

# International Leadership Development through Web-Based Learning

## *International Leadership Development through Web-Based Learning*

JAN M. ROBERTSON  
University of Waikato

CHARLES F. WEBBER  
University of Calgary

---

**ABSTRACT:** This article provides a rationale for developing an online graduate course in educational leadership. Then, it offers a set of seven assumptions for online teaching: the relevance of public teaching and learning, the need for a broad leadership base in schools, the merit of peer guidance by classmates, the need to validate personal knowledge, the value of international learning networks, the strength of online learning communities, and the efficacy of leadership for teaching and learning. Then, the development of the online course is explained and lessons learned are provided, for example, the importance of a design team that includes technical support personnel, the need for instructors to have computer skills and access to ongoing professional development. Other lessons include the following: a caution about directing too much class communication through the instructor, the advantages associated with attention to community building among class members, the value of layered participation in the class by representatives of educational stakeholder groups, new perspectives on teaching time, cross-cultural differences in online participation, prudent considerations of copyright, and the politics of online teaching. The article closes with a set of questions and possibilities for online educators and a proposed model for developers of online courses and programs.

---

### *Introduction*

The use of technology in higher education has changed the way qualifications are offered the world over. Students with access to a technology infrastructure now have a choice of many different universities. They can study and communicate with peers synchronously or asynchronously, nationally or internationally. This has led to rapid growth in online learning in higher education. For example, the Canadian Virtual University (2004) is a consortium of eleven universities that have partnered to provide a wide variety of credentials delivered online and through distance education. In the United Kingdom there is a “clearing house” portal for enrollments and information about universities in all part of the UK (Universities and Colleges

Admissions Service, 2004). New Zealand is implementing a long term tertiary education strategy that includes a strong focus on e-learning (New Zealand Ministry of Education, 2002).

New forms of university-based leadership development programs (e.g. University of Alberta, 2004; University of Auckland, 2004; University of Calgary, 2004a; University of Waikato, 2004) use technology in creative ways to serve tomorrow's educational leaders who are expected "to prepare the children of today for a world that has yet to be created, for jobs yet to be invented, and for technologies yet undreamed" (Molebash, 1999, p. 1). It is noteworthy that leadership development programs, such as those cited above, are modeling new forms of technology-mediated teaching and learning that help school communities with their need to create alternative spaces and times for learning (see Lock, 2002; Smith, 2001; Yee, 1999).

The purpose of this paper is to describe and reflect upon the development, implementation, and potential of one web-based graduate course called Leadership in Learning that is offered by the University of Calgary in Canada. This report is written from the perspectives of the authors, one of whom is a University of Calgary faculty member who co-developed the course with a colleague at the same institution (Webber & Bohac, 1999) and who subsequently taught the online course. The other author is a faculty member at the University of Waikato in New Zealand, an institution partnered with the University of Calgary; she has taught the online course on several occasions.

### *Rationale*

The longstanding and respected work of Joyce and Showers (1980, 2003) indicates that educational change may be supported through a process that includes these components: (a) presentation of theory, (b) modeling of a new strategy or skill, (c) opportunities to practice the new skill, and (d) coaching. The course Leadership in Learning was designed to use at least some of what has been learned from Joyce and Showers. That is, the course guided students through an examination of school reform theory and research, including consideration of how technology has changed teaching and learning. The online context of the graduate course provided the designers with a built-in opportunity to demonstrate how technology can facilitate the development of a learning community with members situated across nations and cultures. Students experienced online learning within a supportive environment and they applied what they learned about the use of technology-mediated learning, first by analyzing case studies and then by designing and facilitating online seminars, all while receiving supportive feedback. In these ways, the course designers and instructors aimed to coach students past the normal tendency of individuals to resist change S what Jukes and McCain (2000) referred to as paradigm paralysis S so that they might consider new educational possibilities that crossed the boundaries normally imposed by time, distance, and cultures (Webber & Robertson, 1998).

Other examples support the use of technology in university leadership development programs. For instance, Griffith and Taraban (2002) described how technology enabled York University in Toronto to use online case studies to reshape principal preparation. Analyses of the York program, which involved computer-mediated communication groups and online mentoring, indicated that leadership skills and knowledge can be taught successfully in an online environment.

Other research (e.g. A. Brown, 1997; R. Brown, 2001) suggested that university online courses:

(a) challenge participants more than conventional face-to-face courses typically do, (b) encourage students to be actively engaged with their learning, (c) facilitate collaboration among class members, and (d) promote self-directed learning. A. Brown (1997, p. 126) stated, “It is more important than ever in this new information age that we develop learners who are able to locate appropriate information, make meaning of it, critique it and share their understandings with others.”

