

Report of the CLE-TLAT Subcommittee on Fostering the Pedagogy of Technology
October 2011

Background information

In October 2010, the members of the GFC Committee on the Learning Environment (CLE) were asked to think about developing a work plan for 2010-2011. The Chair led off the discussion by outlining past and recent accomplishments of CLE including the evaluation of teaching at the University of Alberta; the graduate student experience; teaching, research and discovery learning; and the formation of the Teaching, Learning and Technology Committee (TLAT).

At its November 2010 meeting, CLE members discussed possible directions for CLE over the next year or two with the intent to arrive at an agreed-upon list of 4-6 initiatives for the Committee on a go-forward basis. The Chair noted that many areas of interest had already been expressed by members during summer interviews with the Vice-Provost (Academic) and Co-Chair of GFC CLE including curricula reform, implementing the Academic Plan, the undergraduate student experience, student engagement, social networking, Fellows and Resident training, graduate student supervising, and developing an award for faculty members teaching graduate programs.

During discussion, members of CLE expressed questions and comments concerning the following matters: graduate student version of National Survey on Student Engagement (NSSE), Faculty Evaluation Committee (FEC) and rewards for good teaching, lateral competencies, curriculum mapping, international students and teaching strategies, defining 'curriculum', year-round study, smart classrooms, promoting new technologies for teaching, and discovery learning.

Members agreed that the following topics would direct GFC CLE in the coming year:

- Academic Plan
- Graduate student issues
- Teaching recognition
- International issues
- Assessment and grading
- Fostering pedagogy of technology

Members of CLE were asked to volunteer for one or more work groups and to submit a one-page draft for the December 2, 2010 GFC CLE meeting outlining the significance of the topic, types of projects involved and rationale for the initiative.

The volunteers for the Fostering Pedagogy of Technology work group were John Boeglin (Lead), Ada Schmude and Frank Nargang. The work group met in late November 2010 and the following points were discussed:

1. With the upcoming changes to the University's centrally supported learning management system, it may be an excellent opportunity to have a campus-wide reflection on the use of technology, both inside and outside of the classroom. The following questions were raised:
 - What is our teaching philosophy?
 - How do we accommodate the significant shifts in our students' learning strategies? What do we really know about our students' learning needs?
 - What are the pedagogical values of the various tools available in Moodle?
 - What kind of support are we providing or should we be providing to instructors and students alike?

2. How can social media and other technologies be used to enhance the learning experience of our students? The following questions were raised:
 - What are today's technologies?
 - Can we predict the technologies of tomorrow?
 - What is the value-added of such technologies from a teaching and learning perspective?
 - Are we making good investments in this area?

3. The recent and ongoing changes to the University's centrally supported learning management system (LMS) also provide an excellent opportunity to document a large and complex LMS migration that could be a joint project between CLE and TLAT Council.

A summary of the work group's progress was provided at the December meeting of CLE. The topic was discussed again at the April 2011 meeting. Professor Boeglin presented the item noting that the subcommittee felt there was much work to be done in this area but wanted to avoid redundancy from work done for previous reports. During the ensuing discussion the presenters addressed questions and concerns on the following matters: how Moodle technology would benefit distance-delivered courses and the gap between students' knowledge of technology and that of instructors.

A small core working group of the following members was identified to work on a purpose and terms of reference for this pursuit, with John Boeglin agreeing to transition the committee: Jose da Costa, Scott Delinger, John Boeglin, Anne McIntosh and Nathalie Kermaal. Members agreed that the working group would return to both TLAT and GFC CLE in Fall, 2011.

The Subcommittee met on June 02nd, August 15th, September 12th, and October 14th 2011.

Historical overview of various initiatives pertaining to technology-enhanced teaching and learning environments at the University of Alberta

The members of the Subcommittee thought it would be useful to begin its work by providing a snapshot of the various campus-wide initiatives pertaining to technology enhanced teaching and learning environments at the University of Alberta:

1980

Creation of University Teaching Services (UTS)

1995

Final Report of the Senate Task Force on Technology in Learning

Executive summary

Student learning styles and needs are highly individualized. Universities are facing new challenges as they attempt to assess and meet growing demand for full- and part-time, distance and remote learning opportunities; internationalized curricula and study opportunities; work-based study and ongoing professional development; and special needs of disabled students. Interest in distance learning particularly is growing, and postsecondary institutions and the private sector are entering that market in increasing numbers. The resulting “mobility” of students is placing renewed emphasis on quality and suitability of the institution’s programs to attract students.

Societal needs are also changing, bringing increased needs for life long learning and learning on demand. There are increasing pressures to provide affordable access for more students to postsecondary education. Under severe financial constraints, universities are being called on to deliver the very highest quality of education in more efficient ways than ever before.

The predominant face-to-face, contact-hour model of instruction has been effective in the past, but it cannot be scaled to accommodate larger numbers of students without increasing instructional hours, physical plant and capital resources. Alternative delivery methods are made possible by technology, and these, combined with new capabilities for student services and communication, may lead to a technology-enabled, learner-centred and learner-controlled paradigm of learning.

The University of Alberta is able to meet these challenges. Through telecommunications and information technologies, the University can remove barriers of time and space that are inherent in the face-to-face model. Through advanced instructional design and multimedia delivery, it can enhance effectiveness, quality and access to education. The options and opportunities have never been greater. To incorporate technology in teaching and learning successfully, the University will need to:

- commit firmly to the use of multimodal and technology-based educational delivery and support mechanisms to meet changing student needs.
- provide or seek partnership resources to meet the challenge.
- be willing to adapt organizational structures and services to provide flexibility in design, scheduling, delivery and accreditation of courses and degree programs.
- conduct ongoing research into the effectiveness of various modes of delivery and existing and emerging technologies for learning.

- work collaboratively with other institutions, governments and the private sector at local, provincial, national and international levels to facilitate development of infrastructure, resolve technology-related legal and social issues, and develop new funding and coordinating mechanisms for an evolving postsecondary education system.

