From Distance Education to Distributed Learning Surviving and Thriving

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Introduction

Higher education is currently undergoing what may be its most significant change since the advent of the printing press in the fifteenth century. A number of socioeconomic forces, primarily globalization, have increased student mobility and created a need for increased and more flexible access to education. At the same time, the recent vast expansion of electronic communication capability has presented us with the means to provide the desired increased access, using various types of distributed learning. Having this tool at hand has, in turn, created a demand for new levels of administrative flexibility on the part of educational institutions while at the same time increasing budgetary pressures on them (Clarke 2002).

This paper shares the experiences of the University of Saskatchewan , a conventional, face-to-face, research-intensive university, in its efforts to meet the conflicting demands of this situation. We discuss this institution's development and implementation of distributed learning over a five year period. The University of Saskatchewan has a long history of providing distance education throughout the province of Saskatchewan and beyond. However, the province's new, multi-million dollar fund known as the Technology Enhanced Learning (TEL) initiative pushed us into the uncharted waters of distributed learning. Moving quickly into new forms of distributed learning posed both challenges and opportunities. Many lessons were learned, some of them the hard way. We hope that this record and analysis of our experience will help other institutions in similar situations.

The Evolution: Distance Education to Distributed Learning

In the new world of digital technology, the Internet is paramount. It has had an irrevocable impact on all aspects of higher education, from teaching and learning to research to administration (Clarke 2002). Levine and Sun (2002) suggest that the Internet will reconfigure the landscape of university education in North America , resulting in three types of institutions: brick, click, and click and brick. The brick institutions are the traditional universities that deliver only face-to-face instruction; the click universities are virtual universities that deliver instruction electronically, and click and brick institutions deliver programs through a combination of traditional and e-learning modes. It is anticipated the majority of universities will fall within the third category. The expected configuration is developing in Canada as almost all Canadian conventional universities become involved in some form of alternative delivery of courses while retaining a large offering of face-to-face instruction.

At the same time that the number of institutions using various forms of distance delivery is increasing, what we have known as distance education is morphing into distributed learning. In the not too distant past, the distance education undertaken by many universities was a marginal activity left to the university's extension or continuing education unit. Today distributed learning is serving on-campus students as well as the off-campus students traditionally served by distance education. As the result of this change, this form of delivery is moving from the periphery of the university's operations into a position much closer to the centre. A comment in a recently published broad overview of distance education suggests that, “One key indicator that distance education is moving into the mainstream is the increased emphasis on the need for policies to guide its effective growth.” (Simonson & Bauck, 2003).

Distributed learning combines the most advanced forms of distance learning technologies with aspects of conventional, campus-based education. Because the new technology requires radical rethinking about how to administer and use it most effectively, this transformation presents both a great opportunity and a considerable threat to campus-based, research-intensive universities. For specialized distance learning institutions such as Athabasca University , it presents the opportunity to move from their former position on the fringes of higher education into a much more central role. Such expansion may well be at the expense of the currently dominant campus-based, research-intensive universities. On the other hand, there are strategies, described in Archer, Garrison, and Anderson (1999), through which the latter can adopt and adapt the new technologies without compromising their core values, thereby maintaining and strengthening their important position within the higher education sector. That is what the University of Saskatchewan , along with many other conventional, research-intensive universities, has been attempting to do.

Before discussing the role of distributed learning at universities, it is worthwhile reminding ourselves how we got from distance education to distributed learning. A number of scholars studying distance education have applied a “generational” analogy to describe its evolution. All scholars who have adopted this analogy have stressed that the emergence of a new generation of distance education delivery modes has not entailed the disappearance of previous generations; rather, the generations overlap and co-exist, and are frequently used together in the same program or even the same course. The analogy is sometimes extended by describing the generations as an extended family living together in the same household, each member serving a valuable and useful purpose. Despite this degree of agreement among scholars regarding the generational metaphor, however, several different scholars have posited different numbers of generations and different defining characteristics of each generation.