### *Assumptions*

A major influence on the online course was the Boundary Breaking Model of Leadership Development (Robertson & Webber, 2000). This model included the following components: opportunities for the co-construction of meaning, provision of a forum for discussion, validation of personal knowledge, a generative approach to learning, formal and informal leadership, creation of a sense of community, growth of a counter culture, and interaction with international perspectives. The model attributes were based on six assumptions that were particularly relevant to the Leadership in Learning online course. One assumption was that public learning and teaching is especially relevant to the work of school leaders whose professional activities are largely public. A second assumption was that everyone in a learning community can be a teacher and everyone should be a learner. Therefore, leadership is required of all participants whether they are in formal or informal leadership roles.

A third assumption of the Boundary-Breaking Model of Leadership development was that all communication should not be channeled through instructors; students should be expected to play a large role in guiding one another. Fourth, online courses should be designed to recognize and validate the personal knowledge held by students and instructors. Fifth, the relevance of international learning networks was another key assumption upon which the course was based. Sixth, the Leadership in Learning graduate course design was based on the assumption that online communities have the potential to be as strong as or even stronger than conventional learning communities.

Finally, it was assumed that educational leadership should focus on teaching and learning and that “leading is not about telling others what to do but rather about opening spaces for people to talk about what matters to them and to come to a sense of what they want for and in their school” (Sackney & Mitchell, 2002, p. 909).