It is the view of this Task Force that universities are on the brink of an education “revolution”. Through technology, institutions can serve their clients in effective, exciting, and flexible new ways. Opportunities are emerging to share resources and vastly increase access to global knowledge. The technologies and the opportunities they create are already being incorporated by institutions which strive to be leaders in their selected fields. There is a window of opportunity for universities with the will and creativity to harness technology for the benefit of the student, the learning community and society.

Just as there are great opportunities for institutions that rise to the challenge, there will also be a cost to those institutions which do not. Students will “go” where education best suits their needs, and provides them the greatest return for their investment. The University of Alberta’s success in meeting this challenge is critical to its future.

1996

Creation of Academic Technologies for Learning (ATL)

Academic Technologies for Learning (ATL) supports the use of technologies to enhance learning, increase access, and make teaching and learning more efficient at the University of Alberta. ATL provides training and consultation in instructional design, production, delivery and evaluation to help the University and its staff to become leaders in learning. Faculty and other teaching staff on campus are encouraged to take advantage of the professional development and support opportunities that ATL offers.

ATL Partners Program - The Partners Program supports promising technology-based projects. It provides faculty who are ready to embark on larger projects with time, space, tools and support.

Production Studio Drop-In Program - This program is for faculty who need only occasional use of specialized course production tools or a quick consultation to achieve their innovation goals. Production tools such as flatbed and slide scanners, digital camera, and specialized production software are available for use. The ATL Production Studio is located at 2-111 Education North.

Faculty Innovator Program - ATL can provide an incentive of \$500 (or the use of a multimedia laptop) for faculty interested in enhancing a component of a course. This might mean the development of an Internet conference for small group discussion, the inclusion of one videoconference class, or the purchase of software or hardware.

Chart Your Course Contest - To stimulate the production of course development on the web, ATL sponsors a contest targeted at graduate teaching assistants. Watch for this contest to start early in the fall term with an emphasis on courses that use WebCT.

Consultation and Strategic Planning - ATL professional staff provide free consulting services to instructors, departments or faculties relating to use of technologies to enhance campus or distance education.

Cost Recovery Program - ATL supports cost-recovery projects to encourage cost-effective development. Funding from commercial producers, granting agencies, research networks and private investors is used to develop multimedia and web-based educational products.

Training Activities - ATL is developing a variety of training activities to help faculty explore and share new concepts and applications for teaching and learning. ATL training activities include weekly Show Times used to demonstrate and celebrate locally produced course enhancements as well as hands-on training sessions.

ATLnet Mailing List - ATLnet is an e-mail list linking over 450 faculty members at the University of Alberta. It is used as a discussion forum on issues about technology in teaching and learning, and for announcing related events on campus.

ATL Website - The ATL website is useful for keeping abreast of the latest ATL news including upcoming training opportunities, teaching technology tips, and listings of distance education courses and resources at the University.

(Source: <http://www.ualberta.ca/~vbowler/HyperDispatch19/atl.html>)

1997

Survey of Academic Staff on Instructional Technology

Executive summary

This survey was designed to gather the opinions, level of current activities, concerns, and suggestions regarding educational innovation through technologies and to help determine faculty awareness of existing or planned initiatives. In addition, this survey was designed to examine trends using the data collected from the previous year's survey.

Academic Technologies for Learning (ATL), designed, distributed, analyzed the survey and created this report. This executive summary highlights some of the key findings of the report.

The 15 page survey was mailed out to faculty and sessional instructors (2,041 were sent out) at the University of Alberta in late November, 1997. Approximately 21% (434) of the faculty responded. Unlike the previous survey, sessional instructors were also included in the sample for this survey. It is recognized that there is likely a selection bias of those with opinions and interest (positive or negative) related to use of instructional technology.

Summarized below are key findings.

- Most respondents showed both an interest towards technology and felt comfortable using technology. Though, the level of comfort was higher for professional work (research) than for instruction. There was a similar level of interest for technologies in general and in using technologies specifically for instruction.
- Clearly the most popular computer related activities performed in the past week from those listed was looking up work-related information on the World Wide Web. The most popular computer related activities performed in the past month of the activities listed, were buying or reading a computer magazine or newspaper, buying software for personal use, and playing computer games.
- Faculty are generally satisfied with their current instructional methods. However, nearly half rated their level of satisfaction as only somewhat satisfied or lower, indicating room for improvement.
- When asked about their general approach to using technology in instruction, just under half of the respondents indicated a preference for getting to know the technology first and then trying to apply what they have learned to their instruction. Most of the remaining participants indicated that they like to use technology to fill existing instructional needs.

- Just over half of the respondents indicated that their departmental colleagues use some instructional technology, with most of the remaining responses split between that the use was either minor or frequent. This too indicates a potential for increased instructional technology use in departments.
- When given a list of reasons for using instructional technologies, the highest rated item was "Increase appropriate student learning". Other higher rated items included "Improving student-teacher and student-student interactions", "Save time in development and instruction while maintaining quality", and "Effectively explain difficult concepts through such techniques as animation, simulations, and video". The lowest rated reason was, "Improve access to your course by off-campus students". Taken together responses seemed to indicate that faculty are in support of technology that will help and support existing models of instruction, but are not as interested in distance delivery options.
- Respondents were asked what they thought was driving current instructional technology initiatives at the University of Alberta. The most popular responses were a belief this is what the university should be seen as doing, targeted government funding (such as LEE), a belief that technology offers a means to improve instruction, and a belief that technology offers a way to contain costs. The least popular response was that this was being done in response to faculty needs. Most of the popular attributes selected by faculty appear to be external to improving instruction. This probably indicates that significant cynicism and skepticism exists around the benefits of instructional technology.
- Faculty were asked which reasons might cause them to use new instructional technologies. The two most popular reasons were having adequate technical support available and if a trusted departmental colleague recommended it. These were followed next by, solid, empirical data showing the technologies effectiveness. The least popular reason was publisher's recommendations, with dean/dept. chair recommendations and positive reviews in respected publications also being less popular reasons.
- Sources of information related to instructional technologies were most likely to be a departmental colleague, followed by someone from ATL or a colleague outside the department, and was least likely to be departmental undergraduate students or technology equipment vendors.
- When asked about the effect of technology use, the highest rated statement was "New learning and communications technologies benefit my access to library and information resources". The lowest rated technology statement was "Productivity of Instructor have been Improved by Instructional Technology". In general, there was stronger agreement related to perception of value for research-related activities and less with instructional-related technologies.
- The survey listed a number of instructional technologies and asked participants to rate the frequency of use and whether they anticipated increased use in the future. The most frequently used technologies were the traditional items of word-processed handouts, transparencies, and chalk or white boards. The most frequently used "modern" technologies were email/listservs, course or personal web pages, web-based resources, and computer presentation software. These items also had the highest rating for anticipated increased future use. There was a notable increase in use of the WWW and computer presentation software from the previous year's survey.
- When asked to assess their skill level on a number of technologies, (which had also been asked with the previous survey), there were higher ratings in most of the categories from the previous year. Electronic mail and word processing skill both rated highest, and courseware-authoring packages rated lowest.
- While a majority of faculty appear to have fairly new computers, there are still a significant number using both 386 and 486 computers (21% and 24% of PC users, respectively).
- Under half of the participants indicated that they have a source for paying for upgrades/replacements/new equipment, when needed. However, the sources of this funding tended to not to be formal funds set up for this purpose. Major sources include research grant funds, personal academic expense allowances, or personal funds. Funding for