Perhaps the most clearly formulated of these analogies (which happens also to be the first to have appeared) is the one first stated by Garrison in 1985, then modified and developed by Garrison and Archer (Garrison, 1985; Garrison & Archer, 2000; Archer, 2001). This formulation describes the generations differently from most other descriptions, and builds from a base in pedagogical theory. Rather than trying to link generational change to the appearance or disappearance of particular delivery technologies, it defines the transition point between generations as the moment of change in the primary mode of two-way communication between (among) student(s) and instructor. The following summary is a modified form of that in Archer (2001) p. 295:

Generation 1: Slow asynchronous (“Correspondence” in Garrison 1985)

- communication between instructor and student by postal mail
- individualized study only: communication among the students in a given course is possible in theory but not in practice

- advantage of great flexibility—students can work from wherever there is postal service and on their own schedule
- very low cost to institution and student
- frequently has high dropout rate

Generation 2: Synchronous (“Teleconferencing” in Garrison 1985)

- communication among students and instructor by audio- or video-conference
- group instruction is the norm—as in face-to-face instruction; may be supplemented by individual consultations via individual telephone conversations
- inflexible scheduling and some limits on places from which students can take part
- can be high cost, particularly multi-site videoconferencing
- low dropout rate, similar to face-to-face instruction with similar types of students

Generation 3: Fast asynchronous (“Microprocessor based” in Garrison 1985)

- communication among students and instructor by computers linked via the Internet; in recent years the World Wide Web technology has become by far the most common means of interaction over the Internet for educational purposes
- group instruction is the norm—supplemented by one-to-one interaction by e-mail or telephone
- flexibility approaches that of Generation 1, as students can work on their own schedule from any place where there is an Internet connection
- can be high cost to the institution (course preparation) and to the student (purchase of computer) but total ongoing cost similar to face-to-face instruction
- typically low dropout rate, similar to face-to-face instruction with similar types of students

Generation 3 distance education has proven to be so attractive to students that it has become a serious rival to face-to-face instruction. Because of this increasing attractiveness, the demographics of the student body participating in various forms of distance learning has changed radically over the last 10 years, reflecting a large increase in the number of “ concurrent learners”—individuals involved in a combination of distance and face-to-face study. In the mid-1990s, approximately 67% of the distance education students at the University of Manitoba were concurrently enrolled in on-campus study (Wallace, 1996); at Queen's University the figure was over 75%. Preliminary data collected at the University of Saskatchewan indicates over 75% of students enrolled in alternative delivery are concurrently studying face-to-face on campus. Data in the United States corroborate these findings: at SUNY, over 80% of students participating in online learning were enrolled in face-to-face on-campus study as early as 1998 (*Chronicle of Higher Education* , 1998). This data indicates that learners have been migrating, within the walls of the campus, to distance learning offerings, challenging earlier assumptions that distance education and face-to-face programs serve different populations.

It is this phenomenon that has led to the use of the new term “distributed learning,” which now includes all of what has been referred to as “distance education” but also the use by on-campus students of learning opportunities provided by the technologies associated with Generation 3 distance education (and to some extent Generations 1 and 2). One definition of distributed learning provided by the Institute of Academic Technology of the University of North Carolina reflects both its evolution from traditional distance education delivery and its incorporation with traditional face-to-face models:

> A distributed learning environment is a learner-centered approach to education,

> which integrates a number of technologies to enable opportunities for activities and interaction in both asynchronous and real-time modes. The model is based on blending a choice of appropriate technologies with aspects of campus-based delivery, open learning systems and distance education. The approach gives instructors the flexibility to customize learning environments to meet the needs of diverse student populations, while providing both high quality and cost-effective learning. (Quoted in Bates, 2000)

It is largely the on-campus potential of distributed learning that has caught the attention of central administration and faculty at conventional institutions. Central administration often see distributed learning as an opportunity to make more efficient use of existing physical plant and instructional resources. Some faculty, however, see it as a serious threat to the unquestioned dominance of face-to-face instruction, particularly when the possibility is raised that the craft model on which university instruction typically operates might be replaced by the more industrialized models that have usually been associated with distance education.