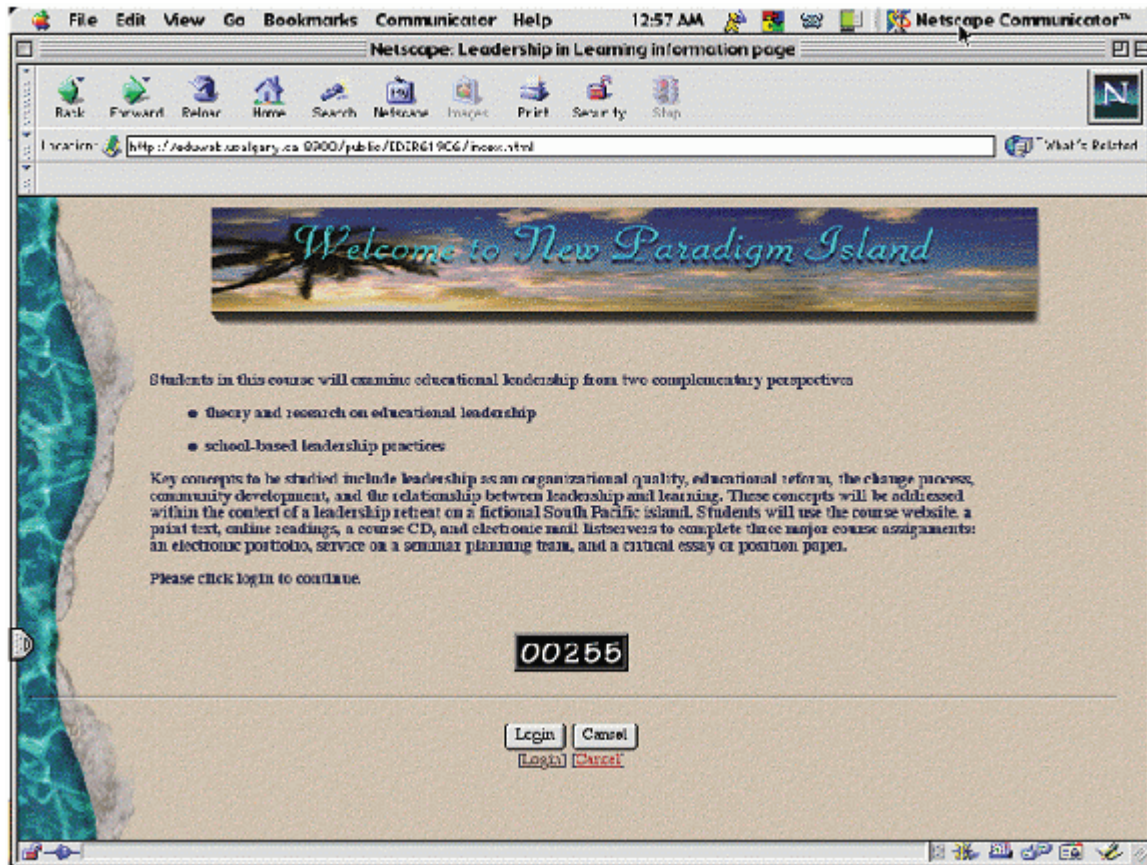
### *Course Structure*

The online course, Leadership in Learning, was funded by a Province of Alberta grant awarded to the University of Alberta and the University of Calgary to develop online graduate courses. It was designed by two content experts from the University of Calgary who were assisted by a team of instructional designers, graphic artists, film crews, and graduate students. The course was created over a four-month period in early 2000 using WebCT (2004), an online teaching and learning platform. It was piloted by one of the content experts from September through December 2000. Subsequently, the course was taught by several Canadian full-time faculty members and contract instructors. In 2001, a partnership agreement between the University of Calgary and the University of Waikato allowed the course to be taught online from New Zealand by a University of Waikato lecturer to students registered with both universities but located in

various countries.

Students in the course (University of Calgary, 2004b) studied the linkages among the following key concepts: leadership as an organizational quality, educational reform, the change process, and the relationship between leadership and learning. The course was intended to facilitate students' abilities to develop an increased awareness and understanding of educational leadership, reflect on the characteristics of school leadership, examine the interrelationships among different aspects of leadership in schools, collaborate with peers in the class as well as colleagues in the field, and participate in informal debate about educational leadership.

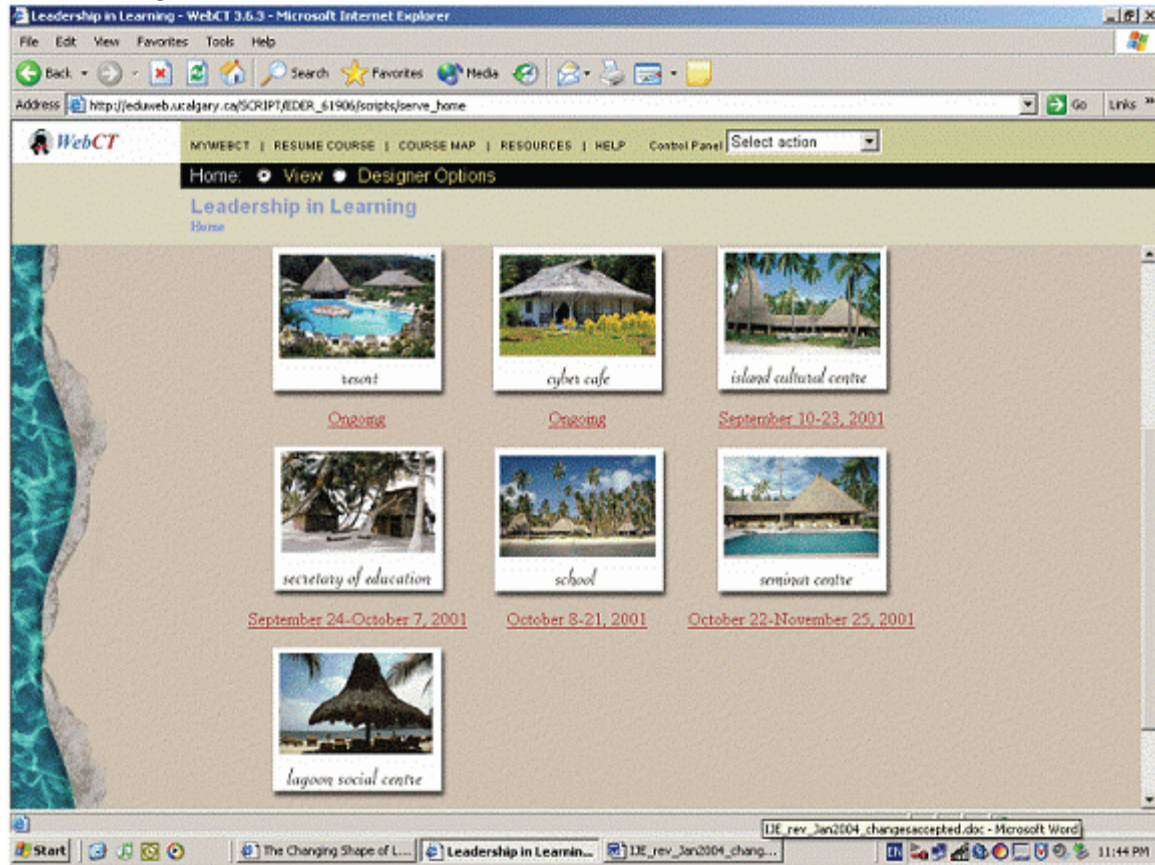
Figure 1:  
*Course Introduction Screen*



The Leadership in Learning course was set on a virtual South Pacific island. An island metaphor was used to provide a sense of place and to establish a common context for students and instructors. The course developers called the virtual island New Paradigm Island and described it as the base for a leadership retreat centre called the Centre for Leadership in Learning. The centre was said to offer a variety of leadership courses, including the course called Leadership in Learning. The island included other virtual venues that students in the course were asked to access and use. For example, students were required to use the island resort to access the course outline, the calendar of events, and the profiles of other class members. In the cyber café students found the class discussion forums, plus email and electronic chat room facilities.