equipment from departmental funds or equipment grants combined made up under 15 percent of responses. When asked explicitly about plans for equipment replacement or upgrades, most indicated that adequate plans did not exist at either the Departmental or University level.

- A majority of faculty indicated their satisfaction with their computer skills at “somewhat” or lower. This also indicates room for improvement.
- Over half of respondents indicated awareness of campus wide educational technical support and a slightly higher proportion indicated awareness of ATL
- Over 60% of respondents indicated not having used any ATL services. The most popular ATL services selected was attending ATL’s workshops.

In conclusion, key findings indicated:

- There is indication of increased use of technology across campus for instructional purposes,
- despite generally high access to technology and hardware, the lack of a coherent technology acquisition and replacement policy is problematic, and
- there appears to be an increasing use and awareness of the variety of educational technology services on campus.

1998

Following extensive consultations, the University of Alberta adopts WebCT as its first, campus-wide, centrally supported learning management system (LMS).

In Fall term 1998, there were approximately 100 WebCT course sections.

2000

Teaching and Learning Survey 2000

Executive summary

The “Teaching and Learning Survey 2000” was administered to a large sample of teaching staff including, graduate teaching assistants and faculty at the University of Alberta. The survey was intended to gather information about current teaching practices, and attitudes towards teaching and learning on the University Campus. The survey was divided into four sections, each of which contained several questions on a related theme. The four sections were: general, teaching, assessment (of students) and evaluation (of instructors and courses), and demographics.

The sampling scheme used differed for Arts and Non-Arts faculty members. At the request of the Arts Teaching and Learning Committee (TLC), all Arts faculty members were sampled. Non-Arts faculty members were selected using a quasi – random sampling scheme. Approximately 24% of Arts faculty and 14% of Non-Arts faculty responded to the survey. Less than 60% of respondents were tenure track faculty, 22% were Sessional Appointees, and 21% were Graduate Teaching Assistants.

Academic Technologies for Learning (ATL) assisted in the design, distribution, and analysis of the survey. This executive summary highlights some of the key findings of the report.

Teaching:

- Participants stated that smaller class sizes and/or more professors, followed by a reduced teaching load and increased class preparation time were the most important factors for

improving teaching quality. Similarly, ancillary support and a longer school term would assist with the workload.

- A majority of respondents stated that the most important teaching goals are to develop students' intellectual, cognitive and critical thinking skills.
- When asked about instructional styles, a large contingent of instructors agreed more research was needed in the area of innovative teaching practices. A large majority of instructors agreed strongly with the statement that traditional didactic teaching methods are still able to meet students' needs.
- The over all level of support for the improvement of teaching is about the same as it was three years ago. Approximately 33% of respondents indicated that support levels had increased over the last three years. Only ten percent indicated a decrease.

Support:

- The most frequently attended information services in the past year were Libraries, followed by University Teaching Services (UTS). The following services all had similar attendance: Academic Technologies for Learning (ATL), Computer Network Services (CNS), and Faculty Based Teaching or Technology Learning Centers (TLC) (e.g., Arts TLC)
- □Libraries and UTS have most effectively promoted their services.
- When respondents were asked to rate whether different types of instructional support were needed/essential, over half rated the category Course and Program Development as essential. Professional development was rated the next most essential category.
- These results indicate that many respondents find existing support inadequate.

Innovative Instruction:

- A large majority of respondents indicated they were at least somewhat interested in using innovative instruction.
- As expected, respondents rated computer-based learning as the most innovative teaching practice; however, teaching methods that did not necessarily rely on technology were also rated as innovative. According to respondents, innovative practices are those that do not rely on traditional didactic instruction.
- Interpersonal experiences with other staff appear to be an important modality for dissemination of research and experience.
- Close to 50% of respondents were unsatisfied with classroom equipment. In addition, they were generally more satisfied with classroom equipment than with classroom functionality.
- Respondents' satisfaction levels regarding classroom functionality, (seating, lighting acoustics, layout) and classroom equipment (chalk/whiteboard, overhead projector/screen) could be improved.
- It appears Internet and Multimedia usage are approximately equal for survey respondents. Computers and educational software are also popular instructional technologies. Smart classrooms were utilized less frequently; this may be due to the lack of available technology training, and the difficulty in accessing Smart classrooms.
- Only one quarter of respondents indicated that they were familiar with Web-CT.
- Survey results indicate that in addition to WebCT, other technologies are in use. A majority of respondents would like to see an increase in the amount of technology used to enhance instruction.