For university students, distributed learning is becoming important in order for them to meet their learning goals. It allows them more choice and flexibility along with opportunities to learn new and important communication skills necessary for work in the global networked environment.

For institutions, distributed learning will allow them to build their student base, and offer programs nationally and internationally . While universities are keen to extend access and to increase their numbers of students, are they as willing to accept that their own learners can further extend their options by participating in courses from numerous providers? In addition to the concern about accreditation and ensuring levels of competency, issues of lost revenue when learners study at other institutions are also a consideration. Do the existing policies on transfer credit, visiting student applications, and residency serve the mobile, technologically astute learners of the twenty-first century?

Distributed learning is clearly an integral component of higher education in Canada . It is the youngest member of the multi-generational family of distance education. Although technology has played a critical role in its evolution, societal and political demands are also central to its ongoing development. Therefore an agenda for distributed learning in higher education must pay careful attention to both the new technology and new environment in which it is to function. If this agenda is to reach its potential in higher education, an intelligent and informed vision congruent with the academic agenda in the institution in which it is to reside, is not only timely but essential.

The University of Saskatchewan Experience

Within the last decade, traditional campus-based universities like the University of Saskatchewan have felt the impact of the rapid emergence of new technologies, demographic and cultural changes, and the formation of consortia for research and teaching online. The Extension Division of the University, in collaboration with the University's academic colleges, has provided distance education for over 70 years through such means as travelling professors, print-based correspondence courses, audio-conferencing, radio, satellite television, and, most recently, web-based online offerings. The University of Saskatchewan was founded in 1907, soon after the Wisconsin Idea was articulated near the beginning of the twentieth century, and was as strongly affected by this model as were the land grant institutions in the United States . Extension work began immediately after the founding of the University. During the course of the twentieth century this work evolved from a primarily agricultural extension focus to the present day role of

the Extension Division in providing a broad array of credit and non-credit programs for a general audience of adult learners.

Over the last five years the Extension Division has been much involved in and affected by the University's struggles to articulate a vision and implement a plan for distributed learning congruent with its academic agenda. Similar situations exist at other research-intensive, conventional universities. Technology has become pervasive: all students now receive an e-mail account, use online library services and e-journals, conduct their administrative business with their university through a portal such as PAWS (personalized access to web-services) portal at the University of Saskatchewan , and use a course management system such as Web-CT or Blackboard in both distance and face-to-face courses.

The University of Saskatchewan is also a founding member of a consortium known as COHERE (Collaboration of Online Higher Education Research). . The driving force for this collaboration among eight Canadian universities has been the development of a common research agenda to inform the use of online delivery. In addition to its participation in COHERE, the Council of the University of Saskatchewan also established a Centre for Distributed Learning (CDL) in May, 2003. The CDL is a research centre housed within the Extension Division. It has three overarching goals:

- to conduct research and disseminate information on distributed learning and e-learning technologies
- to promote distributed learning on and off campus
- to foster application of distributed learning strategies among faculty and students in co-operation with other units on campus.

The recently formulated strategic plan for the University states that the CDL will become an integral part of the University's new Learning Centre, symbolizing that distributed learning has become an integral part of the agenda for teaching and learning at this institution.

The Transition

At the University of Saskatchewan the ongoing evolution of distance learning to distributed learning and its concomitant migration from the margins of the institution's agenda to the centre has been at least interesting, if not easy. This evolution has resulted in numerous hours of consultation and discussion with administrators and academics within the University, with government funders and policy makers, and with other institutions and agencies within the public post-secondary system in this province.

Until 1999, responsibility for the development and delivery of distance education courses at the University of Saskatchewan rested solely with the Extension Division. Offerings consisted of over 60 independent study print-based courses and five televised courses. In addition, face-to-face courses were offered throughout the province using travelling professors. The Division had a base budget for course development and delivery, augmented by revenue from tuition and provincial government funding, to support the development and delivery of televised offerings.