Figure 2.  
*New Paradigm Island*



In addition, the virtual New Paradigm Island contained a seminar centre in which students were required to work in small groups to design, deliver, and assess a series of online seminars. Participants in the seminars included students in the course and over 300 other stakeholders in education who subscribed to the Change Agency Listserv (1997), an international electronic mail discussion group. The seminars were to be designed to allow for layered participation by individuals in various roles/places and for either course credit or professional development. Expectations for students planning the seminars included presenting readings, facilitating online seminar activities, and presenting reflective summaries to the class. The topics for the online seminars were drawn from the themes addressed by a parallel face-to-face annual seminar series delivered by a real-life Centre for Leadership in Learning (1999) based at the University of Calgary. Seminar topics have included the recruitment of full fee-paying students by public schools, performance pay for teachers, and accountability.

The virtual island also contained an island cultural centre, the office of the secretary of education, and an island school. These three venues were supported by a cd-rom (Webber & Bohac-Clarke, 1999) that contained three video case studies that required students to dialogue with classmates and also with educators outside of the course about educational leadership from an international perspective, an administrative framework, and a classroom context.

The course materials were complemented by online readings found in full text electronic journals such as those listed on the website of the Communication of Research Special Interest Group (2004), a component of the American Educational Research Association (2004). Students also had access to print and online library resources available through the two partner universities, plus course texts on school reform such as ones authored by Whitty, Power, and Halpin (1998) and Levin (2001).

Graduate students studying on the virtual New Paradigm Island also had access to the lagoon social centre where they could meet informally in chat rooms with their classmates and also with students enrolled in other online graduate courses offered by the University of Calgary.

### *Observations*

The domain of online teaching and learning is in its early stages and the experiences associated with the development, delivery, and revision of the University of Calgary graduate course called Leadership in Learning are almost certain to be unique to that institution. However, the following observations are offered in the hope that they may provide some insight to others who are experimenting with online teaching and learning.

First, the course designers relied heavily upon the support of technical support personnel such as web designers and graphics artists. These individuals provided the technical skills that the content experts did not possess. Further, they enhanced the ability of the course designers to enrich the course content by utilizing relevant software, online information sources, and local and international professional and academic networks.

Instructors needed to be able to use the computers and software upon which the course was based. Obviously, content knowledge could not be sacrificed but instructors who were not familiar with the required technology could not teach the course as well as they may have with better technical skills and, further, they were unable to revise and update the course for future iterations. Thus, it was essential that instructors be selected carefully. Also, it was important that instructors had opportunities for continuing professional development related to online teaching and ongoing access to necessary technical support. In addition, it was very important that instructors knew of the need to learn how to teach differently from how they taught face-to-face classes.

The course was designed so that all communication did not flow through instructors. This was done to avoid unsustainable time demands on instructors when most online communications flow through them. Instead, the course assignments were structured so that students communicated directly with one another. Instructors then had time to observe student interactions and to intervene strategically. In this way, instructors did not deliver the curriculum per se but, rather, facilitated students' learning experiences.

Attention to community was a key factor in the success of the online course. That was the reason that the course included opportunities for course participants to dialogue in the seminar planning chat rooms, through group e-mail exchanges, and in the virtual social centre. It was also the reason attention was paid to the aesthetic appeal of the website, which was designed to conform

with what was hoped to be an appealing metaphorical framework of a virtual South Pacific island leadership retreat.

The use of the Change Agency Listserv (1997) as the venue for the seminars that students planned and delivered helped to broaden the scope of the course, to increase the relevance of discussions, and to facilitate consideration of alternate perspectives. These advantages are significant in the context of online courses which have the potential to move beyond the boundaries of the traditional classroom and to utilize more public online forums. In this way, the online course in Canada brought educational leaders from New Zealand and other countries into the virtual classroom to talk about their experiences with education reforms. In addition, perspectives offered by parents, board members, and researchers who were subscribed to the Change Agency Listserv enriched students' learning experiences.