Teaching Evaluation:

- Instructor Designed Questionnaire (IDQ)/Universal Student Rating of Instruction (USRI)/Formal Evaluation Forms and Student Feedback/Comments/Informal Evaluations were the most popular ways of evaluating the quality of instruction. However, only a small proportion of respondents selected the latter category. Peer review and peer feedback were

- other popular methods of self-evaluation. Having one's TA provide feedback was utilized least.
- Over 50% of respondents indicated they used end of course surveys in addition to USRI/IDQ.
 - Respondents considered student feedback to be very important in evaluations of teaching. This finding may be partially due to a social desirability effect, but the results were still very positively skewed.
 - Only a small minority of faculty had ever altered the USRI/IDQ.
 - A majority of respondents indicated that faculty leaders and administrators placed too little emphasis on good teaching.

Conclusion

Although, many faculty members are satisfied with the current state of teaching and learning on the university campus, there is room for improvement. This report outlines some of the areas where changes could be made. Additional research is also needed to clarify issues surrounding the adoption of innovative technologies and teaching practices.

2001

Sun Microsystems designates the University of Alberta as a Centre of Excellence for E-Learning.

In Fall term 2001, there were approximately 1100 WebCT course sections.

2002

Creation of CNS e-Learning Services Group

Report of the Peer Review of Instructional Technology Innovations (PRITI) Committee

Letter from the Committee - November 17, 2002

Dear Colleague,

College and university campuses throughout the world are finding ways to meet the demands of a global knowledge economy. In preparing future knowledge workers to contribute to a global information society, we are working to develop and evaluate quality learning environments that reflect the models, tools and processes of this society.

We need to support faculty as professional learners in this new economy. Learning to develop new learning environments is a complex and potentially risky endeavor in a culture that emphasizes and rewards innovation chiefly in the research domain.

At the University of Alberta, faculty have been developing innovative learning environments, many of them technology-mediated, for almost three decades. This work must be valued and rewarded in the ways that research products are – namely through promotion and tenure. Representing teaching as a scholarly activity has been a challenge in the traditional university culture, now made even more complex by the transformations in teaching practice encouraged through flexible and hybrid technology-enhanced approaches. Many faculty members do not know how to adequately represent new forms of teaching and teaching research and often their peers do not know how to evaluate it.

The Peer Review of Instructional Technology Innovations committee (PRITI) grew out of funded research to study the problem of, and develop models and tools for, evaluating innovative learning environments in higher education. PRITI consisted of a multidisciplinary, collaborative group of scholars representing 9 Faculties and units. As part of that research, the committee completed a cross-campus review of Faculty Evaluation Committees' Statements of Standards. Provision for acknowledgement of innovation in teaching is minimally represented in these documents. The results of the first phase of this project are presented in this package.

This package contains a selection of resources that PRITI identified, collected, and created in the course of this study. You will find a discussion of the Canadian context, results of a campus-wide survey on teaching and learning at the University of Alberta, sample student course evaluation questions, stories of practice, and guidelines for the development of faculty portfolios.

PRITI is now planning a second phase in which we will design faculty development activities and resources, provide sessions for peer-reviewers, and frame a research program in which faculty can research their own practice in their disciplines.

We are pleased to be able to share our experiences and observations with you through the components of this package. We also encourage you to share your experiences with us, and welcome your feedback and advice.

The University of Alberta adopts WebCT Vista 1.0 as its new centrally supported LMS.

2003

Creation of the GFC Committee on the Learning Environment (CLE)

(Terms of reference:

<http://www.uofaweb.ualberta.ca/gfcpolicymanual//pdfs/CLE%20Terms%20of%20Ref%202008%20Sep%202008.pdf>)

2004

External review of the University of Alberta e-Learning Support Groups

In late 2003 the Office of the Provost and Vice-President (Academic) initiated a review of e-learning support units in the University. External reviewers were contracted to:

- assess the mandate and organization of e-learning support units;
- identify the strengths and opportunities for improving services and support for e-learning; and
- recommend guidelines for allocating resources for information and communications technologies and e-learning.

The reviewers interviewed a large number of administrators and faculty representatives as well as a number of the staff of the e-learning support units. M. Prescott and J. Curry, the reviewers, summarized their observations and recommendations in the External Review of the University of Alberta E-Learning Support Units issued in May 2004.

The reviewers heard that faculty members implementing technology in their teaching repeatedly found that the increased workload inherent in this activity was neither recognized nor rewarded. A number of those interviewed reported that they were confused as to the various roles of the service

units, especially given the increasing overlap in services between ATL and the E-Learning Services Group. The reviewers also noted the pressures inherent in managing the increased volume of WebCT use on campus and commented that this growth would be unsustainable without additional resources. They emphasized that the anticipated increased use of educational technology would continue to escalate the demands for support.

In their recommendations the reviewers encouraged the Provost and Vice-President (Academic) to take "immediate and decisive action to position the University of Alberta to better support the use of ICT to support learning and teaching." The three overarching recommendations of the report were:

- to establish strategic directions and plans;
- to create a new umbrella unit for e-learning support; and
- to focus on areas of opportunity that included launching targeted initiatives for achieving greater impact, developing WebCT scaling strategies, and assessing the priority of entirely distance programs that provide greater access to students.

The External Review of the University of Alberta E-Learning Support Units concluded:

With the common goal of supporting more effective learning and teaching through the use of technology, the expertise of the staff of support units, a body of innovative faculty interested in sharing their experiences, and a supportive administration, the vision of the future is a compelling one.

(Source: http://www.vpit.ualberta.ca/elearning/reports/elearning_report/3.php)

2005

Termination of ATL

E-Learning Report 2005: A Foundation for Transformation

Executive Summary

E-Learning Report 2005: A Foundation for Transformation provides a vision and a foundation for a planning process to stimulate ongoing dialogue and constructive change in the University of Alberta as we strive to make the best use of information and communications technologies in support of learning. The recommendations in the report build on years of experience and dedicated effort by many faculty and staff, several of whom participated on the E-Learning Plan Development Working Committee that generated the report. Committee members collaborated diligently on crafting this report during a five-month period from February to June 2005.

The report responds to the External Review of the University of Alberta E-Learning Support Units, which recommended the development of a vision and a strategic direction for e-learning with agreed-on measures and targets. The overarching purpose of the recommendations and strategies in this report is to establish a network of people and sustainable processes that will create an outstanding learning environment for our students, who are the leaders of tomorrow.