However, 1999 was a pivotal year. Growing interest in learning technologies was evident among students at this institution, as elsewhere. In response, student computing stations for “drop in” use were being established throughout the campus. The province established a “Multi-Media Fund,” which provided $150,000 to the University for projects involving online and

technology-enhanced learning. In 1999 the Extension Division developed and delivered its first course using computer-mediated communication integrated with web-based resources. Web-CT was selected as the University's course management platform and licensing agreements were negotiated

Most importantly, the province began discussions that were to result in establishment of a Technology-Enhanced Learning (TEL) strategy and action plan. The TEL initiative has become the financial foundation for distributed learning activities throughout the province. It has provided to participating institutions over $4 million per year to support their initiatives. The funding allocated to the University of Saskatchewan under this program has been $1.2 million per year for a five year period. Central to the TEL initiative is Campus Saskatchewan (http://www.campussaskatchewan.ca/), a public portal that facilitates and coordinates online learning for the province.

While the TEL initiative provided the necessary funding for the development of distributed learning at the University of Saskatchewan , with this funding came the responsibility to develop an institutional vision and plan. This has not been without challenges. As with any special purpose funding provided for a limited time period, concerns around sustainability of course delivery, revision of materials, and maintenance and upgrading of hardware and software emerged. Although the Extension Division saw TEL as the opportunity they had been waiting for, the rest of the institution held different views. Some faculty and administrators saw TEL as a government initiative imposed on the University. Others saw it as a plot to erode and replace traditional classroom teaching. Still others saw it as a short term fund that would come and go but have little lasting impact on the University. Most significantly, some saw the TEL funding as too large a sum to give to the Extension Division, which had previously focused on serving a small population of distance learners.

It was against this backdrop that administrators, faculty, and staff at the University of Saskatchewan sat down to plan how best to initiate and implement distributed learning across the institution. As this process has unfolded, we believe that a number of lessons were learned that have served to inform practice at our university, and may also be of use to other institutions facing similar opportunities and challenges.

Lessons Learned

Working Between Two Cultures

Accessing funding for distributed learning required negotiation between two cultures: the culture of the academy and that of a government department. As noted above, because it was a provincial government initiative TEL was viewed with some suspicion by various individuals and sectors at the University. For the Extension Division, the targeted funds looked like a windfall, but the support of the academic colleges and departments was both essential and not necessarily forthcoming. Among other units there were particular concerns that by participating in the TEL initiative the University might fail to maintain its status as an autonomous institution operating via collegial governance and employing its own processes for determining any new direction. There were also fears that the gain in funding via the TEL program would result in cuts in other areas.

Another concern was the need to respond quickly in order to access the funding. Universities by their very nature and culture tend to move slowly, but the provincial government wanted to move quickly so that they could demonstrate some viable outcomes from expenditure of public funds

on this initiative.

TEL funding was successfully acquired, but this involved balancing academic autonomy with the necessary government processes. In its attempts to create and maintain this balance the Extension Division drew upon support from those departments and faculty previously involved in distance education, while at the same time ensuring others that this initiative would neither change nor conflict with institutional direction and priorities. The participation of academic administrators and faculty did much to ameliorate the fear that government funding through TEL would distort the academy's priorities. Despite these interventions the TEL initiative remained an ongoing concern, requiring the constant attention of those involved in the discussions.

One factor not apparent at the outset was the culture-based difference between the expectations of government and University as to the ultimate goal of the TEL exercise. Over time a constant tension began to underlie the discussions: the University participants' expectations of research outcomes conflicted with the expectations of product-based (course delivery) outcomes on the part of the government participants. This tension was manifested in the initial TEL funding competitions at the University of Saskatchewan . Although the funding competitions were for the development of courses for distributed learning delivery, the process implemented used criteria appropriate for the evaluation of research projects.