Time is a key factor in online teaching, just as it is in traditional teaching and learning formats. The initial course development time, the preparation time for each new iteration of the course, the time required to complete online assignments and postings, the time for reflection, plus the time for marking and student contact were all significant teaching considerations. However, they were not more significant factors than in the previous face-to-face teaching experience of the authors. However, an important aspect of time in online environments is that it is a flexible construct. The asynchronous nature of the learning provided instructors and students with the autonomy to manage their own time. In fact, the asynchronous communication possible in the course allowed for reflection, honored the complexity of the issues being discussed, and opened the discourse to colleagues in a wide array of professional circumstances. Many of the international students, in particular, spoke about the space and time flexibility that allowed them to be able to contribute meaningfully to the class discussions.

Some of the students in the Leadership in Learning online course had connected in prior face-to-face and virtual networks. For example, some students had met at summer institutes or through their involvement in professional organizations such as the New Zealand Educational Administration and Leadership Society or the real-life University of Calgary-based Centre for Leadership in Learning. Other participants had met at conferences and the course readings had familiar national and international authors. These prior relationships helped students take a genuine interest in one another's perspectives. Interestingly, all students, including those who had no prior connections to others in the online course, reported that the addition of photos would have made the class members less virtual and this suggestion has been incorporated into more recent iterations of this course.

Prior expectations for gender-differentiated online participation (see Gougeon, 2002) have not been readily evident thus far. The class has had more females than males in all of its versions but there were no observable differences in the form or frequency of participation among individual women and men. However, there was a difference noted for students who were from education contexts outside of Western cultures. For example, one student lamented the struggle to find voice in some debates, such as those about professional development, as her cultural context of an Inuit village was so different from anything others were discussing. Also, when class discussions focused on schools attempting to recruit international full fee-paying students, a very common practice in New Zealand which has a market-based education system, this was a

concept foreign to the experiences of some members of the class. However, these discrepancies in professional and cultural perspectives helped to create a powerful “counter culture” (Webber & Robertson, 1998) that challenged participants' policies and assumptions.

One significant issue that has arisen is whether to continue to use WebCT (2004), Blackboard (2004) or a similar software platform in the future or, instead, to look at utilizing more basic and perhaps more cost effective delivery frameworks such as websites, document downloads, and e-mail software which is readily accessible and recognizable to students. That said, instructors and designers continue to strive for a course design that is sustainable over a reasonable time so that the course can be revised easily and readily incorporate emerging technological capabilities.

The issue of copyright ownership for online courses and their content has been debated (e.g. Frazier, 1997) with a number of important concerns being identified. For instance, some students coming to the Leadership in Learning course had the mistaken belief that anything online is available to anyone. Frazier (1997) reminded educators that “the online world offers a vast array of information, but is not free of the laws that govern other mediums of communication” (p. 11). He cautioned that “becoming versed in the legal issues that surround the internet and the World Wide Web is an obligation to ourselves, our students, and society” (p.11). In addition, some academics may raise questions about who owns the copyright to online courses and their content. Therefore, it is extremely important that copyright ownership and revenue sharing from any sales of course materials be determined prior to the start of course development work. What is emerging as a credible policy is that the materials developed by an academic employed by a university for a course that is part of that university's program offerings and which were developed with financial and technical support from that same university indeed belong to that employing university. However, this pattern is by no means universal and contractual arrangements are best determined early in the course design process and within any partnership agreements.

An emerging area of interest is the politics of online teaching and learning. Political issues include the credibility of online learning within the academic community and among professional organizations, the preservation of academic rigor, and the competition with face-to-face graduate courses for resources such as money, instructional time, professor expertise, and students. As well, online courses offered as part of a university partnership arrangement may include the need for the number of students cross-registering in each university's courses to be approximately equal, not something that is always easy to arrange. Other political considerations associated with online learning are the prior expectations that students have for instructors, for online learning generally, and for the international networks to which the instructors belong. Also, there is a political dimension to the questions that potential students ask: Will this course be recognized as part of their degree at their home institutions? Will grades be recorded in the same way as they have for other courses at this university?

Universities have been challenged to develop new processes for enrollments and examinations in online courses. For instance, when online courses are taken at one institution for credit toward a degree offered at another institution, there must be agreement about which university will collect tuition fees, when and if university transcripts will be required prior to registration, and which library resources will be accessible. Challenging the status quo requires effort and tenacity.



## *Questions and Possibilities*

The process of developing and delivering the Leadership in Learning online course has raised a number of questions that merit future consideration by academics:

- How much does the success of online communities rely on prior relationships?
- How much does commercial instructional software both inhibit and enhance online learning?
- To what extent could audio and video conferencing enhance online learning?
- How is online learning a challenge to the status quo in universities and professional organizations?
- How do online communities build on principles of democratic community?
- Do atypical students enroll in online learning?
- How will online learning impact upon conventional face-to-face learning contexts?

