital divide, of the technological 'haves' and 'have-nots' but may have wider cultural implications. For example, when two specifically diverse ethnic groups are present, each group may hold a counter agenda. They may have different perspectives or perceptions of the topic being covered within the curriculum. In South Dakota, there is a marked example of this - Columbus Day is not celebrated. Rather, this public holiday celebrating white man's conquest of the New World has been supplanted by 'Native American Day'. Some institutes choose not to celebrate, depending upon the cultural influence within that area.

Tension 2: Power v. Autonomy

A key tenet of the South Dakota Digital Dakota Network (DDN) is that each participating institute should maintain its own control and autonomy over its activities, including curriculum development, use of resources and expenditure. However, this has the potential to be problematic.

There is no mandated structure or agreement about school calendar days, scheduling or pacing of curriculum delivery, a disparity which causes confusion and lack coherence when schools and colleges decide to share electronic learning space technologies. When some schools operate independently they deliver sessions that are 50 minutes in duration. However, video bridges are often booked for 60 minute periods, and this requires some participants to remain online longer than they require, with the result that following sessions are adversely affected. Some institutes understandably resist the use of video bridges as they consider the disruption of schedules a poor trade off against the benefits they receive with videoconferencing.

Some partner institutes within the DDN hold the perception that they are self-sufficient, which results in non-participation or lessened participation within shared events across the network. This of course has a detrimental effect on those less resourced institutes who wish to participate within the network, but have less to offer.

It may also have a detrimental effect on the larger, more self-sufficient institutes, who may be depriving their students of wider experiences of

communication and collaboration within the general student population of South Dakota. Another form of resistance observed within the DDN project lies in higher education.

The recent injection of funding into Schools of Education within the public Universities for the purchase of specialized videoconferencing suites and model teacher preparation curriculum development in distance education has unearthed resistance. Some institutions take the position that they are grateful for the funding, but may be reluctant to comply with all of the requirements of the funding agreement.

It appears that the teacher centered model of learning is still adhered to, as resistance to student centered approaches in learning are not as prevalent as could be expected. The teacher in the classroom still, it seems, holds much of the power over what is taught and how it is taught. This ethos is observed to be prevalent throughout entire institutions. Whilst engaged learning and student centered theories are being espoused strongly by the State and funding bodies, this principle does not appear to be filtering down to the 'chalk face' of teacher practice.

Tension 3: Distance v. Locality

An abiding question that reoccurs within technology supported learning circles is: does where a student learns make a difference? Many recent studies have suggested that no, it doesn't. A compendium of over 40 studies on the effects of technology supported distance education suggests that there is no statistically significant difference between the learning outcomes of distance or traditional students (Merisotas and Phipps, 1999). Harasim, Hiltz, Teles and Turoff (1995) base their findings upon more than 20 years of research when they state:

'The traditional face to face classroom learning situation is generally assumed to be the best to support learning, with other learning modes perhaps perceived as less effective. There is no evidence to support this assumption. In fact, quite the opposite is true: on-line environments facilitate learning outcomes that are equal or superior to those generated in the face to face situation'. (Harasim et al, 1995).

Although distance education is concerned with bridging the geographical (and sometimes temporal) distance between student and teacher, remote students generally don't mind where they study. All they are generally concerned about is that they receive their learning materials when they need them, and in a form that they can readily use.

Social support is also of course an important part of the distance learning equation (Wheeler, 2000; 2002; Carnwell, 2000), and as has been suggested by Moller (1998) student attrition rates would fall substantially if social support was more forthcoming. According to Simonson (1995) most students would rather study within a campus based environment, where they can readily gain access the range of resources they require, including expert help from teachers. However, when geography forces

them to study at a distance, these same individuals demand an equivalency of experience (Simonson, 2000) which is not an easy feat to achieve.

Resistance to distance education occurs when students perceive that they are being offered a second rate service, or where fear of the technology is present. There is a considerably higher dropout rate for online and distance learners when compared with classroom based education (Holmberg, 1994; Belawati, 1998; Song, 2000). Some findings suggest attrition rates might be as high as 30 to 50 per cent (Moore & Kearsley, 1996: 159; Daniel & Marquis, 1979: 34). Resistance through drop-out is often attributable to these issues but the most important factor influencing attrition for the authors, is the lack of social support remote learners can experience. Distance students who sense they are isolated, or lack guidance when they require it, are more likely to drop out or become less motivated.