Finally, government reporting procedures and timelines were often incongruent with those within the university. Coming to agreement on processes and timelines required both government and university administrators to rethink their respective schedules and procedures. This resulting mutual agreement was essential for engaging faculty and administrators and meeting government requirements.

Challenges and Lessons

In the initial years of TEL funding, the evaluative criteria and processes for research submissions were used when reviewing course development proposals. As a result proposals were funded that did not translate into courses for sustainable delivery. This error could have been avoided if individuals with experience in course development and delivery had been consulted and appropriate criteria and processes for adjudication reflecting the prescribed outcome developed.

Positioning Distributed Learning Within the Organization

At post-secondary institutions distributed or technology enhanced learning is often placed within either the extension or continuing education unit or else within the Information and Communication Technologies (ICT) portfolio. Both of these options are problematic. Locating it in extension or continuing education, units usually seen as marginal to the central thrust of the institution, suggests that distributed learning is also marginal to the institution. On the other hand, locating it within the ICT portfolio is problematic because it suggests that distributed learning is primarily about technology, rather than primarily about learning. Extension or continuing education units are predisposed to focus the distributed learning agenda on the distant students they are accustomed to serving, possibly at the expense of the on-campus students who may constitute a majority of the students affected. On the other hand, ICT units are predisposed

to emphasize the technology, rather than the learning, since distributed or technology-enhanced learning is just a small part of their responsibilities related to technology for research, student computing and IT campus infrastructure.

Very early in the University of Saskatchewan 's involvement with the TEL program the responsibility for it was moved from the Extension Division to the office of the Associate Vice President of Information and Communications Technology. This was a public indication that the institution did not see the TEL program as marginal. However, it created a new and different problem. In 2001, a coordinating committee of faculty members, IT specialists, instructional designers, and multimedia experts was established to oversee TEL activities. Most of these individuals had no experience with the administration of distance education or distributed learning. The Extension Division was represented on this body but could easily be (and frequently was) overruled in discussions of policies and procedures related to TEL. This sidelining of the institution's main reservoir of relevant experience had a number of consequences, as discussed in the sections below.

Largely because of the lessons learned over the past few years the TEL program has now been relocated to the Teaching and Learning Centre. This seems quite appropriate. The primary focus for distributed or technology-enhanced learning, after all, should be on *learning.* The great majority of what one needs to know and do to teach effectively with technology is the same as what one needs to know and do to teach effectively in face-to-face situations. The learning is primary, and the media and technologies used are secondary.

Challenges and Lessons

The TEL initiative was placed under the Associate Vice-President Information and Communications Technology (ICT) , which created numerous problems. These included a lack of experience in development and delivery of distributed learning, and a degree of neglect due to an already overloaded portfolio, This led to a perception that the project was a technology initiative, rather than a central part of the academic agenda.

Supporting the Academic Agenda

The University of Saskatchewan , along with other research-intensive traditional institutions, faces critical questions about the extent to which it will incorporate distributed learning into its programs and how it will do so. If distributed learning is to enhance student learning, faculty effectiveness, and scholarship, it will require the development of a focused vision congruent with the academic agenda of the university.

The disconnect between the TEL initiative and academic agenda of the University of Saskatchewan was evident in the first three years of the project. As a result, there was little involvement with departments and colleges to determine a coherent campus-wide vision and direction. During this period, a position paper on the integration of distributed learning was presented, which resulted in the establishment of a Centre for Distributed Learning. Despite these initiatives it was not until the fourth year of the project, under pressure from government funders, that an institutional plan was presented that outlined directions for the integration and implementation of distributed learning. The plan clearly articulated distributed learning as a

integral component of the academic agenda, supporting and enhancing the strategic directions and goals of the university. Integrating distributed learning with the academic agenda and an associated vision and plan at the onset of funding, rather than in the fourth year, would have ameliorated many of the problems encountered at the University of Saskatchewan .