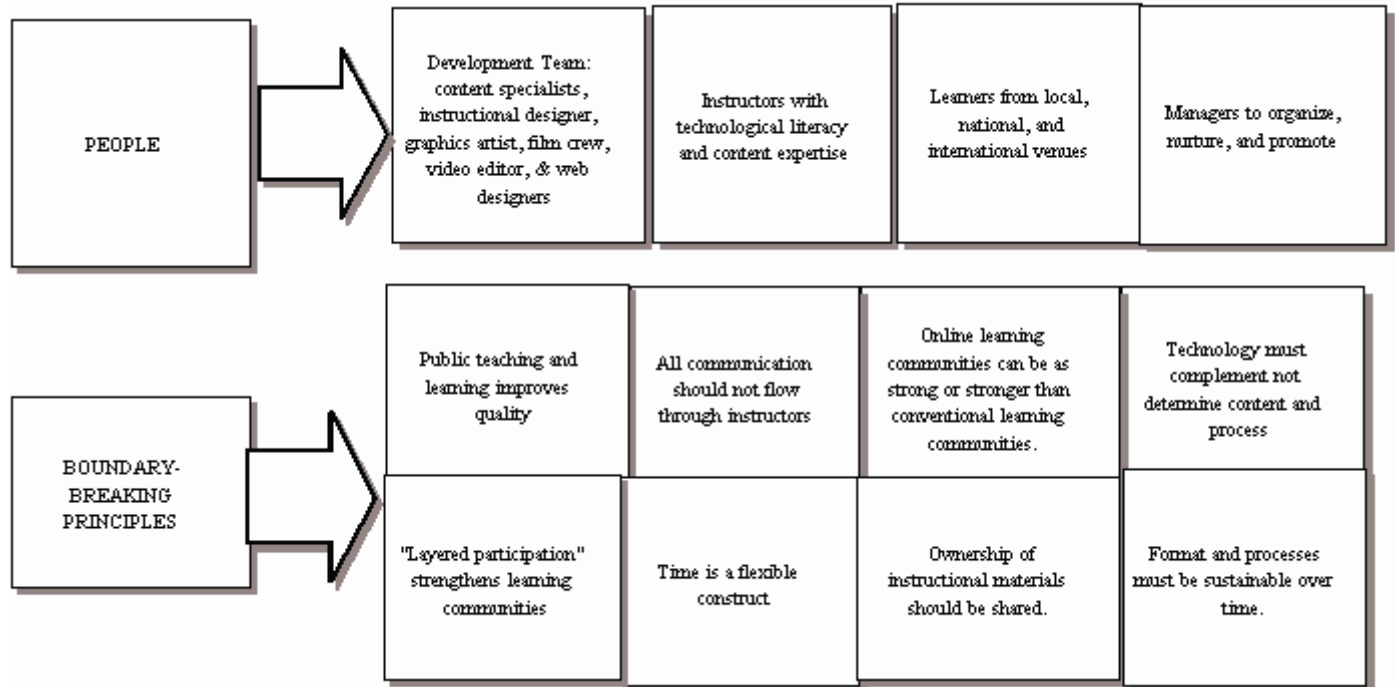
Besides questions, online courses such Leadership in Learning also raise numerous educational possibilities. For instance, technology allows for the movement of courses, students and professors across universities and, therefore, it facilitates the offering of jointly-awarded degrees, something for which there is precedent at many universities. In fact, the potential of online learning in evidence in the Leadership for Learning course makes quite viable the notion of a multi-university consortium that would allow individual universities to concentrate on their strengths, thereby serving their collective pool of students extremely well.

Another possibility that online teaching raises is that professional bodies may morph into program designers and deliverers, working independently or in collaboration with universities, to offer credentials that are valued by the profession in terms of salary advancement and status. In fact, technology could enable school districts or even schools to offer their own in-house qualifications. In turn, this could lead to private and not-for-profit organizations offering recognized degrees in a flexible manner. In countries such as New Zealand, where the qualifications framework allows for the establishment of degree programs, universities have lost their monopoly on the granting of degrees. In 1992 there were six recognized providers of teacher education. In 2002, there are more than 50 such providers in New Zealand. If schools and universities in some countries do not change to meet the needs of the times, technology may enable other countries and institutions to fill the gap.