E-Learning in Higher Education

E-learning is generally regarded as using information and communications technologies for teaching and learning. These technologies may include, but are not limited to, the following: presentation technologies (e.g., PowerPoint), the Internet, videoconferencing, e-mail, specialist disciplinary software, learning management systems such as WebCT, simulations, and educational games. E-learning may involve such hardware as computers, personal digital assistants, and cell phones. The

media used can combine audio, video, images, and text in a variety of combinations and using a range of approaches.

E-learning should be regarded as a facility or set of tools, not a particular teaching method. Indeed, e-learning may be used to support almost any kind of instructional approach, positive or negative. Examples of using e-learning constructively include approaches which combine more traditional teaching practices with information and communications technologies. For example, an instructor might use the Internet during his or her lecture to access online animations that supplement the class presentation. A course website might contain activities that facilitate active learning. Communications applications such as online discussions groups might be used to enable collaborative problem solving among groups of students who have difficulty scheduling meetings. Instructors of fully online courses typically use little if any face-to-face instruction and depend almost entirely on e-learning.

The degree to which e-learning is used by instructors varies widely due to a number of factors including their personal teaching preferences, the nature of the subject matter, the students involved as well as the availability of technical and instructional design support. Quality instruction remains the paramount goal and e-learning should never be used for its own sake.

The E-Learning Committee identified the following factors that contribute to the need to transform teaching and learning in higher education:

- evolving nature of “basic skills” required to be competent professionals
- the opportunities provided by the increased effectiveness and reduced costs of information and communications technologies;
- pervasive use of information technology by students leading to changes in learning preferences;
- synergy of teaching and research;
- growing demand for alternative learning models to improve learning and increase accessibility;
- greater availability of electronic learning resources and scholarly publications.

The combined effects of these six factors make it paramount for the University to reevaluate and update its strategy for e-learning.

E-learning enables greater flexibility in terms of where and when students can participate in learning activities. As a result, those involved in discussing the advantages of using e-learning often concentrated on how it reduces barriers to accessing educational programs. However, from a pedagogical point of view, the focus of e-learning is not on access, but on learning. E-learning provides learners with the opportunity to be more active and to take greater responsibility for their own learning. It also gives faculty a wider variety of tools for facilitating participation and collaboration.

The E-Learning Report exists in the context established by the vision, mission, and goals of the University. Information and communications technologies are praised for their capacity to span distance, connect communities, provide information, and rapidly transmit huge volumes of data. E-learning is an integrated application of these technologies. As such it has the potential to influence how all the academic themes of the University are realized, a point that is made clearly in the report.

Outline of the Report

The report comprises six sections. After the introduction, the second section traces the earlier efforts of the University to build both expertise and technological capability in e-learning. The third section explores the strong relationship between this plan and the academic plan currently being developed. The planning committee believes that the recommendations from this plan must carry significant weight in the University’s plan. Otherwise the plan will have missed its mark, and this may jeopardize the future of our institution. The fourth section presents the important themes and associated

recommendations identified during the committee's deliberations. The fifth section outlines the strategies, and where appropriate the estimated costs, of implementing the strategies for the recommendations identified in the previous section. The final section briefly summarizes the document and draws some conclusions. Appendices present additional background information or more details related to the discussion and recommendations in the body of the report.

Below are listed the major recommendations of the report. Although each recommendation has been written to be understandable without significant context, for some it may be necessary for the reader to read the appropriate section in the body of the report in order to comprehend fully the rationale for the particular recommendation. To assist in this process, the page number for discussion related to each recommendation is provided.

E-Learning Themes and Recommendations

The E-Learning Plan Development Working Committee identified 13 themes as a framework for planning e-learning in the University. Each theme has one or more recommendations, which have related strategies. To implement these strategies, the University will need to invest approximately \$3.5 million a year by the fourth year of the plan.

Learning Environments for Tomorrow's Leaders

Recommendation 1 (page 44)

Existing University-wide professional development programs and Web-based resources should be expanded to guide increasingly larger numbers of instructors as they implement active learning methods, incorporate digital resources, and explore the capabilities of e-learning technologies. These professional development programs will also augment the knowledge and skills of faculty-based e-learning support staff as well as graduate students involved in teaching.

Recommendation 2 (page 44)

Through a combination of central support services and faculty-based support, instructors will receive the technical and instructional design support necessary to implement efficiently active learning strategies and e-learning in their courses.

Recommendations 1 and 2 provide a basis for incrementally transforming our learning environments, but are not sufficient to move the University forward quickly. Real learning innovation and change will be promoted through special project funding which will serve to stimulate the transformation of courses and programs. Special projects will involve cross-functional teams composed of instructors and e-learning specialists. In this way, time efficiencies will be created and the individual workload for each instructor will be reduced.

Recommendation 3 (page 45)

A special projects fund will be created to support the transformation of learning in areas where significant gains can be made in terms of enhancing learning.

Preparing Our Learners for Success

Recommendation 4 (Page 46)

Each Faculty is strongly encouraged to ensure that students are capable of successful participation as active learners and that they have essential information literacy skills. Related educational programs and resources will incorporate active learning strategies. A University-level working group

will be established to explore ways of providing core introductory instruction or resources on active learning and information literacy that would serve as a foundation for Faculty programs.

Acquiring and Creating Sustainable Educational Resources

Recommendation 5 (Page 47)

All instructors should be able effectively to identify, acquire, and integrate learning objects. This will be achieved through a combination of enhanced professional development activities about digital resources and the ongoing support of e-learning specialists. The University also will undertake selected projects in conjunction with Faculties that demonstrate the sustainable production, acquisition, and maintenance of learning resources.