Challenges and Lessons

Distributed learning must support the strategic directions of the university, and the linkages must be clearly articulated. If these directions and linkages are absent, distributed learning will be neither an integral part of the institution nor will it receive the support of administration and faculty. Rather it will be remain at the margins, as did its predecessor distance education.

The integration of distributed learning requires consultation with academic administrators and faculty in order to identify courses, programs, and projects for development. Courses and projects must be supported not only by the individual faculty involved in their development but also by the departments and colleges in which they are located, and they must be articulated as part of departmental strategic plans.

Developing Policies and Practices

Distributed learning increases student mobility. The University of Saskatchewan , like other universities, now knows it must recognize that students based at other institutions can and will access particular courses that they need from their distributed learning offerings. Conversely, University of Saskatchewan students may wish to fulfill parts of their degrees by taking courses from other institutions' distributed learning offerings.

The TEL initiative resulted in an exponential increase in distributed learning offerings by Saskatchewan institutions. Through Campus Saskatchewan , the partnership of Saskatchewan post-secondary institutions involved in technology-enhanced and distributed learning means students will have increased options to move among providers. The absence of policies and practices to facilitate student mobility among Saskatchewan institution has been problematic. The lack of experience with distributed learning within the group initially given responsibility for TEL at the University of Saskatchewan meant that policy issues were neither identified nor addressed. Finally, a policy sub-committee involving registrars and delivery units at several institutions was formed at the request of Campus Saskatchewan . This committee implemented an online common visiting application and letter, and laid the groundwork for an online credit transfer database.

Challenges and Lessons

The new importance of distributed learning requires the development of policies and practices that, on the one hand, protect the academic integrity of a student's program and, on the other hand, facilitate credit transfer, visiting admission, and residency within a

distributed learning environment.

Supporting Faculty

The microchip no more ensures good teaching and learning than does the blackboard. Faculty, not technology, make decisions about organization, content and activities, assessment, and interaction. Within the traditional classroom model most faculty work independently, designing their own courses inside the broad perimeter of their discipline or field. Distributed learning requires a rethinking of course components as they are transferred to a new medium. Maintaining faculty autonomy and ultimate control during this transfer demands effort and time.

In order to make the transition from face-to-face to distributed learning, faculty need support in three ways. The first involves learning to use the technology e.g., orientation to Web-CT. The second involves learning to use the technology to support the pedagogy, e.g. how to mediate online discussions, how to develop collaborative learning online. The third involves peer support for faculty going through the transformative process from face-to-face to online.

In making the transition to online learning faculty and staff at the University of Saskatchewan were supported at the first level (using the technology) through hands-on workshops. The second level of support was provided by instructional designers who worked with the content experts in both the development and delivery of the course. However the absence of the third level was a problem. There was no place where faculty involved in the development and delivery courses could come together to share practices and concerns and provide peer support.

Challenges and Lessons

The development of distributed learning courses and programs requires a collaboration involving subject specialists, instructional designers, and media and software designers. University policies must allow time for this more complex type of course development, provide pedagogical resources that can assist the transition from face-to-face to distributed courses, and help faculty members as they adjust to working with a support team rather than in isolation.

Programmatic Focus

Learners who are geographically distant from our campus and cannot access face-to-face classes derive little value from access to isolated distributed learning courses. They need access to either a complete program leading to a credential or else a substantial part of such a program, so that the period of time they must disrupt their lives by moving to the city where the university is located to take face-to-face classes is significantly reduced.

The absence of a programmatic focus in the first years of the TEL initiative at the University of Saskatchewan culminated in the development of an varied assortment of online undergraduate courses across colleges. While the development of this range of courses exposed faculty from many different departments to distributed learning, it did little to meet learners' needs. At the graduate level only one course was developed, and accompanied by no announced intention to develop a full program it resulted in low enrollments.

Challenges and Lessons

Distributed learning is likely to be more financially viable if it is concentrated in a few programs, particularly post-baccalaureate programs aimed at mid-career professionals. This category of learners is likely to be less able and willing to access traditional face-to-face programs because they are likely to be employed and will have restricting timetables, will have family responsibilities, and will be widely dispersed geographically.