Another consideration raised by the Leadership in Learning course is the probability that recruitment in educational institutions will focus on a new set of instructor skills. In addition to content knowledge, it is predictable that other attributes such as technological literacy, inventiveness, networking capabilities, and entrepreneurial inclinations will be sought-after qualities of professors. Teacher education and graduate programs must address the issue of how to develop these new instructor skills.

Figure 3 describes a framework that may be used to critique online course and program development. It also articulates possible principles to guide developers, raises relevant questions, and proposes possibilities for the future of online learning.

Figure 3.  
*Online Teaching and Learning considerations*



### *Conclusion*

This report presented considerations that may inform and provoke others interested in online teaching and learning initiatives. Web-based learning in a cross-cultural environment can assist learners to break the traditional boundaries between nations, between teachers and learners, between participants in education systems, and between theory and practice. Web-based learning can help leaders explore new horizons in education and offers experiences that many leaders have not had in their previous learning.

Based on what was learned by offering the Leadership in Learning course, it is vital that leaders have the personal experiences of new ways of working in their learning, if they are to be challenged to critique and review the learning experiences in their own educational institutions. Universities' leadership programs can lead the way in this type of learning innovation. Learners in online programs learn to take responsibility for their own learning, and for the learning of others. They are challenged to justify and articulate why they do things in the ways they do. Different educational contexts provide learners with alternative views and practices and hone learners' abilities to critique issues from a variety of perspectives. These are important skills for educational leaders.

The possibilities within online teaching environments are almost limitless. For instance, students

in online courses can be from anywhere in the world and they represent a wide range of educational roles. This challenges program designers to develop courses that can incorporate a generative approach to curriculum development and implementation. For instance, the Leadership in Learning web-based course incorporated a new perspective in each of its iterations, with every new group of students, and with different instructors. The framework for discussion is similar, but the design allows for instructors and students to participate fully and to bring their varied experiences and world views to the classroom.

Educators need to constantly understand, challenge, and critique the status quo. If educators can engage students in the research and critique of their practice then it not only models appropriate pedagogy but it challenges leader-participants to critique their own values and practices. Online forums provide appropriate platforms for such ongoing critique.

## REFERENCES

American Educational Research Association. (2004). AERA. Retrieved November 9, 2004, from <http://www.aera.net/>

Blackboard. (2004). *Bb Blackboard*. Retrieved November 9, 2004, 2004, from <http://www.blackboard.com/>

Brown, A. (1997) Designing for learning: What are the essential features of an effective online course? *Australian Journal of Educational Technology*, 13(2), 115-126. Retrieved November 5, 2004, from <http://www.ascilite.org.au/ajet/ajet13/brown.html>

Brown, R. (2001). The process of community-building in distance learning classes. *Journal of Asynchronous Learning Networks*, 5(2). Retrieved November 5, 2004, from [http://www.sloan-c.org/publications/jaln/v5n2/v5n2\\_brown.asp](http://www.sloan-c.org/publications/jaln/v5n2/v5n2_brown.asp)

Canadian Virtual University. (2004) *CVU/UVC*. Available: <http://www.cvu-uvic.ca/english.html>

Centre for Leadership in Learning. (1999). CLL. Retrieved November 7, 2004, from <http://www.ucalgary.ca/~ccl/>

Change Agency Listserv. (1997). *The Change Agency Network*. Retrieved November 7, 2004, from <http://www.acs.ucalgary.ca/~ccl/CAN/frameset.htm>

Communication of Research Special Interest Group. (2004). *Open access journals in the field of education*. Retrieved November 7, 2004, from <http://aera-cr.asu.edu/links.html>

Frazier, R.E. (1997). Copyright in the digital age: A guide for educators. *IT Journal Online*, 4(1), 1-12. Retrieved November 9, 2004, from <http://etext.virginia.edu/journals/itjournal/1997/Articles/robertf.html>

Gougeon, T. (2002, January) *Participation in computer mediated classroom*. Paper presented at the Linking Research to Practice Symposium, University of Calgary, Calgary, AB, Canada.

Retrieved November 9, 2004, from <http://www.ucalgary.ca/~lrussell/gougeon.html>

Griffith, A.I., & Taraban, S. (2002, May 17). Mentoring narratives ONLINE: Teaching the principalship. *Education Policy Analysis Archives*, 10(27). Retrieved November 9, 2004, from <http://epaa.asu.edu/epaa/v10n27.html>

Joyce, B., & Showers, B. (1980). Improving inservice training: The messages of research. *Educational Leadership*, 37(5), 379-385.