Responsive Support

Recommendation 6 (Page 48)

In order to provide quality support and performance for e-learning systems, AICT will be asked to develop:

- reliable and responsive WebCT services;
- a technology roadmap of future WebCT product offerings and how the University might take advantage of these;
- a strategy to engage e-learning support personnel in departments and faculties in WebCT course creation and support;
- plans for new or additional training required to support the WebCT roadmap;
- risk assessment of our strategy to support primarily a single vendor product;
- the benefits and costs of supporting alternative open-source products (e.g., Sakai or Moodle) in addition to WebCT;
- a process for scanning broadly ranging University needs for information and communications technologies and for planning the evolution of e-learning support.
- a plan for collaborating with Specialized Support and Disability services to ensure that Universal design principles are applied to all AICT supported courses.

Research and Development of Campus-Wide Solutions

Recommendation 7 (Page 49)

The University will establish a strategy for collaborating with instructors and e-learning support staff to research, evaluate, and where appropriate recommend campus-wide implementation of new educational technologies and applications as part of cultivating superior learning environments and a spirit of innovation in teaching and learning.

Planning Learning Spaces

Recommendation 8 (Page 49)

Building planners will collaborate with Faculties in the early stages to explore designs that are conducive to active learning and adaptable to future changes in educational practices. Processes will be reviewed to ensure that decisions about the design, maintenance, and renewal of classroom technologies will involve academic representatives as well as technical specialists. Before the new or renovated facilities are completed, the University will involve instructors and students in researching, developing, and evaluating instructional strategies that will make optimal use of the new teaching spaces.

Recommendation 9 (Page 50) The existing committee (TEISAC) responsible for central computing labs will address the evolving campus-wide requirements for technology in the computing labs. Working with Planning and Infrastructure, the Vice-Provost (Information Technology) will review the process for upgrading classrooms to ensure that optimal use is made of existing funding allocated to upgrading the technology in classrooms and FAR (Facilities Alterations Requests) funding. If possible, an ongoing sustainable fund for infrastructure upgrades in smart classrooms will be established.

Recommendation 10 (Page 50)

The importance and use of information technology in support of teaching and learning, research, and administration is growing rapidly, and so the costs of installing and refreshing information technology must be considered in the initial costs of construction and the ongoing maintenance of a building. These costs should not be treated as an afterthought late in the construction phase, and a refresh cycle appropriate to the technology must be planned with adequate funding support.

Evaluating Outcomes

Recommendation 11 (Page 51)

Instructional strategies used to incorporate e-learning should be tracked and evaluated to determine their effectiveness in improving learning outcomes, while containing costs. It is recognized that although it is desirable to reduce costs, learning outcomes must be maintained or improved. During this process, it will be recognized that instructors who explore new instructional methods require time and appropriate support to develop, pilot, and revise their practice.

Integrating Teaching and Research

Recommendation 12 (Page 52)

The recommendations of the report “Integrating Research and Teaching at the University of Alberta: Creating a Foundation for an Inquiry-Based Life” should be reviewed. Those recommendations that are selected should be implemented in conjunction with the recommendations of this report to ensure that an e-learning plan that supports the integration of teaching and research on campus be developed and evolved.

Committing to Online Programs

Recommendation 13 (Page 53)

The unique needs of University online programs serving students at a distance require centrally provided e-learning support services that are flexible and robust. Services should include:

- extended hours of help-desk support for instructors and students, which may include evenings and weekends;
- centrally supported high-performance synchronous communication tools;
- service-level provisions for high system availability and performance on weekends and times such as Reading Week when on-campus students may be away from class.

Sufficient resources must be provided to meet these needs. The University should state its commitment to ensuring the ongoing success of online learning programs.

Achieving Leadership in Learning

Recommendation 14 (Pages 53-54)

A concept proposal for a Centre of Creative Learning Initiatives (CCLI) will be developed as soon as possible, with a completion date of no later than January 30, 2006. The overall goal is to have a comprehensive CCLI proposal completed by April 1, 2006. Shortly thereafter, the search process for its director will be initiated. The following will be key partners with CCLI:

- All Faculties and academic units,
- Undergraduate and graduate students,
- University Teaching Services (UTS),
- AICT E-Learning,
- Learning Services (including the University Libraries, the Bookstore and Museums),
- Student Services

Instituting an Adaptive Planning Process

Recommendation 15 (Pages 54)

The University will establish a Teaching, Learning, and Technology Council. This body will meet regularly to consider issues that influence learning environments, the viability of emerging educational technologies, and priorities for funding and support. This council will advise the Vice-Provost (Information Technology), the Director of CCLI, and other constituents as they develop e-learning policies and plan support strategies. The membership of the Council would include faculty members from each Faculty, online program administrators, faculty-based e-learning support staff, students, and representatives from relevant campus service organizations (e.g. AICT, Libraries, Bookstore, Student Services, and UTS).

Celebrating Our Successes

Recommendation 16 (Page 54-55)

This recommendation has three related parts:

- University-wide criteria for evaluating blended learning environments will be established by developing a set of standard questions to be incorporated into the Universal Students' Ratings of Instruction when technology is used as part of teaching.
- Faculties are encouraged to develop FEC guidelines for evaluating teaching that involves e-learning.
- One or more new awards in the area of innovation in teaching and learning using information technology should be created. The University-wide evaluation criteria developed as part of this recommendation should be used as a basis for selecting award-winners.

Examining Intellectual Property

Recommendation 17 (Page 55)

In close collaboration with the Academic Staff Association, Non-Academic Staff Association, and the students' unions, the University should develop a policy on the intellectual property rights associated with online course materials.

In the immediate future the recommendations and strategies of the E-Learning Report will generate a constructive, responsive environment where University instructors will receive the support they need to use e-learning. Also, students will participate in learning environments that prepare them not only for success as lifelong learners, but also to become leaders in society. The E-Learning Report provides the foundation for a process of continual review and improvement of our learning

environment by the full engagement of the University community in an ongoing effort to examine the issues, explore the emerging technologies, and determine the priorities.

Students' Union Undergraduate Experiences Survey Project

(Results: <http://www.su.ualberta.ca/media/uploads/149/survey2005.pdf>)

Creation of Extension Learning Solutions (xLS)

Extension Learning Solutions officially opened July 1, 2005. The unit builds upon the experience and knowledge gained during the time Academic Technologies for Learning (ATL) existed. Our ability to be flexible and to adapt to new challenges and changing criteria is our strength. This new fee-for-service unit is being designed to facilitate effective and innovative learning through consultation, building communities of practice, research, research support, and dissemination of findings. Learning Solutions will design and evaluate superior, flexible educational experiences for the University community and beyond.