Managing the Development of Distributed Learning

At most institutions the instructional designer fulfills the project management function in a team approach to the development of courses for distributed learning. This did not happen at the University of Saskatchewan under the initial management configuration of the TEL project. Instead, a federated model was used. This was one instance when the sidelining of the distance education experience of the Extension Division had very serious consequences.

In the federated model, funds were disbursed from ICT to the instructional design unit, the multi-media unit, the information technologies unit, and the academic department supplying the subject expertise. The development of each project relied on the ability of all of these unrelated units to work together and deliver the product on time and on budget. This was somewhat analogous to building a house where the tradespeople have no contractor to oversee the overall project. This caused numerous problems. In one instance the subject matter expert went directly to the multi-media department requesting one piece of artwork with neither course design completed nor knowing the budget available for the course. As a result, the overall multi-media budget was reduced and parts of the course could not be completed without additional funds. Project management would have avoided this problem.

This situation can be further complicated when funds are provided in advance to each collaborating unit in the absence of a clear overall vision. Without this overall vision, collaborating units may spend all their allocation on a portion of the project, not realizing there may be additional requirements. For example, a multi-media unit could use its funds for a streaming component in one course module, not knowing the requirements for the upcoming modules. With the instructional designer functioning as a project manager with clearly articulated vision, informed decisions can be made about a selection and use of technologies that is both appropriate to the pedagogy and cost-effective.

Challenges and Lessons

Project management is essential in overseeing the course development process. The project manager must have both the responsibility and authority to ensure the development of a quality product within budget and timelines. The roles and responsibilities of all involved in should be clearly articulated, and disbursement of funds should be tied to outcomes.

Learning Centered Design

Although some faculty avoid the use of technology, others are enamored by what the toys can do. The availability of external funding is a further motivation to access new state-of-the-art technology that otherwise would have not been available.

In the TEL project at the University of Saskatchewan content experts, along with multi-media and web-programmers, often wanted to use sophisticated and expensive technologies such as FLASH animation or steaming video and audio materials for their own sake. The question, “How does this technology enhance and support learning?” was not asked often enough. In addition to lacking pedagogical rationale, these high end technologies often added to course costs and delayed course delivery.

Challenges and Lessons

There is always the need to keep the focus on learning , carefully selecting the technology to support the pedagogy. Although it is essential to keep abreast of new technologies and their functions, accessing and utilizing technologies must not be at the expense of course design.

The technological tail must not be allowed to wag the pedagogical dog!

Supporting Learners

Policies must also be developed that will result in support for students in distributed learning courses that is equivalent to the quality of student support available to face-to-face students . These supports range from administrative to academic to technical supports.

For the last 30 years the universities and regional colleges in Saskatchewan have worked together to extend post-secondary education to learners in the province. The regional colleges have provided classroom facilities for travelling professors and televised education. They have also provided valuable on-site support for face-to-face off campus, televised and independent study courses. With the move to online learning colleges were neither included in the planning process nor provided with the skills and expertise to support online learners. As a result, we overlooked the personal hi-touch support that is so important for hi-tech learning.

Challenges and Lessons

Learner support must be an integral component throughout the development and delivery of distributed learning. Units previously involved in supporting distance learners can provide advice about learner support in distributed learning generally.

Conclusion

Distributed learning has provided and continues to provide exciting possibilities for the University of Saskatchewan . It has expanded student access and transformed teaching and learning within and beyond the institution. We now realize that in many cases we were

re-inventing the wheel, that much of what we learned was already being reported in the literature. But institutions have their own agendas and are sometimes slow to adopt lessons learned elsewhere. We now believe, with the advantage of hindsight, that the remaining steps required to incorporate distributed learning into the university at all levels will be smoother and more systematic. We continue to work toward this goal. We know we are not alone in learning some lessons the hard way, but it is hoped that this paper will assist others who are at earlier stages in their transition to avoid some of the problems we encountered.

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