Joyce, B., & Showers, B. (2003). *Student achievement through staff development*. National College for School Leadership. Nottingham, England. Retrieved November 5, 2004, from <http://www.ncsl.org.uk/mediastore/image2/randd-engaged-joyce.pdf>

Jukes, I., & McCain, T. (2000). *Windows on the future*. Thousand Oaks, CA: Corwin Press.

Levin, B. (2001). *Reforming education: From origins to outcomes*. London: Routledge Falmer.

Lock, J. (2002, January). *Laying the groundwork for the development of learning communities within online courses*. Paper presented at the Linking Research to Practice Symposium, University of Calgary, AB, Canada. Retrieved November 9, 2004, from <http://www.ucalgary.ca/~lrussell/lock.html>

Molebash, P. (1999). Technology and education: Current and future trends. *IT Journal*. Retrieved November 5, 2004, from <http://etext.virginia.edu/journals/itjournal/1999/molebash.html>

New Zealand Ministry of Education. (2002). *Tertiary Education Strategy 2002-2007*. Retrieved November 5, 2004, from

[http://www.tec.govt.nz/downloads/a2z\\_publications/tertiaryeducationstrategy-2002-2007.pdf](http://www.tec.govt.nz/downloads/a2z_publications/tertiaryeducationstrategy-2002-2007.pdf)

Robertson, J.M., & Webber, C.F. (2000). Cross-cultural leadership development. *International Journal of Leadership in Education: Theory and Practice*, 3(4), 315-330.

Sackney, L., & Mitchell, C. (2002). Postmodern expressions of educational leadership. In K. Leithwood & P. Hallinger (Eds.) *Second International Handbook of Educational Leadership and Administration* (pp. 881-913). Dordrecht, the Netherlands: Kluwer Academic Publisher.

Smith, R. (2001). *Virtual schooling in the k-12 context*. Unpublished doctoral dissertation. University of Calgary, Calgary, AB, Canada.

Universities and Colleges Admissions Service (2004). ucas.com. Retrieved November 5, 2004 from <http://www.ucas.ac.uk/>

Universities and Colleges Admissions Service (2004). ucas.com. Retrieved November 5, 2004 from <http://www.ucas.ac.uk/>



University of Alberta. (2004). *Online courses*. Retrieved November 5, 2004, from <http://www.uofaweb.ualberta.ca/edpolicystudies/nav03.cfm?nav03=14179&nav02=14107&nav01=13947>

University of Auckland. (2004). First-time principals programme. *University of Auckland Principals Centre*. Retrieved November 5, 2004, from <http://www.firstprincipals.ac.nz/>

University of Calgary. (2004a). *Graduate Division of Educational Research*. Retrieved November 5, 2004, from <http://www.educ.ucalgary.ca/gder/index.html>

University of Calgary. (2004b). **Leadership in Learning Course Outline**. Retrieved November 6, 2004, from [http://www.fp.ucalgary.ca/distdel/course%20outlines/old%20outlines/Fall%202002/eder\\_619\\_06.htm](http://www.fp.ucalgary.ca/distdel/course%20outlines/old%20outlines/Fall%202002/eder_619_06.htm)

University of Waikato. (2004). *School of Education*. Retrieved November 5, 2004, from <http://www.waikato.ac.nz/education/online.html>

Webber, C.F., & Bohac-Clarke, V. (1999). *Leadership in Learning* (cd-rom). Calgary, AB, Canada: University of Calgary.

Webber, C.F., & Robertson, J. (1998). Boundary breaking: An emergent model for leadership development. *Educational Policy Analysis Archives*, 6(21). Retrieved November 5, 2004, from <http://olam.ed.asu.edu/epaa/v6n21.html>

WebCT. (2004). *WebCT: Learning without limits*. Retrieved November 6, 2004, from <http://www.webct.com/>

Whitty, G., Power, S., & Halpin, D. (1998). *Devolution and choice in education: The school, the state, and the market*. Melbourne, Australia: Australian Council for Educational Research.

Yee, D.L. (1999). *Leading, learning, and thinking with information and communication technology (ICT): Images of principals' ICT Leadership*. Unpublished doctoral dissertation. University of Calgary, Calgary, AB, Canada.

Authors' Addresses:

Jan M. Robertson  
Assistant Dean, International Development  
School of Education  
University of Waikato  
Private Bag 3105  
Hamilton, New Zealand  
Email: [jan@waikato.ac.nz](mailto:jan@waikato.ac.nz)

Charles F. Webber  
Associate Dean  
Graduate Division of Educational Research  
Faculty of Education, University of Calgary  
2500 University Drive NW  
Calgary, AB, Canada T2N 1N4  
Email: [cwebber@ucalgary.ca](mailto:cwebber@ucalgary.ca)