(Source: <http://www.atl.ualberta.ca>)

Extension Learning Solutions works with faculty, sessional instructors, graduate students and industry representatives to find creative solutions to problems arising in teaching and learning. Learning Solutions focuses on the incubation, development, and evaluation of innovative learning environments. Learning Solutions' core competencies and areas of service include:

- Offering assistance in development and redevelopment of curriculum and courses on both large-scale initiatives and specific projects,
- Offering needs assessment support for courses and curriculum,
- Applying formative and summative evaluation strategies to improve programs,
- Encouraging, planning, supporting, and evaluating relevant pilot initiatives,
- Managing the risk of using innovative means of serving target audiences,
- Pursuing a project-based approach where a team works on the outcome with members as needed,
- Developing a community of practice among faculty members who are interested in pursuing instructional and learning issues with clients,
- Disseminating findings both on and off campus,
- Developing a repository for relevant knowledge and experiences that can be easily shared,
- Providing professional development where required

Currently on campus there are no programs that facilitate instructional research through a combination of pedagogical and evaluative support. The new Extension Learning Solutions will facilitate effective and innovative learning through consultation, building communities of practice, research, research support, and dissemination of findings.

(Source: http://webxtc.extension.ualberta.ca/activities/services_home.cfm?sectionid=3)

2006

Report to CLE by the CLE Subcommittee on Teaching, Learning and Technology Innovation and Leadership

Executive Summary

The E-Learning Report 2005 presented seventeen recommendations for enhancing teaching and learning within the University of Alberta. In response, the Committee on the Learning Environment established a subcommittee to develop an implementation plan for two key recommendations: the Teaching, Learning and Technology (TLT) Council (Rec.14) and the Centre for Teaching and Learning (Rec. 15). The CLE Subcommittee also was asked to examine ways to align the implementation plans for the other recommendations in the E-Learning Report with the plans for the Centre and Council.

The CLE Subcommittee established the four cornerstones expressed in Dare to Discover as the context for its planning. The following aspirations taken from this document relate directly to this report:

- Attracting outstanding students from Alberta, Canada and the world.
- Improving access for rural, Aboriginal and non-traditional students.
- Recruiting and retaining outstanding and diverse academic staff.
- Creating an exceptional and life-changing university experience for students.
- Fostering scholarship and discoveries that are transformative and visionary, that is to say, rewarding quality and impact over quantity and enhancing cross disciplinary initiatives.
- Engaging alumni in a mutually beneficial life-long relationship with the University of Alberta.
- Continuing to set priorities and invest in world-class teaching and research infrastructure.
- Establishing high standards of service based on best practices to achieve and maintain excellent stewardship of financial resources and capital assets.
- Promoting administrative effectiveness and good governance by improving communication among units, enhancing collaboration, implementing transformative ideas, and revising organizational structures.

The recommendations contained herein suggest ways that administrators might address the aforementioned aspirations through the academic planning process.

Building upon the foundation provided by Dare to Discover, the CLE Subcommittee identified a number of operational principles pertinent to supporting the on-going enhancement of teaching, learning and the use of technology within the University of Alberta. These principles emphasize:

- Developing superior teaching methods that may be integrated with information and communications technologies to improve learning.
- Providing superior professional development services for instructors and support staff.
- Nurturing collaboration.
- Contributing to informed leadership.
- Maintaining a distributed system of centrally provided services and decentralized support.
- Encouraging the evaluation and dissemination of results.
- Actively engaging learners.
- Promoting responsiveness.
- Balancing immediate support needs with longer-term growth.

The CLE Subcommittee identified the following implementation strategies as being aligned with these operational principles and fundamental to the implementation of the Elearning Report recommendations cited above:

Strategy 1: Develop a fully functioning, integrated-distributed system of support and services

The CLE Subcommittee strongly recommends maintaining a fully integrated-distributed system of support and services (see Figure 1). This overarching system is a fundamental prerequisite to ensuring that instructors and students receive the assistance they require. Furthermore, this comprehensive system will guide the University as it embraces the opportunities and challenges inherent in our knowledge-based society.

A fully functioning, integrated-distributed system of support and services will be established through fostering robust working relationships among staff located throughout the University. In an ideal situation, Faculty-based support for instructional design and technology is customized to meet the individual requirements of instructors and students within each Faculty. To complement this support, staff in central units provide more generic educational and technical services for faculty and students.

The CLE Subcommittee views a full complement of staff located both in central service units and in Faculty-based teams as essential to the integrated-distributed system. The CLE Subcommittee strongly recommends additional funding for Faculties to ensure that there are sufficient numbers of internal instructional design and technical staff available to provide support for instructors.

The distributed system of support and services described in this Report establishes a framework for effectively managing change over time and will promote the long-term enhancement of teaching and learning on this campus. The following strategies relate to other key elements of the integrated-distributed system.

Strategy 2: Each Faculty is encouraged to establish and/or maintain a teaching, learning and technology committee.

The CLE Subcommittee recommends that teaching, learning and technology (TLT) committees operate within the Faculties. These committees may be entirely new or existing Faculty committees with an expanded role. They will be instrumental in identifying possible educational applications for emerging technologies, recommending effective support strategies, reforming program curriculum, recognizing exceptional teaching, and assisting with defining the Faculty's longer-term strategies related to teaching, learning and the use of technology.

Strategy 3: Institute the TLT Council to develop policy, plan long-term strategies and promote best practices

The TLT Council will consider University and Faculty priorities and recommend long-term strategies related to teaching, learning, and the use of educational technologies. Faculty-based support units, along with Faculty teaching, learning and technology committees, inform the TLT Council about educational issues, pressing needs and compelling opportunities. Deans (or their designates) will be TLT Council members along with representatives from central service units and other stakeholder groups. This body will be well informed and ideally placed to consider University priorities and long-term strategies as part of developing policy recommendations for the Office of the Provost and Vice-President (Academic).