In South Dakota, in the early days of the DDN implementation, failure to complete courses was marked. However, with the introduction of better social and academic support to students, and enhanced communication structures, these problems have been generally ameliorated. This positive outcome should speak volumes to other large scale distance education projects in the making.

CONCLUSION

Implementing distance education in any context can be daunting and problematic. To establish a State-wide distance education project such as the DDN in South Dakota is an achievement of some magnitude. However, regardless of the difficulties, the lessons learned and the solutions applied are beginning to reap rewards. The tensions will continue, because distance education is both a part of the solution and a part of the problem. Notwithstanding the authors maintain that distance education is the way forward to addressing the problems of the tyranny of distance.

Note: 1 Atomization describes the effects of vastly increased media channels-where previously millions would mutually experience a media event on a single channel, now viewing figures are disbursed across hundreds of channels.

REFERENCES

- Allen, M., Bourhis, J., Burrell, N. and Mabry, E. 2002. Comparing Student Satisfaction with Distance Education to Traditional Classrooms in Higher Education: A Meta-Analysis. *The American Journal of Distance Education*. 16 (2): 83-97.
- Belawati, T. 1998. Increasing student persistence in Indonesian post-secondary distance education. *Distance Education*. 19 (1): 81-108.
- Carnwell, R. 2000. Approaches to Study and the Impact on the Need for Support and Guidance in Distance Learning. *Open Learning*. 15 (2): 123-140.
- Daniel, J. S. and Marquis, C. 1979. Interaction and independence: getting the mixture right. *Teaching at a Distance*. 14, 29-44.

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- Daniel, J. S. 1996. *Mega-Universities and Knowledge Media: Technology Strategies for Higher Education*. Kogan Page. London.
- Dicken, P. 1986. *Global Shift: Industrial Change in a Turbulent World*. New York: Harper and Row.
- Giddens, A. 1991. *Sociology*. Cambridge: Polity Press.
- Harasim, L., Hiltz, S. R., Teles, L. and Turoff, M. 1995. *Learning Networks - A Field Guide to Teaching and Learning Online*. Boston, MA: MIT Press.
- Holmberg, B. 1989. *Theory and Practice of Distance Education*. London: Routledge.
- Holmberg, B. 1994. Open universities-Their rationale, characteristics and prospects. *ERIC Document*, (ED 371 190).
- Jordahl, G. 1991. Breaking Down *Classroom Walls: Distance Learning Comes of Age*. *Technology and Learning*, 72, 78.
- Merisotas, J. P. and Phipps, R. A. 1999. What's the difference? Outcomes of distance v. traditional classroom-based learning. *Change*. 31 (3): 13-17.
- Minsky, M. 1987. *The Society of Mind*. Boston: MIT Press.
- Moller, L. 1998. Designing communities of learners for asynchronous distance learning. *Education Technology Research and Development*. 46(4): 115-122.
- Moore, M. G. and Kearsley, G. 1996. *Distance Education: A Systems View*. Belmont: Wadsworth.
- Negroponte, N. 1995. *Being Digital*. London: Hodder & Stoughton.
- Peters, O. 1979. Some comments on the function of printed material in multi-media systems. *Epistolodidaktika*. 1, 10-21.
- Ryan-Nicholls, K. 2001. Why Choose Interactive Instructional Television? *Quarterly Review of Distance Education*. 2 (4): 367-375.
- Simonson, M. 1995. Distance Education Revisited. *Tech Trends*. 40 (5): 2.
- Simonson, M. 2000. Equivalency Theory and Distance Education, *Tech Trends*. 43 (5): 5-8.
- Smith, K. C. 1979. *External Studies at New England. Armidale, NSW: The University of New England*.
- Song, S. H. 2000. Research Issues of Motivation in Web-Based Instruction. *Quarterly Review of Distance Education*. 1 (3): 225-229.
- Toffler, A. 1971. *Future Shock*. London: Pan Books.
- Touraine, A. 1986. The Crisis of 'Progress' In M. Bauer (Ed.) *Resistance to New Technology*. Cambridge: Cambridge University Press.
- Wedermeyer, C. 1981. *Learning at the back door: Reflections on non-traditional learning in the lifespan*. Madison, WI: University of Wisconsin.
- Wheeler, S. 2000. Instructional design in distance education through telematics. *Quarterly Review of Distance Education* 1 (1): 31-44.
- Wheeler, S. 2002. Student Perceptions of Support in Distance Education. *Quarterly Review of Distance Education* 3 (4): 419-430.