Strategy 4: Establish the Centre for Teaching and Learning (CTL)

Governed by the TLT Council, the CTL will be a catalyst for innovation and change in learning environments across campus. It will serve as a physical facility in which a number of central service units reside. It also will function as an educational laboratory in which instructors explore ways to apply instructional best-practices to improve learning outcomes. CTL staff will facilitate the effective management of centrally funding special projects and initiatives.

The curricular demands of rapidly evolving disciplines, the characteristics of today's learners and the expectations of society as a whole place many demands on instructors. Instructors require a highly functioning system of support and services as they strive to ensure that our graduates have the comprehensive knowledge, skills, and versatility necessary to be successful in our complex global society. The integrated-distributed system proposed within this report provides this support and is highly suited to fostering learning environments that are consistent with the vision for the University of Alberta expressed in Dare to Discover.

Creation of Teaching, Teaching and Technology (TLAT) Council

The rapid evolution in the knowledge and skills required of university graduates has resulted in increasing demands for innovation in teaching and learning. As well, information and communications technologies combined with evidence-based teaching methods afford educators the means for improving learning and increasing access to the University of Alberta.

The Teaching, Learning and Technology (TLAT) Council is a catalyst for the discussion and development of policies, plans and best practices related to teaching, learning and technology. It assists in identifying instructional strategies and technologies to be studied, practiced and evaluated through special projects undertaken by Faculties. The Council recommends long-term teaching, learning and technology strategies to University leaders.

(Source: <http://www.provost.ualberta.ca/en/CommitteesandTaskForces/TLAT.aspx>)

2007

The University of Alberta adopts WebCT Vista 4.0 as its new centrally supported LMS.

2008

In Fall term 2008, there were approximately 1800 Vista course sections.

2009

Merger of University Teaching Services and AICT e-Learning Services to create the Centre for Teaching and Learning (CTL).

Acting on the recommendations of the Learning Management Systems Review report 2009, AICT's E-Learning Services and University Teaching Services merged in the Fall of 2009.

The Centre for Teaching and Learning (CTL) was officially named in January 2010 and falls under the portfolios of the Vice-Provost (IT) and Vice-Provost (Academic). The result is an integrated and efficient service unit, for the university community that provides expertise and assistance on teaching and technology related needs.

Vision : The Centre for Teaching and Learning will transform learning experiences through leadership and informed support.

Mission :

- Connect with learning communities
- Cultivate engagement through research and innovation
- Link teaching methods with effective uses of technology

(Source: <http://www.ctl.ualberta.ca/documents/ctl%20ar%20-%207x10-Feb8.pdf>)

In Fall term 2009, there were approximately 2055 Vista course sections.

In November 2008, the TLAT Council initiated an LMS review. During the first half of 2009, an LMS Review committee met regularly and obtained extensive input from the University community through open forums, surveys, and meetings. The report was tabled in late 2009, recommending the continuation of Vista (née WebCT) and adoption of Moodle as a more flexible, open-source, additional LMS.

2010

Following extensive consultations, the University of Alberta adopts Moodle as its new centrally supported LMS.

In Fall term 2010, there were approximately 2300 Vista course sections.

2011

Creation of Evaluation and Research Services (formally known as Extension Learning Solutions)

In Fall term 2011, there are approximately 1550 Vista course sections and 1660 Moodle course sections.

All centrally booked classrooms (N = 339) are designated as technology-enabled.

Summary and recommendations

The focus of the present report is on the use of the campus wide LMS as well as the centrally booked technology enabled classrooms and the pedagogical support provided both for instructors as well as for students. The Subcommittee is fully aware of the many other initiatives across campus that involve the use of Web 2.0 technologies, among other things, in order to enhance student engagement and the learning experience. At some point in the near future, it may be useful to take stock of these initiatives ...

The group seems to be in agreement that at the campus level, much of the focus to date has tended to be more on the technical side with less focus on the pedagogical side.

It was also noted that technology is constantly evolving and that not all tools lend themselves to the learning environment. Perhaps more time should be invested in reflecting upon the various tools that are available to instructors and the appropriate use of these tools both inside and outside of the classroom. As well, students should be better informed as to the use of technology within the learning environment.

Of the courses with an LMS presence, it is estimated that only 1/3 of all courses make good use of the various tools available within the campus-wide LMS and that the

remaining 2/3 of all courses make minimal use. Within the next three years, all courses will be encouraged to have at least a basic LMS presence.

Over the years, pedagogical support for instructors at the campus level has been provided by a number of sources such as ATL, eLearning Services, and CTL. It might be interesting to examine in more detail how pedagogical support has evolved, e.g. what was available then and what is available now, and what its influences have been on the teaching and learning environment.

At the faculty level, practices vary from one faculty to another. For example, Nursing and Faculté Saint-Jean both have excellent pedagogical and technical support. Other faculties have technical support but offer no pedagogical support. So how do we go about supporting universal design for learning?

It might also be interesting to document changes in teaching and learning strategies as the centrally supported campus-wide LMS moves from Blackboard to Moodle. The question is how does one quantify such things so as to get a better sense of what instructors are doing with technology, where they are now, and where they would like to be? As well, it might be worth while exploring the use of technology not only among those instructors who might be described as early adopters and are perhaps further along, but also among instructors who are much less comfortable with the use of technology in the learning environment.

Several suggestions were made as to how we could proceed in terms of providing a snapshot of how instructors are using the centrally supported LMS and the centrally booked technology-enabled classrooms and what pedagogical support is available for these initiatives:

- Focus groups and/or surveys involving academic staff. Can be faculty specific or campus wide. Does not have to be exhaustive.
- Focus groups and/or surveys involving students. Again, can be faculty specific or campus wide. Does not have to be exhaustive.

Some of the many other questions raised include: over the past decade or so what major initiatives have addressed the fostering of pedagogy and technology at the University of Alberta? What were the issues then? Have they been adequately addressed? Have they changed today? Have we made any progress? What support (both pedagogical and technological) is available for instructors and learners alike? What are today's challenges and how can they be adequately addressed? Are we making good investments in this area?